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A WEEKLY REVIEW OF MEDICINE

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LIST OF ILLUSTRATIONS IN VOLUME LXXVI.

	PAGE
Minor Injuries of the Eye. Seven Illustrations.....	1-7
Pseudorheumatic Tuberculosis of the Ankle Joint, One Illustration.....	9
Progressive Muscular Atrophy. Four Illustrations.....	13-14
A New Apparatus for Therapeutic Applications. Two Illustrations.....	48
Amaraotic Family Idiocy. Two Illustrations.....	60, 61
Equinus following Infantile Paralysis. Twenty-six Illustrations.....	89-100
A New Needle Holder.....	174
Inflammation of the Female Pelvis. Nineteen Illus- trations.....	177-190
Wood's Hole. Four Illustrations.....	266-268
Tenotomy and Myotomy. Three Illustrations.....	274, 275
Chronic Paralysis. Two Illustrations.....	277, 278
An Aid in Securing Asepsis.....	307
Gross Specimens for Museum and Class. Two Illus- trations.....	319
Sacculi Ani. Two Illustrations.....	321
Passive Carrying Function of the Arm. Six Illus- trations.....	355, 356
A Harelip Incision. Four Illustrations.....	358, 359
Traumatic Periostritis. One Radiograph.....	361
Blackwater Fever. One chart.....	460
Professor Virchow.....	466
Haffkine's Anti-plague Virus. Six Illustrations.....	486-491
Cancer of the Penis. Two Illustrations.....	495, 496
An Improved Container for Spray Tubes.....	571
Lateral Curvature of the Spine. Four Illustrations.....	573, 574
A Method of Circumcision. Three Illustrations.....	575, 576
Cheloid Growth. One Illustration.....	576
Spasmodic Wry-neck. Three Illustrations.....	632, 633

	PAGE
Shoe Deformities. Ten Illustrations.....	661-666
Prolapse of the Rectum. Three Illustrations.....	667
Atonic Dilatation of the Stomach. Three Diagrams.....	673, 674
Experimental Gastritis. Five Illustrations.....	710-712
X-ray Picture in the Case of Lolita Armour.....	722
Necrosis of the Mucosa. Two Illustrations.....	752
Rotary Curvature of the Spine. Three Illustrations.....	754
An Aseptic Instrument Holder.....	791
Ringworm of the Face and scalp. Eleven Illus- trations.....	844-847
Fracture of the Malar Bone. Four Illustrations.....	849, 850
A Special Type of Crooke's Tube. Two Illustrations.....	896
Shark Bite. Two Illustrations.....	898
Typhoid Fever and Drinking Water. Sixteen Charts, Illustrations.....	933-938
Tent Life in the Treatment of Tuberculosis. Three Il- lustrations.....	940, 941
Vascular Neoplasms. One Illustration.....	969
Congenital Dislocation of the Hip. Three Illus- trations.....	971-973
Femoral Hernia. One Illustration.....	975
Rectal Strictures. Two Illustrations.....	1030, 1031
Dr. Adolf Lorenz.....	1033
Alexander's Operation. Two Charts.....	1068, 1069
Professor Lorenz's Clinic at the Hospital for the Rup- tured and Crippled.....	1071
Röntgen Picture of Congenital Dislocation of the Left Femur.....	1073
A New Tapping Instrument.....	1094
Operative Treatment of Deformed Fractures as Indi- cated by the Röntgen Rays. Twenty-three Illus- trations.....	1097-1110
Retrocæcal Abscess. Two Illustrations.....	1111

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Original Communications.

MINOR INJURIES OF THE EYE.*

By PERCY FRIDENBERG, M. D.,
NEW YORK,

ASSISTANT SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY;
VISITING OPHTHALMIC AND AURAL SURGEON TO
THE RANDALL'S ISLAND AND INFANTS'
HOSPITALS, ETC.

If in presenting a few practical suggestions on the diagnosis and treatment of the less severe accidents to the eye, I recite clinical facts which ought to be as familiar to the general physician as to the ophthalmic surgeon, it is because experience with a large number of cases of this class has impressed upon me the importance and the frequent lack of thorough examination, care in surgical detail, and attention to after-treatment.

The value of the "ounce of prevention" and the saving quality of the "timely stitch" are rarely shown so strikingly or overlooked so carelessly as in some forms of ocular traumatism. The variety in the clinical pictures and in the number and gravity of complications is so wide that a consideration of this subject from a topographical point of view would lead to much repetition and confusion. I prefer to arrange the possible injuries according to their ætiology and mode of action in the following classes:

I. Injuries by blunt violence; contusion or commotion.

II. Injuries by penetration or laceration; wounds.

III. Injuries by retention and irritation; foreign bodies.

IV. Injuries by combustion and corrosion; burns and scalds.

I. One of the commonest forms of injury by blunt violence is the condition of contusion and ecchymosis of the lids, familiar as "black-eye." Often enough no medical aid is invoked in these cases; the temporary disfigurement is the only cause of complaint, and the ministration of a black-eye artist the only treatment required. Generally there is some tenderness at the site of the injury, and swelling, heat, and redness come on in almost an hour and may increase until it is impossible to open the lids. The thin skin and loose areolar tis-

sue of the lids allow the extravasated blood to spread widely before coagulating, so that the discoloration is quite extensive and out of proportion to the severity of the injury. The swelling disappears in two or three days; the purplish or bluish ecchymosed area becomes successively dark brown or violet, then yellowish-green, and may persist for three or four weeks as a saffron- or coffee-colored stain. Complications with injury of the globe are rare, but in every case they should be excluded by examination of the eye and by a visual test, such as reading ordinary print at distances corresponding to the patient's normal range. To do this we may, in case there is much swelling, have to separate the



FIG. 1.—Eye bandage.

patient's lids mechanically. Two local complications are of practical interest:

The development of emphysema of the lids due to fracture of some of the thin bones separating the orbit from the nasal passages and ingress of air in forced expiration, as in sneezing, blowing the nose, or lifting a heavy weight. Crepitation, the so-called emphysematous crackling (parchment crackle), and the development of a tense, elastic swelling of the lids which does not pit on pressure, is painless and usually pale, and increases in size on forced expiration, are characteristic symptoms.

The application of a pressure bandage and a cau-

* Read before the Harlem Medical Association, May 15, 1901.

tion against violent blowing of the nose are usually all that is required. Occasionally the extravasated blood is not absorbed, and cellulitis develops in the lid, especially in cases of injury with brass knuckles, finger rings, etc., in which an abrasion of the skin was produced, and an incision running parallel with the lid margin and evacuation may be required, after pus production has become established by poulticing.

In the uncomplicated cases, ice compresses and the use of evaporating and cooling lotions to the lids, such as cologne and water, diluted alcohol, solution of tincture of arnica or of hamamelis, are grateful in the early stages characterized by swelling and pain. Later on our object is mainly to hasten the absorption of extravasated blood, and the disappearance of the discoloration by hot applications of flannel cloths or absorbent-cotton pads wrung out in water as hot as the closed eye will bear. These pads should be used for about an hour, two or three times a day. Massage of the lids with

limit the amount of subsequent discoloration, but produce an open wound with the danger of infection and abscess formation. The popular application of raw beef, oysters, and other substances from the pharmacopœia of the kitchen simply has the effect of cold, moist compresses without their cleanliness.

Similar treatment and functional test should be used in subconjunctival ecchymosis which may follow contusion, or, more frequently, be due to the spontaneous rupture of small blood vessels from a sudden increase in arterial tension. This may take place in children during a paroxysm of whooping-cough, vomiting, or sneezing, and in adults from the exertion of stooping and lifting heavy weights or straining at stool. This is particularly apt to occur and recur in plethoric or gouty individuals past middle life, with atheromatous arteries.

Among the graver injuries which may follow contusion are rupture of the globe by compression, dislocation of the lens, tear, detachment, or inversion of the iris, pupillary and accommodative paralysis; rupture of the chorioid, and various intra-ocular hæmorrhages, all of which complications lie outside the range of this paper.

II. Wounds of the eye may be incised, punctured, lacerated, or contused, according to the nature of the traumatic agent. Those of the lid show the general characteristics of all skin manifestations, the same disturbances in the course of healing, such as loss of substance, sepsis, sloughing, excessive granulation, faulty apposition. They are of importance on account of their proximity to a vulnerable and valuable organ, the delicacy of the tissues, and the danger of disfigurement by scar. Incised wounds of the lid tend to gape and bleed freely. Exact coaptation of the wound edges rarely takes place by natural methods, even in healing by first intention, and a scar may be left which causes marked deformity, should the cicatrix become adhered to the orbital periosteum. The least disfigurement follows wounds running parallel to the lid margin. If the latter has been split, a V-shaped separation takes place, which in the lower lid allows the tears to overflow the cheek. Incised wounds may penetrate to the periosteum or include the whole thickness of the upper lid, severing the muscular fibres of the levator palpebræ, and so cause drooping, or traumatic ptosis. Punctured wounds are of importance, as they are inflicted by slender pointed instruments which easily penetrate to a great depth, may splinter, are rarely clean, and produce little or no external hæmorrhage. Hence these wounds, even



FIG. 2. Ice compresses. Cheese cloth to facilitate handling. Cheese cloth stretched over inner bowl, supporting ice block and allowing drainage.

a little yellow-oxide ointment or with ordinary vaseline is a very valuable aid in the cosmetic treatment.

If it is considered of sufficient importance, the hot applications may be kept up continuously and the lids massaged for an hour or more, so as to remove the disfigurement almost entirely within a day or less, after the swelling has gone down. The abstraction of blood from the bruised area by leeching, pricking, or incising the swollen lids immediately after the injury, and pressing or sucking out the still fluid blood, are common practices among the laity, especially with prize-fighters.

These procedures promptly reduce swelling and

when apparently superficial, may be complicated by injury to the globe and orbit, such as fracture of the wall of the optic canal with consequent nerve atrophy, or by septic infection. Lacerated wounds may be produced by such complicated traumatism as machinery accidents, a thrust with a pitchfork, the hook of a cow's horn, or a fall upon a spike. Great disfigurement usually results from loss of substance, irregular scarring, and displacement of parts, offering a wide field for plastic operations. The tear ducts may be severed, the inner or outer commissure cut through, or the whole lid stripped off. As in punctured wounds, coincident injury of the globe and septic infection are common.

We take it for granted that wounds are septic which have been inflicted by instruments such as butchers' knives, a rusty hook, a fork, a finger-nail, mechanics' tools, or parts of machinery, as also those which reveal extraneous matter, such as dirt, rust, dust, or cloth fibre and particles of foreign bodies, or indicate their irritating presence by the development of cellulitis or abscess.

All foreign matter should be carefully removed from the wounds and the latter cleaned by irrigation with mild antiseptics (boric acid, bichloride, 1 to 5,000) and by wiping with sterilized gauze. Surgical wet dressings should be used until the swelling and reaction have subsided, when secondary suturing may be performed.

In complicated cases perfect coaptation of the wound edges should be effected by numerous interrupted sutures (of fine, but strong, silk threaded on slender curved eye needles). The line of sutures should commence at the free margin of the lid, in case this has been split, and an intramarginal suture on the free surface of the lid be used to prevent notching or malposition. The suture line may be covered with some antiseptic dusting powder or with bichloride vaseline, and a strip of thin protective rubber tissue applied. After the removal of the sutures, the dressing may be left in place for a day or two, when there will be no danger of reinfection or of injury to the young scar.

Wounds of the cornea may vary in extent from a superficial abrasion of the epithelium by a scratch to a cut which includes the entire thickness of this membrane, laying open the interior of the eye. Even slight injuries inflicted with unclean instruments may be followed by a corneal ulcer, with the danger of sloughing, perforation, and panophthalmitis, while late infection of a primarily clean wound may take place if the conjunctival sac contains a large number of pus germs, as in old catarrh of the

lids and lacrymal passages. Hæmorrhage, prolapse of iris and vitreous, and septic inoculation of the interior of the globe are the not unusual complications of the more extensive injuries. Superficial corneal wounds or abrasions usually require no operative interference. After instilling a few drops of cocaine, four per cent, the conjunctival sac and surface of the globe should be thoroughly cleansed by irrigation with a warm solution of boric acid or silver nitrate, 1 to 10,000. The surface of the globe is then anointed with a little bichloride vaseline (1 to 5,000), which may be conveniently expressed from a collapsible tube into the lower conjunctival sac and then spread by a slight rubbing motion of the lids. A snug bandage is then applied. Unless



FIG. 3.—Hot compresses. Wet pads in enameled bowl on bricks.

infection has taken place, regeneration of corneal epithelium rapidly goes on under the bandage, which may be removed in twenty-four hours. The usual treatment of these cases by ice application and atropine is decidedly inappropriate. Cold retards the healing process, while rest and the protection of a pressure bandage promote it. Hot applications will relieve pain and still further stimulate recovery of the tissue. Atropine is superfluous unless the pupil is contracted and sluggish and fails to dilate

after cocaine has been used, or in case of marked circumcorneal injection and pain. If the wound is not a recent one, and shows evidence of infection in grayish or yellowish infiltration of the edges, increased redness of the eye, a muddy iris, and much pain, the treatment should be directed not so much toward the protection of the wound as to disinfection and the promotion of tissue reaction by which the traumatic ulcer which we now have to deal with may clean itself and heal. The infected area may be touched with pure carbolic acid or tincture of iodine on a tooth-pick point. Atropine must be used in sufficient strength (from one to three per cent), and often enough to keep the pupil widely dilated. The abstraction of blood from the temple by leeching will assist the mydriatic and relieve pain when all other means fail. Hot, moist compresses should be applied almost continuously and the eye washed

black grains of burnt out carbon, particles of sand and dirt, splinters of wood or portions of projectiles, such as lead pellets and bits of copper shell, may be found imbedded in the skin, while pointed missiles and the stings of insects may penetrate to greater depths. The excessive heat developed at the moment of explosion usually renders the powder grains and small metallic bodies sterile, so that they remain *in situ* indefinitely without causing inflammatory reaction. Powder grains may be picked out with a cataract needle or a sharp spud, or an attempt made to dissolve them by repeated applications of hydrogen peroxide, as suggested by Crile. More voluminous bodies may have to be freed by an incision, as they give rise, especially if irritating or infected, to suppuration and at times to abscess formation by which they may be eliminated spontaneously.

Foreign bodies of the conjunctiva are very common and often so innocuous that no medical aid is required. In many cases the body, especially if it has not entered the eye with much force, and is smooth and round, will gradually sink into the lower conjunctival sac and then be carried along toward the caruncle by the tears and finally washed out of the eye. If, on the entrance of a bit of dust or dirt into the eye, we can, by an effort of the will, refrain from winking for a few seconds to prevent the upper lid sweeping over the eye, or even insure this by drawing the lid away from the globe, we shall often feel the foreign body gradually approach the inner canthus, where it will cause no trouble. Hence the practical advice of classical tradition in case of foreign body, to "rub the other eye." This leads one to relax the lid muscles unconsciously, and to a certain extent to inhibit winking or rubbing the affected eye by transferring the irritation artificially to the sound one.

The commonest foreign bodies are bits of dust and dirt, ash, cinders, sand, iron, and emery particles; less frequently we find hulls of grain or seeds, bits of grass or other plants, fish-scales, wings or antennæ of bugs and flies, or, indeed, the entire insect. An inverted eyelash or a concretion on the inner surface of the lid may be considered a foreign body in its irritative effect on the globe, and a loose hair or eyelash in the conjunctival sac certainly is one. As a curious and rather rare case, I may mention in passing that, while the hair or beard is being trimmed, a clipped end may enter the conjunctival sac and, being carried along to the inner canthus, become engaged in the tear point, from which it projects sufficiently to strike against and irritate the globe with every motion of the lids, much in the same way as an inverted eyelash. In this unusual place a small hair would escape all but the most careful search.



FIG. 4 Eversion of eyelid.

at short intervals. Constitutional treatment by the internal administration of cathartics, preferably calomel, and local inunction with mercurial ointment (plus belladonna for pain), are valuable aids. Should the infection progress, as shown by a deepening of the ulcer and extension of the infiltration, or should pus appear at the bottom of the anterior chamber, actual cauterization of the infected ulcer by means of a red-hot platinum probe or the galvanocautery point should be carried out.

III. Foreign bodies.—The retention of foreign bodies in the tissues of the lids is comparatively rare, and presupposes a certain degree of violence in their propulsion. After explosions of gunpowder, small

In regard to the diagnosis, it may merely be added that the sensation of a foreign body does not always imply the presence of one, and the feeling of sandiness of the lids and sense of irritation may simply be due to conjunctivitis of a catarrhal nature, to inverted lashes, or to lid concretions, or not infrequently may be traumatic and caused by a foreign body which has escaped from the eye after having been *in situ* long enough to set up irritation.

In the case of a foreign body, pain is generally unilateral, often localized, tends to increase with movements of the eye, and is relieved when the lids are fixed by a bandage. Unilateral reaction and injection, especially when there is no inflammatory secretion, but much tearing and lid spasm, is often characteristic of this affection. Good light and patience are of importance in detecting the foreign body, and the inner surfaces of the lids and the retrotarsal folds should be freely exposed by eversion and searched by oblique focal illumination. Children should be laid down in the nurse's or mother's lap in such a way (Fi. 7) that the head is fixed between the surgeon's knees. If the lids cannot be separated easily, a lid retractor may be used to freely expose the cornea. The body may be removed by a tuft of cotton tightly wound on a probe or clean toothpick, a sharpened match, a spud, the eye-end of a sewing-needle, or the corner of a handkerchief. Even if we cannot detect a foreign body, it is well to flush out the conjunctival sac with a tepid boric-acid solution, which may immediately relieve the symptoms by washing out a small body which had escaped detection.

Bodies which strike the cornea are very apt to stick fast and to require mechanical removal, especially cinders or small "sparks" of iron or emery which reach the eye in a heated state. The examination of the cornea requires special care. Owing to the variegated background presented by the iris, the foreign body may offer no contrast, while the bright light reflexes from the surface of the cornea increase the difficulty of detection. It is well to have the patient look to and fro, up and down, so that any foreign body may be brought, in turn, before the dark pupil and the lighter parts of the background, in one or other of which positions it will contrast sufficiently to be detected. Focal illumination by a condensing lens from the side will bring out the details and throw the corneal reflexes off the line of sight. By moving the lens to and fro, light from a flame may be caused to travel over the cornea and to show any defect or abrasion or minute foreign body by a break in the image. In bright daylight the reflection of a window or of a

large white object may be similarly employed. The instillation of a two-per-cent. solution of fluorescein will aid by staining any abrasion or epithelial defect green, and afford a marked contrast to the foreign body.

It should be borne in mind that foreign bodies embedded in the cornea and their instrumental removal almost always cause a wound, small and superficial, it is true, but liable to infection, the possibility of which on the surface of the eye is always present. Hence in removing a foreign body we should be particularly careful to avoid denuding the surface epithelium any more than is absolutely necessary. Iron bodies which have been *in situ* for some time become embedded in a small brown ring of rust, which should also be removed by scraping with a spud or gouge. This also applies to the in-

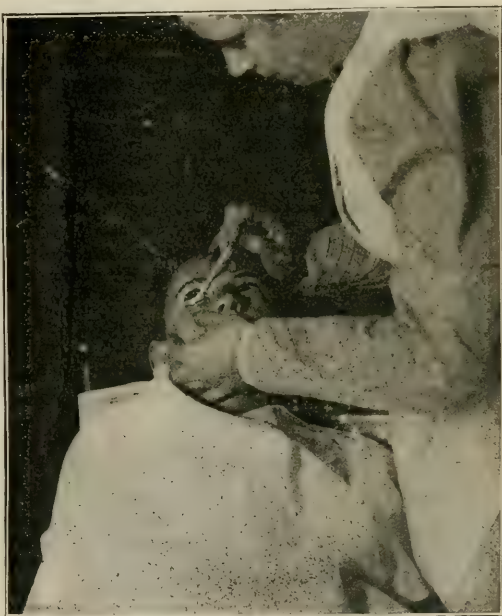


Fig. 5. Instillation of eye drops.

filtration expressive of infection and commencing pus production, which appears as a grayish zone about a foreign body. Here it is not sufficient to remove the latter, but the depression left by it should be thoroughly scraped out. The globe is then irrigated, bichloride vaseline, 1 to 5,000, smeared over the cornea, and a bandage applied. Atropine should not be used unless specially indicated by marked pain, circumcorneal injection, or a sluggish or discolored iris—in which case, again, the entire battery of derivative and absorbent treatment (mydriatics, hot applications, leeching, mercurial

inunctions, catharsis) may have to be brought into action.

IV. Chemical and thermic injuries.—Burns of the lids and of the superficial tissues of the globe are not infrequent. Opportunities for accidents of this sort are many and varied in domestic life and in industrial occupations. In the one case we have to deal principally with the action of hot fluids (steam and boiling water, fats, soap, and lye); in the other, with intensely heated masses of iron and lead or, less often, pitch or tar. Not a few burns are caused by the slipping of a hot curling iron, by the glowing ends of cigars, burning shreds of tobacco, hot ashes, especially cigar ashes, and the red-hot tips of sulphur matches. If, in spite of these frequent accidents, serious injury by burns

of the eye may be sufficient to "put out" or to cool off a minute glowing body or drop of molten metal before much harm has been done.

The destructive action of concentrated acids and caustic alkalis is much like that of extreme heat, and these injuries are properly designated and also treated as burns. The fluids in the conjunctival sac may dilute the acid sufficiently to prevent extensive destruction if but little has entered the eye. We may find that the conjunctiva at the affected spots is destroyed and converted into an eschar. These spots stand out as gray or white patches in sharp contrast to the red and swollen portions which have escaped, or they may be so extensive as to appear as an almost continuous film masking the surface of the globe and, in the absence of much evidence of congestion, giving the impression, on superficial examination, of a slight injury. The eschars separate in consequence of a delimiting suppuration, and the raw granulating surfaces heal by a drawing in over them of the surrounding, healthy conjunctiva. The final result is always that a cicatrix is formed which may lead to a shrinking of the conjunctival sac or, if extensive, to adhesion of the lids to the eyeball. The prognosis of injuries by burns or caustics, with regard to the preservation of sight, depends, above all, on the condition of the cornea, which rarely escapes when there is an extensive lesion of the conjunctiva. The corroded or burnt cornea looks dull and opaque. In light cases, in which the epithelium only is affected, the surface appears smoky or gray, and healing occurs rapidly, as in burns produced by a curling-iron, but in severe injuries affecting the parenchyma of the cornea the opacity is denser and whitish. In the worst cases the entire cornea appears like unglazed porcelain, dry and insensitive. This necrotic tissue is thrown off by suppuration, corneal perforation may take place, and the loss of substance heal, leaving a permanent opacity or cicatrix to which the prolapsed iris may adhere. This may be observed after burns with oil of vitriol or with unslaked lime, the most dangerous of caustics.

The action of lime, unlike that of heat and of acids, is intensified by coming in contact with fluids, so that the tears, which act as a partial safeguard against acid burns, merely increase the mischief. The prime requisite in the treatment of caustic injuries, especially in recent cases, is the complete removal of any corrosive substance and chemical neutralization by irrigating with weak solutions of borax, baking soda, or lime water in the case of acids; with milk, oil, sugar-water, or dilute vinegar (1 to 20) for alkalis. In lime burns the thor-



FIG. 6.—Irrigation of the eye.

is comparatively infrequent, we must attribute this immunity of the eye to two provisions of nature for its protection. First, the instinctive and rapid closing of the lids and veiling of the globe when the eye is threatened. This automatic reflex is so instantaneous and habitual as often to take place, as we know, when there is no actual danger; but when it is needed, protection is given before the mind consciously grasps the necessity for it or the nature of the danger which threatens.

Secondly, limitation of the intensity of burns of the globe by an immediate rush of tears reacting to the irritation of heat. This lacrymation assisting the action of the thick layer of fluid on the surface

ough mechanical removal of the particles, which are found in numbers beneath the lids and in the retro-tarsal folds, by use of small forceps or a piece of lint soaked in oil and subsequent flushing are of the greatest importance, and next to this comes the prevention of adhesion of raw folds of conjunctiva or of the lids by thoroughly and repeatedly anointing the globe with olive oil or bichloride vaseline, which is to be carried well up behind the lids on a smooth glass rod or by a syringe.

In the further course of a mild burn or corrosion, we have to restrain reaction by the use of atropine and cold compresses. Hot applications and leeching, mercurials, and dark-room treatment are indicated in case of extensive sloughing, where we wish to promote delimiting suppuration, or in the event of complicating iritis and marked intraocular pain.

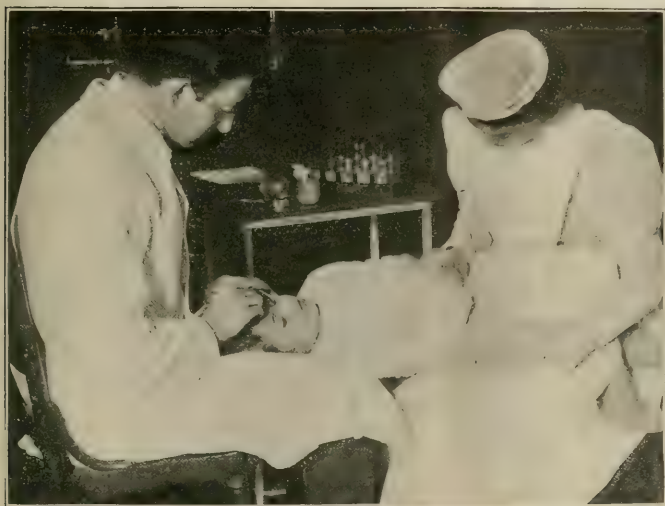


FIG. 7.—Position of surgeon, nurse and patient for local treatment of children.

Mild burns will heal under a bland ointment and a protective bandage in a very short time.

In conclusion, I wish to call attention to the fact that many eye accidents are due to neglect of ordinary precautions and protective measures among stone-cutters, masons, and workmen in other trades; to careless handling, especially by children, of pointed and cutting instruments; to toy pistols and air guns; to reckless playing with fire and matches, gunpowder, percussion caps, and the like. Practically all of these injuries are preventable, and it is part of the physician's duty, no less than that of parents and teachers, to call attention to the dangers of such amusements, as well as to use his influence and personal efforts toward the establishment of a practical prophylaxis.

THE DIFFERENTIAL DIAGNOSIS OF ACUTE POLYARTICULAR RHEUMATISM, FROM A SURGICAL STANDPOINT.

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The theory that acute polyarticular rheumatism is an acute infectious disease is accepted by the great majority of investigators of the present day. Leube (1), in a brief summary, concludes, "there can be no doubt but that acute polyarticular rheumatism is an infectious disease." Another author says (2) "all forms of arthritis, independent of gout or injury, are of infectious nature." Some even maintain that acute polyarticular rheumatism is but a mild form of septicæmia, which Leube

strenuously denies. It is, however, a well observed fact that the various complications and sequelæ of acute polyarticular rheumatism, such as thyreoiditis, pleuritis, acute nephritis, cystitis, meningitis, bronchitis, endocarditis, and pericarditis bear a striking pathological similarity to those found in septic processes. Fibrinous seropurulent, and even purulent exudates are not uncommon in rheumatism; cases have even been described where undoubted rheumatism has been observed to slowly change its character into septicæmia. Such a case has lately been reported by

Chipman (3), where for two weeks all the classic signs of acute polyarticular rheumatism were observed, even to a purpura rheumatica and a possible endocarditis. At the end of the second week the patient began to have chills every three or four days, which gradually became more frequent until, in the fourth week, they appeared as often as three times a day, with a temperature of 104° and the pulse at 140. The left knee became again acutely inflamed, sepsis was diagnosed, and as a last resort antistreptococcic serum was injected. The third administration brought the temperature and pulse down to normal.

With this ætiology in mind, it is easy to understand how a difficulty may arise in the diagnosis between acute polyarticular rheumatism and the

infections which have their seat of activity in or about the joints. Bacteriology does not always help us out, for in the exudates from undoubted cases of rheumatism various investigators have found pneumococci, streptococci, or staphylococci. It is thus most often left to the clinician to make his diagnosis from the clinical findings alone. Pathognomonic symptoms do not exist; but certain of the clinical symptoms, especially when well grouped, speak strongly for acute polyarticular rheumatism. These are, briefly: Intense and sudden anæmia, muffled heart sounds or fresh murmurs, involvement of the smaller joints, moderate leucocytosis, angina, which often precedes rheumatism, iritis, a late symptom, not gummatous, the early appearance of fluid, strictly confined within the limits of the joint capsule, and, lastly, the positive reaction to the administration of some form of salicylic acid.

The features of acute polyarticular rheumatism which may, however, lead to difficulty in diagnosis are:

1. The disease may only manifest itself in one joint throughout its entire course (23).

2. It may be of such a mild type, and the effusions so scant, as to be difficult of demonstration, and yet present later on all the grave endocardial symptoms of a severe case.

3. The initial acute symptoms and the polyarticular character may be masked, and the disease end with a sudden attack upon some one joint, which becomes tensely swollen, especially painful, the periarticular tissues infiltrated, and the joint itself securely ankylosed (*festgestellt*).

4. The swelling may not always be situated within the joint capsule. At times the neighboring tendon sheaths or the subcutaneous tissues become involved, making the impression of a phlegmon or lymphangitis. This, however, only comes on late in the course of an attack.

So difficult is the diagnosis of acute polyarticular rheumatism in infants that various authorities have laid down definite rules to be followed in all cases. Thus, Miller (5) says: "All other possible causes of joint affection must be excluded." Marfan (6) insists that the following points must be established before a diagnosis of acute polyarticular rheumatism can be made: Mobility of limb; migration of the affection from joint to joint; absence of all suppuration in the joint or elsewhere; liability to involvement of serous membranes; favorable influence of salicylates.

The diseases which can simulate acute polyarticular rheumatism, and from which a differential diagnosis must most often be made, are briefly classified under two general heads:

I. Primary forms of arthritis, such as

A. Acute pseudo-rheumatic tuberculous arthritis.

B. Synovitis serosa.

C. Synovitis purulenta and arthritis purulenta.

D. Intermittent hydrops.

E. Syphilitic arthritis.

F. Arthritis deformans.

2. Arthritis secondary to infectious diseases, septic infections, septicæmia, or constitutional diseases. These are:

G. Gonorrhœal arthritis.

H. Arthritis after scarlet fever, pneumonia, diphtheria, etc.

I. Arthritis in septicopyæmia.

J. Acute osteomyelitis.

K. Osteochondritis, syphilitic and rachitic.

L. Arthritis in pulmonary tuberculosis.

M. Gout.

N. Joint neuralgia or neuroses (26).

It will be my purpose to point out the salient clinical features and physical signs by which the various processes above mentioned may be distinguished. Many at first sight ought to bear no resemblance to acute polyarticular rheumatism, and yet circumstances about which we know nothing as yet often change their clinical pictures so that each and every one has at times been mistaken by competent observers for rheumatism. Text-books are wonderfully silent as to these peculiar forms, and it is only by the study of individual cases or else scanning of the many publications that one can gather them at all. Then, too, either through fear of ridicule or modesty, we are too often silent as to our mistakes and hide cases of great value or rarity.

A. Pseudo-rheumatic acute tuberculous arthritis is one of the most important and one of the most puzzling of this entire group of diseases. It is little known and still less written about. Books, monographs, and pamphlets, while sometimes admitting that tuberculous arthritis may be acute, lay entire weight in their descriptions and discussions upon the essentially chronic form (27). It is a fact beyond dispute that tuberculous arthritis, like tuberculosis elsewhere in the body, may be essentially acute in all its stages. The form which closely simulates acute polyarticular rheumatism was first described by Poncet and later reported, with cases, by Poncet (7) and Mailland (8). Archambaud (9) indirectly admits of its existence when he speaks of cases of "rheumatic coxitis," which he says were to his mind, beyond a doubt, tuberculosis of the hip joint. The onset of this disease is acute; one or more joints are involved (usually the larger ones), while fleeting pains are experienced in other joints. The fever is high and there may be an anemia present.

Sweats are generally noticed at night. The pain and swelling do not lessen with the administration of salicylic acid. One of my patients had muffled heart tones, a systolic murmur, and intensely acid sweats.



Acute pseudo-rheumatic tuberculosis of the ankle joint.

The form and appearance of the joint are, however, quite characteristic of a tumor albus, which needs a better pen than mine to accurately describe; but, when once seen and impressed upon the memory, it can never be forgotten. If the ankle is affected, the swelling appears suddenly behind the malleoli to either side of the tendo Achillis; soon it appears upon the dorsum of the ankle, the internal plantar arch becomes partially obliterated and the tumor has a tendency to assume a globular shape (see illustration). In the knee, the joint is universally swollen, the patella is hidden by oedematous tissue, it does not float much, nor is fluctuation easily elicited. There is no sharp boundary to the swelling, the contour of the joint is hidden, and the consistence of the parts is quite elastic. There are very little reddening or other acute symptoms present. Ankylosis and intense pain upon attempted motion are easily elicited, together with fixation and wasting of the muscles, contracture of the tendons, and infiltration of their sheaths. The immediate reasons for suspecting such a joint to be other than rheumatic are the early fixation, the fact that salicylates are valueless, and the characteristic appearance of the tumor albus. The absolute diagnostic signs, except the last mentioned, are the reaction to tuberculin and the injection of the joint fluids into the peritoneal cavity of guinea-pigs. Poncet proved all his cases in this way. Owing to the exigencies of private practice, I have not been able to do this, and so, of my seven cases of acute tuberculous arthritis, only two are undoubtedly of this form, as proved by subsequent developments; the others may be the form of acute tuberculosis described under *M*. Among my cases I would report the following:

CASE I.—*M. C.*, a girl, aged twelve, was first taken ill in April, 1900, with pains

in the shoulders, wrists, hip, knee, and feet. The pains were so severe and acute that a physician was summoned at 2 a. m. The next day all (?) her joints were swollen, she was short of breath and cyanotic, and the physician said he feared the "rheumatism might touch her heart." Salicylates seemed valueless, and hypodermics of morphine were resorted to to quiet the pain. Hot packs were instituted. After three weeks the pain and swellings had entirely disappeared, except in the right knee, which was of a purple color and was gradually becoming bent. In August it broke open and a fistula resulted. Extension was now used. I saw the patient in September, 1900. She was emaciated and anemic; heart and lungs normal, pulse 120; slight glandular enlargement everywhere present. The right knee was uniformly enlarged and presented a fistulous opening just below the inner condyle of the femur. The edges of the fistula were undermined and worm-eaten, and the skin was of a deep violet color. The knee was ankylosed in flexed position and the patella firmly fixed. My diagnosis was that of acute tuberculous tonitis. I advised resection and was about to operate, when permission was withdrawn. Six months later I saw her again; emaciation was extreme; she was passing very large amounts of urine, of low specific gravity and containing a small amount of albumin with a few hyaline casts. The knee joint was now totally destroyed. I advised amputation, but, as permission was refused, I withdrew from the case and subsequently heard that she had died.

CASE II.—*M. D.*, a girl, aged five. Family history free from tuberculosis. She had the usual diseases of childhood. She had always been robust and strong; five weeks before, she was very suddenly taken ill with nose bleed, fever, sweats, and pains in all the joints. The attending physician, an intimate friend, told me at the time that hers was a well marked case of acute articular rheumatism. She was quite anemic and there was a dull, prolonged systolic tone, simulating a murmur; most of the joints were painful and tender, but there was no marked swelling. There were also profuse sweats. Salicylates relieved the pain for a while, but when the ankle began to puff up behind the malleoli they failed. At this time he was very suspicious of acute osteomyelitis, but could find no trace of this disease. I first saw her in consultation on September 1, 1901. Examination revealed normal lungs and a suspicious systolic heart tone. There were no glandular enlargements, and no scars of former abscesses, but there was marked anemia, with slight fever. All the joints were normal, except the right ankle, which presented a globular swelling over the dorsum of the foot and behind the malleoli. There was no fluctuation, but the swelling had a tense, elastic consistence. The skin was fairly pale and oedematous, and the ankle was quite tender. There was crepitation in the ankle joint proper, but the tarsus was fixed. I was so struck by the peculiar history and the signs present that in diagnosing tuberculosis I remarked to the doctor: "She seems to have typical acute rheumatism everywhere else except in the joint, and that is tuberculous." It was not deemed

advisable to administer tuberculin, nor could we aspirate the joint, so the diagnosis had to be made solely from the clinical appearance.

A plaster cast was applied, which I removed on November 12, 1901. The swelling had abated somewhat. The patient had been up and about without much discomfort. A new cast was applied, which was taken off on February 22, 1902, on account of pain. Much to our disappointment, the joint had become perforated just below the internal malleolus. The skin was of a deep purple hue, the edges were rough, and the discharge was a watery fluid with cheesy flakes, thus assuring us of the diagnosis of tuberculosis.

As I was able to follow this case practically from its very acute onset, I feel positive that it fulfills all of Poncet's requirements in being acute pseudo-rheumatic tuberculous arthritis.

B. Synovitis serosa can only be mistaken for acute polyarticular rheumatism when it is multiple. Although slight fever is present, the joints, which are generally very tensely swollen and painful, lack all the signs of an acute inflammation. Diagnostic is the great swelling, all out of proportion to other signs.

C. Synovitis purulenta, or empyema, is generally a secondary arthritis, but can arise from a primary infection of the joint. It is characterized by terrific pain, chills and fever, great swelling, with marked signs of inflammation in and about the joints and periarticular tissues, until the whole extremity is oedematous. The latter occurs early and is most characteristic. Puncture of the joint reveals pus. A blood count would show a marked leucocytosis; the spleen is usually enlarged and the pulse full and bounding.

D. Intermittent hydrops is generally polyarticular. It was first described by Schlesinger and Seeligmüller as a vasomotor neurosis. Its periodicity ranges from two to eight weeks, often taking the form of a vicarious menstruation (20). It is not accompanied with fever, and only the sudden appearance of the swellings and the pain simulate rheumatism. (There is, however, a form of intermittent hydrops with fever, but this has been proved to be secondary to osteomyelitis.)

E. Syphilitic arthritis, combined oftentimes with fever and bone pains, appears suddenly in both secondary (24) and tertiary forms (so called). There is but little accumulation of fluid within the joint, and there is no redness or tenderness. Syphilitic iritis is an early accompanying sign. This, with the establishment of positive signs of syphilitic infection, confirms the diagnosis.

F. Arthritis deformans has been held to be an infectious disease. Undoubtedly many cases are intensified and rendered acute by such infection, to which pericarditis or pleuritis may be an accom-

paniment. Fever is naturally a symptom of these attacks. In one of my cases, fecal impaction, which was of frequent occurrence, always led to these attacks of violent arthritis. These outbursts are always to be diagnosed as a part of the arthritis deformans by the deposits around the joints, their total or partial ankylosis, and the great muscular atrophy combined with increased muscular reflexes.

G. Gonorrhoeal rheumatism is a process the etiology of which has been definitely established, and it is closely allied to acute polyarticular rheumatism. It may be polyarticular and give rise to pericarditis, endocarditis, neuritis, and the like; but usually attacks the knee joint, which is fixed in extension, and the tissues are usually soft and extremely painful. Moynihan (10) has described a milder form with "flying pains" shooting from one joint to another; this is most difficult of diagnosis, especially when the etiological factor remains concealed, as in women. How closely this process may simulate acute polyarticular rheumatism is clearly shown by a case published by Herzfeld (21), from whom I quote: "About thirty-six hours after . . . patient had a temperature of 104.2 degrees, pulse 96, and severe pains in all the joints of the upper and lower extremities. The next day I found him with severe pains in the right wrist joint, right shoulder joint, right knee joint, several finger joints, and the left ankle joint, all of them swollen and extremely painful; temperature and pulse the same: very profuse night sweats. Under local antiseptics and salol internally, all the joints, with the exception of the right knee joint, returned to their normal condition excepting only a slight sensitiveness remaining in the others. The urine contained pus cells and gonococci. About one week after the initial chill the right knee joint was filled to its maximum." I venture to say, that had Dr. Herzfeld not known that he was dealing with a case of gonorrhoea, the diagnosis of this case would have caused him great difficulty; so typical were its initial symptoms of acute polyarticular rheumatism. The only positive signs of gonorrhoeal arthritis are the *fixation in extension* (11), the presence of some form of gonorrhoeal urethritis, and the finding of gonococci in the joint fluids.

H. Arthritis secondary to scarlet fever, typhoid, pneumonia, etc., is usually monarticular, and presents no difficulties if a good history can be obtained. Otherwise, it is similar to synovitis purulenta described under *C*.

I. Arthritis due to septicemia is polyarticular and similar to the lesions of arthritis purulenta. These lesions are abscesses in or about the joint; and the discovery of such lesions in other organs of the body, the lungs, spleen and subcutaneous tis-

sues, with the clinical picture of sepsis confirms the diagnosis.

J. Acute osteomyelitis, especially as it occurs in childhood, is often the cause of a mistaken diagnosis. It is quite useless to lay down the dogmatic description to be found in every text-book; it is too well known even to the medical student, so that slight deviations from the rules and signs laid down so rigidly lead to a faulty diagnosis of acute polyarticular rheumatism. It is well to remember that acute osteomyelitis is often multiple, either in the onset or in its rapid spread, as often attacking the extreme ends of the diaphysis as the shaft, and presenting vague pains and swellings in other parts of the body. If only medullary osteitis is present, the bone will show no traces of thickening, which is mainly due to periostitis. The swellings near the joints early involve the subcutaneous tissues and obliterate the joint outlines. For several days this form cannot be distinguished from acute polyarticular rheumatism except by eliciting the facts that the swelling has not originated within the joint capsule, but in the periarticular tissues, that the pain is deep and boring, and that the bone is exquisitely tender. The mental symptoms are often the same as in rheumatism. In the cases where pus is formed early in the disease, the diagnosis can be made from the predominance of the local symptoms, the great disturbance of function, the symmetrical swellings about one or more joints, and the inflammation and cedema of the soft parts with the absence of fluctuation in the joint early in the disease. From about the fourth to the tenth day, there comes but little chance of error; but toward the end of the second week, in mild cases, situated in the ends of the diaphyses, there comes an epiphyseal osteochondrosis with inflammatory hydrops, which can be very puzzling. This hydrops can become chronic and lead to intermittent hydrops with fever. In infants the diagnosis is especially difficult, as the osteomyelitis may be mild and not lead to suppuration or destruction of bone, and disappears rapidly (17).

A safe rule is, that arthritis of one joint in a child, lasting more than ten days and not influenced by salicylates, is either acute tuberculosis or osteomyelitis.

K. Osteochondritis.

1. Syphilitic osteochondritis occurs only in congenital syphilis and may indeed be the only symptom. The swellings are painful, hard, and nodular, are situated in the epiphyseal ends, and lead to great disturbance of function. Fever may also be present. The absence of fluid or joint swelling at once excludes rheumatism. Other positive signs of syphilis clinch the diagnosis. A résumé of a case will not be amiss.

CASE III.—E. W., a boy, aged fifteen weeks. Both parents deny luetic infection (I do not believe the father: he knows too much about the disease). Labor was normal. The child was a large one and has not grown since. Five weeks ago the left wrist and right knee were noticed to be enlarged and painful. The child did not move these joints. He was seen by several good clinicians, who diagnosed rheumatism, and the child was treated with salol, salicylic acid, aspirin, hot packs, baths, etc., without avail.

Status præsens, November 17, 1901.—Well nourished, well developed, quiet infant, good color, skin dry, no rash on the body, no mucous patches, no cracked lips, no keratitis, slight universal glandular enlargement, no beaded ribs, spleen slightly enlarged and other viscera normal. Epiphyses not enlarged except the lower left radial and lower right femoral, which are painful, thickened, and slightly nodular. The joint capsules are not involved and contain no fluid. Motion in the left wrist and right knee is limited. The bones otherwise are normal. I advised the administration of calomel or gray powder, and in three weeks the physician in charge reported that the swellings had almost disappeared.

2. Under the name of "growing pains and growing fever" in children, Bouilly (13) has described a number of conditions which have been analyzed by Tillmanns and declared either acute polyarticular rheumatism or rickets. It is well known that rickety bones and joints are often exquisitely painful, due to the stretching of the ligaments and the unequal distribution of the pressure upon the epiphyseal ends. Other signs of rickets confirm this diagnosis. If this cannot be made, it would be well to hold all cases of "growing pains and fever" in children to be rheumatism.

L. Many writers have called attention to the close relationship between pulmonary tuberculosis and joint affections (25), holding the latter to be rheumatism, especially where there are transient pains, accompanied by swellings, without destruction of cartilage or firm ankylosis. Poncet (14) in 1890 showed these processes to be essentially lesions of irritation, due to the toxins of the tubercle bacillus, or genuine tuberculous arthritis. The pains are intense and boring, situated in the centre of the joint; ankylosis with atrophy of the muscles soon follows, but the lesions rarely become fungous, suppurative, or destructive. If not purely irritative, the joint takes on the appearance of a tumor albus with flexion and ankylosis and presents nothing at all typical of acute polyarticular rheumatism. Such a case is the following:

CASE IV.—Lida K., aged twenty. Family history tuberculous; has had the usual diseases of childhood; denies gonorrhœa; has had a bad cough, fever, and loss of appetite for the past two months. Five days ago she experienced sudden pains and tenderness in several joints and rigidity in the right knee, which is swollen and hot.

The patella does not float. There is thickening of the capsule and the periarticular tissues. The whole is quite elastic, with no fluctuation, and the shape is distinctly spindle-like. My diagnosis was acute tuberculous arthritis. A week later a severe pneumonia of the left lung occurred. After the crisis and clearing of the lung, dullness and resistance of the right apex with impeded respiratory excursion and high-pitched breath sounds, followed by a crop of fine moist râles, were discovered. No tubercle bacilli were found. This condition lasted without change for over eight months and was, beyond the shadow of a doubt, tuberculous. As soon as practicable, the leg was placed in a plaster cast and the patient sent into the country, where a rigid anti-tuberculous régime was instituted. In eight months she came back to have the cast removed. Although she was gaining in weight, the process in the lung did not vary and at times her cough was very annoying. At the end of the eighth month, the joint was quite rigid, the patella was firmly fixed, and the capsule and tissues were thickened and painless. She was discharged with the caution to seek a proper climate and stay there.

With this latter, the forms of arthritis with which the surgeon comes mostly in contact and which he must distinguish from acute polyarticular rheumatism, or vice versa, are practically complete. Some are, as has been said, of much greater importance than others, and yet each and every one is worthy of treatment in a special paper. They demonstrate the manifold characters of infectious diseases and the great similarity in many of their symptoms, which can only be explained by their similar ætiology, which, as Howard defines it, "is the entrance into and the multiplication within the body of pathogenic micro-organisms."

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516 ROSE BUILDING.

Semecarpus Anacardium in Nervous Disorders.

—Dr. Hem Chandra (*Indian Medical Gazette*, March; *Journal of Tropical Medicine*, April 15th) says of the *Semecarpus anacardium* (Dhobi's nut): "This is a very reliable drug in the treatment of nervous disorders. The precautions of using milk and ghee must not be forgotten. If this drug be used exclusively by scientific practitioners, I am sure they will recommend its introduction into the B. P. Many poor people hold a *mela* once a year. During this ceremony they take its decoction with milk, ghee, and honey or sugar. This keeps them free from any disease. During winter consumers of this drug can safely sleep in the open fields without warm clothes. I have been using this drug for more than six years without seeing any bad effect other than erythematous rash. In the Campbell Hospital I have made many bedridden cases of disseminated sclerosis walk about in the hospital compound. As an alternative [alternative?] it is very helpful in secondary and tertiary stages of syphilis. I have used it successfully in two cases of epidemic dropsy of the legs recently." [The black nut of *Semecarpus anacardium*, according to Foster's *Encyclopedic Medical Dictionary*, "contains a resinous, corrosive juice, used as a rubefacient, and internally against leprosy and syphilis. It yields an acrid, viscid oil which is used as a counterirritant (but often occasions erythema and constitutional disturbance) and internally as a narcotic stimulant. The kernels yield a rubefacient oil. The farina of the anthers is irritating and narcotic, often producing in persons that sleep under the tree when it is in blossom stupefaction and swelling of the face and limbs. The fleshy corolla and receptacle are eaten." Bentley also (*Manual of Botany*) says that its employment "has frequently led to serious consequences, and should be condemned as dangerous."]

A CASE OF PROGRESSIVE MUSCULAR ATROPHY AND ONE OF PSEUDO-HYPERTROPHIC PARALYSIS IN YOUNG CHILDREN.*

By M. NEUSTAEDTER, M. D.,

NEW YORK.

I feel that I need not offer any apology for occupying your valuable time with what may seem cases of minor importance, for, while we frequently meet in our practice with cases of muscular atrophy and pseudo-hypertrophy, very seldom do we come across such pronounced cases in early childhood, such as I am about to present.

Without entering into the literature of this subject I shall present to you the patients, citing their history, signs and symptoms, and treatment, and shall

when one year old. The mother noticed that the child, when thirteen months old, was unable to use her right arm, and could not walk straight when one year and a half old, so that ankle shoes had to be supplied, in order to keep her legs straight. There was, however, no noticeable difference in the circumference of her extremities. When two years old, the child caught measles and pertussis, which ill left her after eight weeks entirely well but for a sore throat off and on. The mother never noticed any



FIG. 1.—S. A., when she first appeared for treatment, November 1st.

be extremely grateful for whatever suggestions you may desire to make.

CASE I. Erb's form of Juvenile Progressive Muscular Atrophy.—S. A., six years old, a female child born in New York, of Russian extraction. Family history negative. Was nursed by her mother; began teething when seven months old, and walking



FIG. 2. S. A., February 10th, showing marked lordosis, atrophy of the right deltoid, projection of the right scapula, and diminution in volume of the muscles of the right limb.

difference in circumference between the lower extremities until six weeks ago, when I called her attention to the fact.

Physical signs. Muscles of upper right arm and scapula visibly atrophied, the child being unable to raise her arm. Marked projection of the right scapula, because of paralysis of serratus. Deltoid of the left arm visibly affected. Right pupil slightly larger than the left. Muscles of left extremity atrophied to a remarkable degree, notably the muscles of the foot, so that we noticed a marked diminution in their volume.

The child has a waddling gait, and cannot support itself on the affected leg. Patellar reflex absent in the left, and slightly exaggerated in the right knee. There is a marked spinal forward curvature in the lumbar region, marked lordosis, and the belly quite prominent. In all affected muscles there is a re-

*Read before the Meeting of the Eastern Medical Society of New York, on February 14, 1902.

sponse to the faradaic current, but complete absence of the reaction of degeneration. Heart and lungs normal, uranalysis negative.

Case II. Pseudo-hypertrophy of Muscles (Lipomatosis luxurians muscularis progressiva of Heller). H. S., eight years old, a male child, born in New York, of Austrian extraction. Mother had eight children; the first child died from scarlet fever at the age of two years, the third child from convulsions when three days old. All other children, with

region in marked lordosis, and the whole upper part of the body is balanced on the legs, which are raised slowly and with difficulty, and his toes droop from paresis of the dorsal extensors. The calves are disproportionately thick and hard. We also notice thickness of the quadriceps extensor cruris in both extremities and the hardness of their bellies, as well as of those of the triceps muscles of both arms, and of the muscles of the right scapula. There is absolute absence of electrical excitability in the muscles. Patellar reflexes are entirely absent. There is a peculiar bluish marble coloring to the skin of the legs. Heart and lungs are normal, uranalysis negative.

Diagnosis: To distinguish whether we are dealing with cases of myopathic or of spinal origin, we



FIG. 3. S. A. on February 10th, three months later, when she had gained twelve pounds, showing atrophied right deltoid prominence of the abdomen, and diminution in volume of the muscles of the left limb.

the exception of the one in question, are healthy; otherwise the family history is negative. The patient was born at full term and was a breast baby; began teething when one year old, and walking when one year and a half old. Had measles when four years old, otherwise healthy up to that time. After that, he fell and bruised his head badly; a scar on the frontal region marks the site of wound. After this fall he began to be feeble, marasmic, and unable to walk as heretofore. When five years old, his mother noticed an increase in volume of the calf, and an inability to walk up stairs, or raise himself when he fell. The child is of feeble mind and is gaining no weight at present.

Physical signs. The gait is waddling, the belly prominent, spinal curvature forward in the lumbar



FIG. 4. H. S., showing thickness bellies of muscles of calf and marked lordosis of the spine.

must reflect upon the fact that the extensors of the spine are here intact and the cases are of generic character, while the spinal form usually attacks older persons and begins with a marked atrophy of muscles of the spine. Absence of the reaction of degeneration here is in contrast to the presence of the reaction of degeneration in the spinal form, while

total loss of patellar reflexes and absence of fibrillary twitchings are characteristic of myopathic forms of muscular atrophy.

Treatment: Rest in bed, careful nursing, strychnine, arsenic, and electricity and massage.

111 RIVINGTON STREET.

DISINFECTION.*

By ROBERT J. WILSON, M. D.,

NEW YORK.

ASSISTANT BACTERIOLOGIST OF THE HEALTH DEPARTMENT OF
THE CITY OF NEW YORK.

There is no factor in the realm of preventive medicine more important than disinfection; unfortunately, none to which less heed is paid by the practitioner of medicine.

Strictly speaking, disinfection means a destruction of all organisms and their products which are capable of producing disease, but, in a general way, we consider it disinfection when the organisms that produce disease have been destroyed or so injured by the disinfecting process that they are no longer capable of any deleterious effect. The laity are very prone to believe that all deodorants are disinfectants and consequently are very willing to believe that, where a very considerable amount of odor is produced by the disinfecting agent, there you must have disinfection. This condition sometimes leads to grave errors where the process is left to the judgment of an incompetent non-professional man.

Disinfectants are not necessarily deodorizers, as is instanced by the mercury solutions; on the other hand, some disinfectants are most perfect deodorizers, as is instanced by formaldehyde and potassium permanganate.

The subject can very well be treated from two standpoints: first, that of personal disinfection; and, secondly, that of disinfecting rooms or objects that have been exposed to infection from persons suffering from disease. Personal disinfection may be illustrated by the preparations made by physicians or surgeons preparatory to operating on their patients; to getting the patients ready for operation; and also where physicians wish to discharge patients that have suffered from contagious disease. The methods employed are practically the same in all of these instances and consist, first, in the thorough cleansing of the skin, followed by the application of a suitable efficient disinfectant.

This form of disinfection is by most physicians carefully carried out, so that the neglect of it is seldom a source of danger, and for that reason I shall not say anything further about it in this paper, but shall confine my remarks to the disinfection of rooms,

with their contents, which have been inhabited by patients suffering from contagious diseases, and of the dejecta of such patients. All wood-work, door-knobs, etc., that have been liable to infection should be thoroughly washed with soda solution, and further treated with a 1-1000 solution of bichloride of mercury after the gaseous disinfection. For all practical purposes thorough disinfection can be accomplished by means of the following named disinfectants, each to be used in the place indicated for it: Washing soda solutions for cleansing purposes; five per cent. carbolic acid solution or 1-1000 bichloride of mercury, where liquid disinfectants are indicated, and sulphur dioxide and formaldehyde where gaseous disinfectants are indicated. Rooms should be disinfected in such a manner as to insure the destruction of all infectious organisms present in them. In the present state of our knowledge this can only be accomplished by having everything in the room freely exposed to the disinfectant. A room, to be disinfected by a gaseous disinfectant, should be prepared in the following manner: by having the doors and windows made air tight, or as nearly so as possible, either by pasting paper over the cracks in them or by wedging them tightly shut and calking with absorbent cotton or felt or some such material, which will answer all practical purposes. In well-built houses where the windows are provided with weather strips they are frequently tight enough, with the exception of the space between the two sashes, which can be made so by one of the methods mentioned above.

It is presumed that all washable articles in a sick room where contagious disease has been or is, have been taken from there and boiled or immersed in a disinfecting solution. Curtains, portières, bedding, and all cloth articles should be hung up in such a way that the gaseous disinfectant can come in contact with every part of it. The best gaseous disinfectant is formaldehyde, for not only is it an efficient disinfectant, but it is also a good deodorizer, and it does not injure decorations or fabrics or anything with which it comes in contact, except the organisms, which it always destroys where used in sufficient quantity.

Formaldehyde gas is most commonly generated from formalin (a forty-per-cent. solution of formaldehyde in water), either by one of the numerous generators now on the market, or by allowing a solution to evaporate from sheets suspended about the room. Both of these methods have their advocates, both are efficient, both of them have their drawbacks; but by far the most popular, and deservedly so, is that of regeneration from formalin by means of a formaldehyde generator so constructed that, by heating the formalin, formaldehyde gas is rapidly given off; almost all generators now on the market are efficient

* Read before the Jenkins Medical Society of Westchester County, March 13, 1902.

if a sufficient amount of formalin is used; for that matter, formaldehyde could be generated in a tea-kettle or any other vessel which would allow of a sufficient amount of heat.¹ It must be remembered, however, that formaldehyde burns easily, and where the gas is being generated in close proximity to a flame, if there is no provision against contact, the gas may burn and you will thus lose it. The same thing applies to all forms of candles made of charcoal or otherwise, where the possibility of burning must be taken into account. Where an excess of formaldehyde for the space to be disinfected is rapidly generated and heat supplied, disinfection is very rapid and can be insured for superficial organisms in one hour. What has seemed to me to be the most efficient form of formaldehyde disinfection, both as regards penetration and the minimum amount of after effect in the way of odor, has been that where the gas was generated directly from wood alcohol over platinum. Up to this time a perfectly satisfactory generator for this method has not been placed on the market.

This is particularly good for the disinfection of buildings and cars, when by ordinary modes of disinfection, they would be kept out of service for so long a time as to work a hardship on the persons using them. Sulphur disinfection is by far the most commonly used at present, and has many advocates who believe it equal to, if not better than, formaldehyde. When using it, the same precautions are observed in preparing the room and its contents that you would use for any other gaseous disinfectant. Sulphur burned without the presence of moisture is wholly ineffective, but where moisture is properly provided for it is, upon long exposures (not less than eight hours), as efficient as formaldehyde, and has the added advantage that it destroys all vermin. It is not applicable where there are decorations that can be injured by the chemical combinations of the products of the burning sulphur and such chemicals as they may have in them; white paint, for instance, being turned black by the formation of lead sulphide, and brass fixtures being tarnished by the formation of the copper sulphide. In municipal disinfection a large number of the cases are in tenement houses, and these conditions do not have to be taken into consideration, so that here sulphur is, at the present time, considering the cost in time and labor for the production of formaldehyde, the best disinfectant. Four pounds should be burned for every 1,000 cubic feet of space.

Chlorine is a powerful disinfectant when moisture

is provided for, but, owing to its deleterious action on all kinds of fabrics and the extremely poisonous nature of the gas, it is not so applicable for house disinfection as either sulphur or formaldehyde. Bromine and iodine have about the same germicidal value as chlorine under the same conditions, but, like chlorine, are too dangerous and destructive for general use. The most efficient form of disinfection is that of heat; this necessitates specially devised apparatus, generally consisting of a chamber into which the goods can be placed, and in which they can be subjected to moist heat under pressure, which insures perfect penetration.

In the health department we have three forms of steam sterilizing chambers. The first and most simple consists of a tight chamber made of corrugated iron enclosed in brick walls with a slate roof; around these walls are coils of $1\frac{1}{2}$ inch steam pipe, by means of which it is possible to raise the temperature in this room to 230° F. The room is connected with the boiler by a two-inch steam pipe, and live steam is allowed to flow into it from the boiler pressure of 50 lbs., constantly for one hour; this secures penetration to a degree of 225° F. through a roll of mattresses. The process is not a good one, however, in that the goods become wet and are considerably shrunken by being subjected to this procedure. It has the added disadvantage of being very expensive on account of the amount of steam used.

The second form, and that which is used in the largest plant, consists of an iron chamber having doors on each end, which are screwed on by the same method as cylinder heads, and by means of which it can be made air tight. Steam coils are placed in the top and bottom of this chamber, by means of which it can be superheated; it has attached to it, also, a vacuum apparatus, so that a vacuum of ten inches can be established. This chamber is perfectly satisfactory as a disinfection chamber, but is crude and out of date as regards its construction.

The third and best form of steam disinfection chamber owned by the health department is a steam-jacketed chamber built in a similar manner to the small autoclaves sold by instrument dealers to physicians and hospitals for the sterilization of dressings; this is the best form, as it is entirely up to date in method of construction and ease of operation.

All these chambers can be used for formaldehyde disinfection, being so constructed that either wet or dry heat can be used. A moderate amount of heat very greatly facilitates disinfection by formaldehyde gas. A considerable amount of penetration can be induced by establishing a vacuum of ten inches or more.

Our method of disinfecting goods in a steam sterilizer chamber is to have them packed in without unrolling the bundles, bedding, carpets, etc., placing

¹ Not less than six ounces of formalin should be used for each two cubic feet of space, and interior articles should be exposed to the action for not less than four hours.

The length of the time necessary for formaldehyde disinfection seems to be shortened where there is a sudden influx of a large amount of gas into a room.

in the middle part of the goods, where the heat will experience the greatest difficulty in penetrating, an electric thermometer with contact of 212° F., and a self-registering thermometer. A vacuum of eight inches is established, the chamber being at the same time heated with dry heat, which is maintained until the electric bell rings, at which time wet steam is turned on and left for fifteen minutes, after which the chamber is thoroughly blown out by a wheel bellows and the chamber then opened, the self-registering thermometer removed, and the temperature noted, after which the goods are removed to tables from which they are finally distributed to their owners. At frequent intervals bacteriological tests are also made, both with spores and vegetative forms of organisms.

The routine method of making bacteriological tests consists first in the preparation of the test material, consisting of sterilized paper upon which are placed, on threads and paper, spores and vegetative forms of organisms; these are then dried for twenty-four hours and wrapped in sterile paper, to protect them from contamination until used, which should be within twenty-four hours from the time of their preparation. Where tests are being made in rooms, these pieces of paper and threads with the organisms on them are deposited about the room in various places near the ceilings, on the floors near doors, on the window ledges, and on a table or chair in the center of the room; others are placed beneath layers of cloth, under papers, or between pages of partially open books. These organisms are distributed about the room the last thing before the door is closed and they are collected from the room the first thing after the door is opened, care being taken to insure them from contamination. I usually prefer as test organisms, for the vegetative forms, either colon or typhoid bacilli, and for the spore forms, anthrax, because these are easily recognized by their behavior toward culture media and agglutinating sera, so that, in the event of a contamination after the disinfection process is over, the organisms can be easily identified and distinguished from the contaminating one.

In testing disinfection or disinfecting appliances, it should be the rule to make the test as rigid as possible, by multiplying the difficulties to be overcome so far as penetration or the resistant condition of the test organisms is concerned. In actual disinfection use the same amount of disinfectant and the same care in disinfecting technique as would be used in making a disinfection test, but try to have the organisms or the infected articles so disposed as to make the conditions most favorable for being reached by the disinfectant.

Besides the disinfection of rooms after contagious diseases the proper disinfection of the sputum and dejecta during the process of disease must always

be properly carried out. Sputum from patients suffering from infectious disease involving the respiratory or upper alimentary passages, should always be received into a disinfectant solution in a cup or basin, which can afterwards be destroyed or thoroughly disinfected. The most common disease where sputum has to be disinfected is pulmonary tuberculosis, and the methods of dealing with the sputa of patients suffering with this disease will do equally well for all other infected sputa. The Knopf cups are as good as any others for this purpose, one consisting of a light metal cup, which is provided with a tight lid that makes it water tight, the other of a tin cup with a paper box inside, into which the infected sputum is received; these paper shells can be removed at frequent intervals and burned, and the tin case can be disinfected with five per cent. carbolic acid or by boiling.

Very fortunately, infected sputum usually has in it the vegetative forms of organisms that are readily destroyed by a moderate amount of heat (at the temperature of boiling water) and by a short exposure to comparatively weak disinfectant solution. It must be remembered, however, that sputum is not easily penetrated by disinfectants, and that a thorough mixture must be made to insure the contact of the disinfectant and the organism, or a considerable time must be allowed to elapse after pouring the disinfectant on the sputum, to allow for penetration.

In all diseases where infectious organisms are liable to be passed from the intestines or bladder, the dejecta from these must be received into a disinfectant solution of sufficient strength to destroy them. It must always be remembered that the dejecta dilute the solutions, and this fact must be taken into consideration, so that the dilutions by the added dejecta will not render void the disinfectant. It takes a considerable time for disinfectant solutions to penetrate faeces, and here the disinfectant solution should be added in large excess and left to stand for a long time, or the faeces should be thoroughly mixed with the disinfectant, or, what is probably better, after the disinfectant has been added, the faeces should be raised to a temperature above 70° C., for a few minutes, which will insure the destruction of all vegetative forms of organisms, these being the ones which we have most often to guard against.

It has been the practice of country practitioners to have the dejecta buried without any further disinfection in cases of typhoid. According to the researches of Sidney Martin, in fresh sod that has not been injured by heat, and where the soil bacteria are abundant, typhoid bacilli are destroyed in a very short time, the soil bacteria or their products having a germicidal effect on the typhoid. This would account for the rarity of the spread of infection from

typhoid dejecta through water contamination in country places.

In closing, I would specially call your attention to the disinfection of everything used by tuberculous patients. Their towels, bed and table linen, and washable clothing, should be immersed in a disinfecting solution before leaving the room where used. The articles used by them for all domestic purposes should be thoroughly disinfected before being used by any one else. The articles of their table service should be used by them only, and washed in a separate basin specially reserved for them and always scalded after using. Proper attention to the details of disinfection, in conjunction with other measures of preventive medicine, will make outbreaks of contagious disease rare rather than common.

THE EYE AS A FACTOR IN CAUSING GENERAL SYMPTOMS; ILLUSTRATED BY THE REPORT OF A CASE.*

By JAMES L. MINOR, M. D.,
MEMPHIS, TENN.

The field of medicine is a large one—too large for the ordinary individual to grasp and intelligently practise all of its ramifications; and the specialist has been evolved to meet the difficulty, to perfect himself in the more intricate branches, where special skill and apparatus are required, that would really hamper the general practitioner.

As the devotee to a special branch pursues his studies he is struck with its ramifications and importance; and finally comes to know that many affections remote from the organs he treats depend upon their disorder. This is natural and proper; but the specialist must keep in intimate touch with general medicine, or he may go off at a tangent and construe most of the ills that flesh is heir to as off-spring of his specialty, just as the general practitioner should guard against attributing all disorders to general disturbances.

Some diseases belong so distinctly to the specialist or to the general practitioner that they follow the channel to which they belong, and these most frequently serve as the basis for reports from their respective champions. But there are others which, because they are on the border line of specialism or general practice, or because there is such an intermingling of local and general disturbances, that either the former or the latter may be considered the seat of the disorder, are neglected. And yet this is the field for common debate, cultivation of which will bring the best results to both specialist and general practitioner.

At a former meeting of this society I attempted to show the bearings of certain affections of the ear upon symptoms of general diseases, by relating the histories of some cases which had come under my observation; and I wish now to show that the same may be done for the eye.

The history which I shall relate will show how a patient with disease of the eye lost the sight absolutely and permanently in that eye because the case was treated as one of bilious fever, and how a subsequent and similar attack in the other eye was entirely relieved by local treatment alone.

It is not necessary for the general practitioner to go deeply into ophthalmology to be able to recognize such cases, and it is certainly not expecting too much of him to be on the outlook for them. Having recognized them, he can treat them if he is qualified, or seek more competent advice if he is not.

I was called to see Julia —, aged sixty-seven, colored, in October, 1899, for absolute blindness in the right eye of one year's standing, and practical blindness in the left, of one day's duration, with the following history: No trouble with either eye up to one year ago, when sudden and severe pain was experienced in the right eye, which soon spread to the right face and forehead, and finally seemed to include the entire head and body. Then nausea and vomiting with great prostration and general discomfort were quickly added to her other suffering. The right eyeball was red, and vision in that eye was reduced. A physician was called, who said that she was suffering from bilious fever. Calomel, quinine, and opiates constituted the treatment, and she was up and about in a few days, and well, except for blindness in the right eye. Aside from a few transient attacks of pain in the blind eye, no further trouble was experienced until the day before I saw her, when another attack, similar to the first, except that it was the left eye this time which was the starting point. I was called in for palliative treatment of the eye, until the bilious fever from which she was supposed to be suffering could be relieved. The old woman was in great pain, which she said was all over her body, but seemed to spread from the left eye. She was nauseated, had vomited frequently, was greatly prostrated, and had a temperature of 102° and pulse of 120. The left eye was quite red, the pupil dilated and inactive, the iris pressed forward, and the ball of almost stony hardness (T + 2.), with vision reduced to counting fingers at five feet (5/200). Media too cloudy to admit of a view of the fundus.

Right eye, absolutely blind; pupil large, iris pressed forward, lens opaque (cataract), ball hard (T +), scleral vessels enlarged.

I recognized the case as one of absolute glaucoma and loss of vision in the right eye, requiring no immediate treatment, and acute glaucoma in the left eye, demanding a prompt iridectomy.

The condition was explained to the physician and to the patient, and, both assenting, I operated without difficulty or accident under cocaine anæsthesia. As soon as the pain incident to the operation subsided, general improvement in all the symptoms fol-

* Read before the Tennessee State Medical Association at Memphis, April 9, 1900.

lowed, and in the course of an hour she was entirely relieved. The operation was normally recovered from, and in a week the sight was greatly improved (20/70). In ten days it was practically normal (20/30), and she was dismissed, cured.

The fact that the eye was the first part of the body attacked, that it continued an important factor during the indisposition, so far as the patient was concerned, and that it presented an abnormal appearance from the beginning, to even casual observation, should have attracted attention and led to elucidation, and have prevented a snap diagnosis of bilious fever because some of the symptoms of that disease were present.

A FURTHER STUDY RELATIVE TO THE PELVIC ORGANS, THEIR ASSOCIATED DISEASES, SYMPTOMS AND TREATMENT.*

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I beg to again refer, in a general way, to the important and intimate relationship of the various pelvic organs and to the great importance which attaches to this fact in the treatment of diseases of one or more of them.

In 1898 I presented before the Mississippi Valley Medical Association a paper similar to this, and from which much of what I shall say to you now is necessarily an excerpt, because facts do not change.

I would call your attention to the frequency with which in the course of attacks of urethritis, vaginitis, endometritis, pelvic cellulitis or peritonitis, or pelvic engorgement incident to damage done to or disease of any one or more of its viscera, other organs or structures in the pelvis suffer disease or impaired function consequent thereon, with which all of you, I am quite sure, are familiar; yet in laying special stress upon this fact and some others, to which your attention will be called, I claim priority.

To elucidate the points to be presented and adhered to, I beg to recall to your minds, first, the intimate gross relationship of these parts and organs. All of these organs are within a space not greater than your hands can span, and between any two of them there is very little appreciable space;

their support and normal functions are dependent partly upon each other. The same serous membrane attaches to all of them, the same ultimate arterial and venous blood supply, and the same cerebrospinal and sympathetic nerve supply are distributed to all. The normal blood distribution and recurrent flow are largely dependent upon the normal position and gross relationship of these structures. A retroverted or flexed uterus is one not favorable to a normal and complete involution, nor is it favorable to the normal functions or to its contiguous organs' performing theirs normally. Such position, as also its consequent subinvolution to a greater degree, would so distort the blood vessels as to render a free and uninterrupted circulation within the pelvis impossible.

The hypogastric ganglion of the sympathetic, with its numerous diverting cords, the sacral ganglia connecting the lumbosacral and sacral cords so intimately associated anatomically, must associate also their functions and the functions of the organs to which their various ramifications are distributed. The sympathetic ganglia and the nerves are intimately connected with the cerebrospinal nerves by both white and gray fibres. The white fibres which pass from the spinal nerves to the sympathetic ganglia are continuous with those of communication between the ganglia. The gray fibres pass from the ganglia to spinal nerves; so intimate, therefore, is the relationship existing between these two systems that they really appear to be parts of "one great whole."

The pelvic portion of the sympathetic, consisting of ganglia, connected by interganglionic cords and communicating by other cords with the sacral ganglia and nerves, to all of which intimate association I would add the vast peripheral inosculation, has an intricacy and importance which is beyond our full comprehension or appreciation. The pelvic plexus of the sympathetic supplies the rectum, bladder, vasculæ seminales, vas deferens, prostate, vagina, uterus, and ovaries, with the surrounding parts, muscles, skin, and vessels, while from the cerebrospinal the pudic alone supplies the rectum, perineum, vagina, and external genitalia, including muscles and integument; so, arriving at this knowledge of the gross anatomy with reference to the vascular and nerve supply, I should think my grounds well taken in this paper.

From a clinical standpoint we have noted that from even slight disorders of the intestinal tract there may be a reflex pain, more or less severe, referred to the perineum, urethra, bladder, or ovaries. Disease of or irritation in the sigmoid or rectum may be referred almost entirely to the appendix or to some other of the pelvic viscera. To demonstrate this, pull upon or mash a plica and note

* Read before the Tri-State Medical Association of Arkansas, Mississippi and Tennessee, November, 1901.

the reflex to this appendix or, in obstipated subjects, note the pain referred to this organ. Paraplegia may be induced by intestinal irritation, and removal of the cause restores the unfortunate subject; but let this irritation or source of nerve disturbance, be the cause what it may or where it may, continue, and irreparable damage is sustained by that neurone; hence it is that in a nervous subject, rendered so by inflammation or irritation of some one of the pelvic organs, repair of the damaged part or organ is not adequate to a cure; other organs have suffered, and especially have the nervous elements supplied thereto, and to such an extent as to render a relief of all symptoms a result obtained only in time and by a careful systematic regimen.

It is interesting to note the early and decided involvement of the rectum when a cervical and perineal laceration has been sustained, and when an abnormally placed subinvolted uterus has not received prompt attention. However, the fact of this involvement being so common in such cases is not to me fully explained by mere contiguity of the parts, pressure of a subinvolted and displaced uterus, the relinquishment of muscular support and elasticity, *vis a tergo et vis a fronte*, exerted upon the vessels of the pelvis and its floor, but also by the continuity of their nerve supply, and with these is associated a changed position of the vessels which does not favor free return circulation from the entire or greater part of the pelvic floor and the pelvic organs. There is accomplished also through the sacral ganglia and hypogastric plexus of sympathetic nerve supply a sympathetic paresis or exhaustion of the constrictor nerve supply to the vessels of contiguous organs with consequent hyperæmia and passive engorgement or inflammation, sensory and motor sympathy. Especially after laceration of the pelvic floor is this the case in the rectum and bladder, which are richly supplied by the pudic nerve, which supplies also in common the muscles and integuments of the perinæum and external genitalia; hence the sensory and motor sympathy felt by those parts and organs respectively when either is involved, and hence the importance of an early repair after all lacerations sustained during childbirth. The second point to be mentioned is the sympathy felt by other pelvic organs when the bladder becomes the seat of disease. How often women apply for treatment of some rectal or uterine trouble when the primary trouble is in the vesical neck or interior. The bladder in the female especially is liable to infection, and more often suffers disease by reason of continuity of its mucous surface with that of the vulva and vaginal outlet than I believe is generally conceded. It becomes an easy and routine practice to prescribe some one of the urogenital remedies to women complaining of

vesical symptoms; that, too, without examining the vesical or urethral interior, while the latter is fruitful of such grateful results and the only means by which we can arrive at a positive knowledge of the ætiology and pathology of such affections. By means of the ordinary cystoscope, a good light and head mirror, and with the patient in the genupectoral position, the entire interior of the urethra and bladder can be examined and treated under ocular guidance, and we are not groping in darkness and ignorance. The ureter is catheterized and the urine from either or both kidneys obtained and examined separately for any disease of those structures and organs which may be found and treated as primary causes of vesical irritation. In this day of scientific research we should know more of the ætiology and pathology when we are called to treat diseases within the pelvis.

The next point is with reference to prostatic irritation and enlargement, which in 1898 I stated were often caused by hæmorrhoids, and could be and were being entirely relieved by me by the removal of frequently coexisting hæmorrhoids and by the performance of a similar operation on the anterior rectal wall, approximating the prostate, like that which we perform on the vagina to raise the bladder (anterior colporrhaphy). I should prefer calling my operation for the relief of prostatic irritation and enlargement anterior proctorrhaphy, and it is described as follows: In these cases there will be found a bulging into the rectal lumen, a prominent tumor which consists of thickened vascular rectal walls, beyond which is the enlarged, soggy prostate, with consequent deficient bladder drainage. This eminentia prostatica is grasped with my hæmorrhoidal forceps, which will not tear, pulled down forcibly and tied as tightly as possible by a transfixing suture of the strongest braided silk. This includes only the mucosa and submucosa. A part of the tumor may be cut away to make certain that the vessels supplied thereto are thoroughly constricted. It will be necessary to catheterize the patient for about a week, after which time he will begin passing his urine normally. At the expiration of two weeks a proctoscopic examination should be made, and if at the site of operation there is a granular base, which has a tendency to excessive proliferation, this should be seared with silver nitrate—a drachm to the ounce—and dusted with bismuth subiodide. The bowels should be kept open, and pain controlled as nearly as possible with codeine and trional. I have operated in nine cases of this character, and all the patients have been entirely relieved.

In all these cases some cystitis will have arisen to complicate matters, and in them I am in the habit of prescribing formaldehyde; in some of them

I irrigate with formalin and boric acid. A large sound should be introduced before the tie is taken on the redundant tissue. The results are that the bladder and prostate are raised, the prostate is compressed, the anastomosing vessels are occluded, and anæmia of the gland and diminution in size, with a more perfect bladder drainage, follow and are maintained.

The next thought worthy of your hearing is with reference to the frequent association of caruncule in the meatus urinarius in women suffering with hæmorrhoids. My attention has frequently been directed to this, and the treatment of either is not so successful as to the ultimate results when both conditions are dealt with at the same sitting. Indeed, I think that either condition can be an unmistakable cause of the other. I never operate upon a woman for hæmorrhoids without examining the urethra and bladder, and the same may be said with reference to the male; for a urethral stricture, prostatic disease, or cystitis from whatsoever cause will hamper if not entirely thwart the means used for the relief of symptoms. A pelvic examination I consider an incomplete one until, in the case of a female, the urethra and bladder have been examined and the urine examined at least chemically; the vulva and vagina should likewise be investigated, and the uterus and its adnexa examined bimanually, both by the vagina and by the rectum: lastly, both the rectum and the sigmoid should be examined by atmospheric dilatation and reflected or direct illumination. In practising such thorough examinations we surely are the better enabled to ferret out whatever and all abnormal conditions which might prove factors in the perpetuation of unpleasant symptoms, neurasthenia not excepted. By the method herein outlined for examinations of the bladder, rectum, and sigmoid a positive diagnosis of tuberculosis or syphilis can be made when perhaps no other means would enable us to do so; thus, in a case of sigmoiditis recently reported and presented to the Memphis Medical Society, I made a positive clinical diagnosis of tuberculous disease of that viscus, but at that time, and even yet, the microscope failed to verify my findings. Sterile bouillon culture made from scrapings of the diseased mucous surfaces, also the tubercles curreted from the sigmoid, have failed to prove the correctness of that positive clinical diagnosis. This can be accounted for only by the fact that the tubercle bacilli recede to deeper structures or disappear, perhaps do not survive in the presence of the colon bacilli, which with the streptococci are always found in great numbers. A guinea-pig inoculated by me, as was the bouillon by Dr. William Krauss, yielded negative results when it was killed and a microscopic examination made of its chest and ab-

dominal organs. The pathognomonic appearances in this case were as follows: When the mucous membrane was cleansed of the mucus and pus which formed a complete coating, the membrane was seen to be studded with small, yellowish, cheesy, granular bodies, which bodies protruded beyond and above the general surface of that membrane. They could not be wiped away, they were upon an inflamed base. After briskly massaging the entire mucous membrane with a good-sized cotton probang saturated with iodoform, also depositing in the sigmoid (through the sigmoidoscope) suppositories of iodoform and ichthyol, allowing the bowel to rest for two or three days thereafter, except to the extent of colonic irrigation used twice daily, this man improved rapidly. These crops of pathological structures would be found to entirely disappear, only to be succeeded within a few days by another crop, which in like manner would be made to disappear as before by the same treatment; each succeeding crop, however, appeared to be fewer in number until eventually they no longer recurred at all. The source of this man's infection can be accounted for by the fact of his wife having died of tuberculosis and one member of his immediate family also dying with a probable history of the disease. Under the treatment as herein outlined this man has improved rapidly, and has gained thirty pounds in weight in three months. I attribute his recovery more to the use of massage and iodoform and ichthyol than to anything else done for him. Another case of proctosigmoiditis under my care and treatment is of undoubted syphilitic origin, and is being treated as such by both local and internal medication, whereas until his bowel was inflated and illuminated by me he had been treated for months by internal measures for chronic dysentery, without any benefit whatsoever. It is a peculiar fact, as noted in this case, that syphilis has a special selection for the plicæ transversales recti, and that involvement of these structures is almost if not quite always the nucleus or starting point of all rectal strictures, and proper treatment at the earliest time of their involvement will prevent these dreadful consequences of this terrible affliction.

To outline my treatment of such cases would consume too much time, but in brief I would say that if the condition is one of syphilitic involvement, internal and local treatment should be continued, the local treatment consisting of silver nitrate to the inflamed and indurated plicæ and massage with a sponge saturated with iodoform. If a general proctocolitis exists, the bowel should be irrigated daily with boric-acid solution and insufflated throughout with boric acid. As soon as the acute condition has subsided, the more prominent valve or valves should

be divided by either the cold or caustery knife or the Pennington valve-clip. Nothing is more gratifying to the surgeon than to be able to treat the sigmoid or rectum as if he were dealing with some exterior part of the body, and to me it is rather a surprise to note how few there are who avail themselves of the means for practising this simple yet health-restoring procedure.

Therapeutical Notes.

Castor Oil in Typhoid Fever.—Dr. C. C. Bass, of Columbia, Miss. (*Mississippi Medical Record*, April) reports his experiences in the treatment of typhoid fever with castor oil. He reports eight cases in which diarrhea, delirium, and tympanites were prominent symptoms. All were treated by a dose of castor oil. The author says: "I think any physician will be pretty thoroughly convinced after trying it in one case. Take any case, the severest you may see, and give him a dose of castor oil every morning and no other medicine whatever. The dose should be large enough to act in four to six hours and should range from two teaspoonsfuls to two tablespoonsfuls according to the condition of the bowels. Keep an accurate record of the temperature, and you will be convinced. At any time during the course of the fever withdraw the oil, and both you and your patient will be convinced. Float the oil in sweet milk in a hot cup and there will be no objection to the taste. It is not very objectionable, however, to typhoid patients, as their sense of taste is very dull."

For Pregnant Women with Myocarditis.—Madama Saily (*Rassegna d'ostetricia e ginecologia*, April) gives:

- R Tincture of kola . . . 10 grammes = 150 minims
 Tincture of squill . . . } of each
 Tincture of coca . . . } 5 grammes = 75 minims
 Sparteine sulphate . . . 0.25 grammes = 3 grains
 Syrup of raspberry . . . 40 grammes = 1½ ounces
 Malaga wine 300 grammes = 10 ounces

M. Three or four tablespoonsfuls to be taken in the course of the twenty-four hours.

For Insufficiency of Gastric Secretion.—Dr. Albert Robin (*Journal des praticiens*, May 3rd) disapproves of giving hydrochloric acid in these cases, and recommends the following powder to be given five minutes before dinner and supper to arouse the glandular activity of the stomach:

- R Potassium sulphate } of each
 Potassium nitrate . . . 0.25 gramme = 3½ grains
 Powdered ipecac . . . 0.02 gramme = 1 grain
 Sodium bicarbonate . . . 0.3 gramme = 4½ grains

M. For one powder.

After the meal he prescribes eight drops of the following:

- R Tincture of nux. vomica 6 parts
 Tincture of star anise 3 parts

M.

For the Accidents Accompanying an Enforced Milk Diet.—Dr. Albert Robin (*Journal des praticiens*, May 3rd) in a clinical lecture on Ulcer, Hypochlorhydria, and Cancer of the Stomach, says that a milk diet sometimes provokes hypersecretion and hyperacidity. In case of a burning sensation, the patient should take one of the following powders in a little hot water:

- R Powdered vanilla 0.20 gramme = 3 grains
 Sodium bicarbonate } . . . of each 4.00 grammes
 Calcined magnes. . . } = 60 grains
 Powdered sugar } of each 6.00 grammes
 Prepared chalk . . . } = 90 grains

M. Divide into twelve powders.

Milk also gives rise sometimes to abundant formation of gas. For this Dr. Robin prescribes:

- R Ammonium fluoride . . . 0.20 gramme = 3 grains
 Distilled water 300.00 grammes = 9½ oz.

M. A teaspoonful after every second, third, and fifth drink of milk.

When the fermentations are accompanied by great pain, one of the following powders may be taken:

- R Calcined magnesium . . . 15.00 grammes = 225 grains
 Sodium bicarbonate } . . . of each 10.00 grammes
 Sugar } = 150 grains
 Bismuth subnitrate } . . . of each 8.00 grammes
 Prepared chalk . . . } = 120 grains
 Codeine 0.85 gramme = 12¾ grains

M. Divide into ten powders.

Diarrhoea sometimes accompanies the other troubles. For this the author recommends the following:

- R Bismuth subnitrate . . . of each 4.00 grammes
 Diacordium = 60 grains
 M. Divide into 16 boluses: one before each meal.

The Local Treatment of the Organs. By Dr. W. Byron Conkley (*Medical News*, June 21st).—Though it has always been considered that the internal organs would not absorb substances injected directly into their parenchyma, the author has believed differently, and he asserts that the liver, spleen, lungs, and kidneys can be beneficially influenced by intra-organic medication, and that the heart will respond to intra-pericardial stimulation. In support of his contention the author offers theoretical considerations and experimental evidence. In his experiments, decinormal and saturated saline solutions were used. Experiments in which other remedial agents were used will form the subject matter of another paper.

The Use of Suprarenal Extract in Hay Fever. By Dr. J. Payson Clark (*Boston Medical and Surgical Journal*, June 19th).—The author's conclusions are as follows: (1) In simple vasomotor rhinitis, with no discoverable local abnormality and no general dyscrasia, suprarenal extract used locally appears to give favorable results in a large proportion of cases. (2) In cases of hay fever in which there is some local abnormality in the nose, the suprarenal extract does not act favorably until such abnormal condition is remedied. (3) In cases in which there is a rheumatic or other allied dyscrasia, the suprarenal is liable to cause some reaction at first, and in any event does not act so favorably as in uncomplicated cases.

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THE PROPOSED SOUTHERN APPALACHIAN
FOREST RESERVE.

There is no doubt that utterly unwarrantable inroads have been made upon the forests of the United States, and that their unjustifiable and ruinous demolition is still rapidly going on. In the hope of preventing the further continuance of this work of destruction in a mountainous district consisting of 4,000,000 acres in the States of Virginia, North Carolina, South Carolina, Tennessee, Georgia, and Alabama, Senator Pritchard, of North Carolina, has urged in the United States Senate the enactment of his bill providing for the purchase of these lands by the general government for a sum not to exceed \$10,000,000. The number of people inhabiting this mountainous region is said to be very small, probably not exceeding a thousand in all. It is partly they themselves who clear steep slopes, which they do to obtain fresh land for cultivation (which cannot profitably be carried on for more than about six seasons, when they find themselves tempted to lay bare additional tracts); but it is more largely persons not residing in the territory, who are fast depriving it of its timber.

It is for economic purposes that Mr. Pritchard urges the passage of his bill, but there are reasons germane to our function of conservators of the public health that should lead us as a profession to join him in advocating the measure. The region contains a great number of high mountains, the highest east of the Rocky Mountains, and affords admirable conditions for sanatoria. Inasmuch as the bill contemplates allowing those of the present residents who do not wish to sell their property to retain it, provided they will bind themselves not to destroy more of the forest growth except under the

direction of the Department of Agriculture, it may be presumed that their lands would be available as sites for such institutions, all the more suitable if the preservation of the surrounding forests was assured. We have before favored the establishment of a government park in these mountains, and a forest reserve would be practically a park, with all its advantages in the carrying out of sanatorium treatment on a large scale in a region already famous for its salubrity in general and especially for its effectiveness in the climatic treatment of tuberculous pulmonary disease. So far as hygienic considerations are concerned, we believe that the establishment of the Southern Appalachian Forest Reserve would be distinctly for the welfare of the country.

CRITICAL DAYS.

Long ago much importance was attached by medical men to a certain day in the course of a disease as being critical, that is, as marking the probable occurrence of the crisis. The crisis was regarded as the turning point, that which stood for a decided aggravation of all the symptoms and pointed to a fatal termination, or else was the harbinger of such a positive amelioration as was reasonably sure—accidents barred out—to lead on to convalescence. Almost every severe febrile disease had its critical day, a day that was awaited with grave apprehension. If the patient's condition happened to be a little worse on that day, the most desperate forebodings were held to have been justified; if, on the other hand, he chanced to appear then somewhat better, his recovery was looked upon as practically assured. This blind belief prevailed for centuries, in spite of the rude refutation that it must often have met with in every-day experience; in our times, however, it has been altogether abandoned. But the newspapers still cling to it. On the occasion of any eminent personage's illness they are prone to citing somebody as authority for the confident assertion that a certain day, specified without any hesitation, will tell the story.

At the present time the word crisis is but little used in medical parlance, and that restricted employment of it has reference almost wholly to a particular form of change in the temperature curve. We no longer look forward to a special day as one on which something is to happen that will seal the

prognosis. In the case of infectious diseases, including the septic contamination that may follow wounds, we feel simply that the patient's chances of recovery improve with each day that witnesses no manifest aggravation of the trouble—and that is all. We have been moved to these remarks by certain newspaper allusions to a critical day to be expected in the case of King Edward. Such a notion survives with the laity long after it has ceased to be entertained by the profession.

THE DEADLY WORK OF AN INTRAUTERINE "PROTECTOR."

We learn from an article by Dr. Keferstein, of Magdeburg, published in the *Centralblatt für Gynäkologie* for June 7th, that the number of births in that municipality fell gradually from 8,244 in the year 1891 to 7,224 in the year 1900, although the city increased in population by accretion. In great measure this decrease of the birth rate is attributed to the exploits of a conscienceless physician, one Dr. X., who, finding his practice slipping away from him, devised in 1898 an intrauterine appliance to be worn permanently for the purpose of preventing conception. It is described as a silver-plated spring so constructed as to occlude the uterine ostia of the Fallopian tubes and to be self-retaining. This precious machine Dr. X. inserted himself for a fee of ten marks, and he also received a royalty of fifty Pfennige on every instrument sold by a Berlin firm with which he had arranged for its exclusive sale. He is said to have employed his "pessary" in from seven to eight hundred cases.

He maintained that it was harmless and that it was a sure preventive of conception. Dr. Keferstein shows that it was neither, but, although it could not prevent conception, it acted as a very prompt abortifacient. As for its harmlessness, it was recently shown in court that it had produced serious injury in five instances, and Dr. X. was sentenced to five months' imprisonment. It is difficult to believe that it did not really give rise to grave injury in many more than the five cases that were made the subject of judicial inquiry. On the other hand, with our present ideas of the dangers of intrauterine pessaries, it is a wonder that such a device, subjecting the interior of the uterus continually to spring pressure in addition to the irritation naturally conse-

quent upon the presence of a foreign body as such, did not work havoc in the great majority of instances. The atrocious destruction of embryonic life which it undoubtedly wrought is a striking example of the injury that may be done to the community by a single abortionist, for this, though styling himself a protector of women, the wretched Dr. X. was—in other words, a wholesale murderer. It is much to be regretted that a ridiculously short term of imprisonment was the only punishment meted out to him. The abortionist is an enemy to the human race and, in the few instances in which he happens to be a medical man, a disgrace to his profession.

THE WORD "APPENDICITIS."

The accounts of the case of the British King have led to some remarks upon the frequency with which the term "perityphlitis" is used in Great Britain to designate the morbid condition which in this country is almost universally called "appendicitis." Those who detest hybrids—and we confess ourselves among the number—dislike the last-mentioned term, but the purists would not accept "ecphyaditis," which was proposed several years ago by Dr. Lewis A. Stimson. As for "epityphlitis," it does not seem to strike the profession at large as sufficiently definite. So we fear that "appendicitis" has "come to stay." Much the same conclusion was reached by Dr. Carl Beck about three years ago in an entertaining communication published in the *New Yorker medizinische Monatsschrift* for August, 1899.

CLIMATOLOGY IN SOUTHERN CALIFORNIA.

On the 22d and 23rd of May an important semi-annual meeting of the Southern California Medical Society was held in Idyllwild, a noted mountain resort in Riverside County. The following-named very valuable papers were presented, all of which are published in the June number of our excellent contemporary the *Southern California Practitioner*: Tuberculosis, an Historical Sketch, by Dr. W. W. Beckett, of Los Angeles; Electricity in the Diagnosis and Treatment of Tuberculosis, by Dr. Albert Soiland, of Los Angeles; Tuberculosis of the Nervous System, by Dr. J. H. McBride, of Los Angeles; The Pathology of Tuberculosis, by Dr. Stanley P. Black, of Los Angeles; The Prevention of Tuberculosis, by Assistant Surgeon Hill Hastings, of the United States Marine-Hospital Service; Tuberculosis Adenitis, by Dr. A. S. Parker, of Riverside; Tuberculosis of Childhood, with Special Reference to Infection, by Dr. F. M. Pottenger, of Los An-

geles; Tuberculosis Cutis, by Dr. Ralph Williams, of Los Angeles; Sanatorium Treatment of Tuberculosis, by Dr. Harvey G. McNeil, of Idyllwild; and Tuberculosis of the Ovaries, by Dr. John R. Haynes, of Los Angeles. At about the same time the American Climatological Association held its annual meeting in Los Angeles, and many of the members took part in an excursion to Idyllwild, stopping on the way at Phoenix, Redlands, Riverside, and Hemet. "It is rarely," says the *Southern California Practitioner*, editorially, "that you can find a country where a few hours' ride will take you from the sands of the sea to a mile nearer the sky among the pines of the mountains." We all know that southern California has wonderful resources in the climatic treatment of disease, and we are glad to see that they have thus been duly recognized.

THE WATER FAMINE OF CATHEDRAL HEIGHTS.

During a number of months past the residents of Cathedral Heights have on several occasions been subjected for some hours at a time to such a diminution of their water supply as to prove a decided inconvenience, amounting in some instances to what may well have been detrimental to the health of many persons. We understand that the water has to be shut off at times to admit of work on the mains rendered necessary by the subway excavation, but the inhabitants of the district affected ought always to be notified beforehand, so that they may draw and store enough water for drinking and cooking purposes and for flushing closets. If any effort at all is made to give such notification, it is certainly inadequate. This it not a trifling matter, and we hope that hereafter care will be taken to warn householders by house-to-house visitation, as was formerly the practice.

THE LATE DR. LEVI COOPER LANE.

There has recently been published, in the form of a very tasteful pamphlet, an account of certain exercises held in Lane Hall of the Cooper Medical College, San Francisco, in memory of Dr. Lane. Several distinguished men contributed their views of his career, all in testimony of his exceptional worth. Some weeks after these exercises the college faculty closed an appreciative expression of their sentiments as follows: "May it be the will of God to grant the gratitude of man to keep this college in all perpetuity as a living monument to Levi Cooper Lane, as an ever-teaching memorial to the great soul of its founder, who breathed into it his breath of life—his legacy to medical education, his boon to mankind!" We may be sure that the college and the Lane Lectures will long endure as reminders of a great and good man's career.

THE VACCINATION LAW NOT A DEAD LETTER IN NEW JERSEY.

"Jersey justice" has frequently been somewhat enviously spoken of in this State, in reference to the celerity and directness with which criminal trials are conducted and verdicts carried out, across the Hudson. A New Jersey Police Court justice has recently made clear the fact that crimes against the public health are likely to receive as short shrift as those against the sacred rights of the individual. A case of small-pox having been discovered in Jersey City, the house was quarantined until disinfected and all the inmates were ordered to be vaccinated. One woman refused, when she was arrested and brought before Justice Hoos, who gave her the alternative of being vaccinated then and there in his presence or of going to jail. She did not go to jail. We have a few sanitary laws of our own, some of which, notably the antispitting law, most of us see broken a few dozen times a day. A little emulation of Jersey methods therein would do us no harm.

THE SURGERY OF THE VERMIFORM APPENDIX.

The occurrence of appendicular inflammation in a severe form in such an exalted person as King Edward VII cannot fail to give additional importance to the whole subject of disease of the vermiform appendix in the eyes of the world at large at the present time. Therefore, even at the risk of telling what the overwhelming majority of our readers know full well, we will briefly recapitulate the story of the rise and progress of appendicular surgery. We confess that we are all the more ready to do this for the reason that the honors fall plentifully upon our own country and especially upon New York. It was in New York that the first methodical operation for evacuating and draining a perityphlitic abscess was performed, by the late Dr. Willard Parker, who was at the time the professor of surgery in the College of Physicians and Surgeons. Dr. Parker repeated the procedure in a number of instances and thus undoubtedly paved the way to the more recent operation—also of American origin and recognized now for more than twenty years—of removing the appendix itself. From the diagnostic as well as from the operative point of view, New York comes in for the honor attaching to the value of tenderness at "McBurney's point," so called from the fact of Dr. Charles McBurney's having first called attention to its bearing on the diagnosis. Appendicular inflammation is no commoner now than it ever was, only it is now recognized and almost always cured by operative intervention, instead of the patient's being allowed to die of "peritonitis" of unknown cause.

News Items.

The Harlem Hospital.—Dr. William M. Leszynsky has been appointed consulting neurologist.

A Hundred Thousand Dollars for the University of Pennsylvania medical laboratories has been donated anonymously.

Wills Eye Hospital.—Dr. William Thompson has resigned as attending surgeon and Dr. William Campbell Perry has been selected as his successor.

The Cleveland, Ohio, College of Physicians and Surgeons.—Dr. N. Stone Scott has been appointed dean. Dr. Scott's father is said to have been one of the founders of the college.

Vaccination in Rochester is being systematically and energetically carried on in a house to house canvass by a corps of fifty physicians, while five public vaccination stations have also been established.

A Medical Man for Congress.—The Democrats of the First Maine district have nominated Dr. Seth C. Gordon, of Portland, to represent the district in Congress. Dr. Gordon has served on the National Committee.

The College of Physicians and Surgeons (Medical Department of Columbia University).—Dr. L. Emmett Holt has been appointed to the professorship of the diseases of children, made vacant by the resignation of Dr. Abraham Jacobi.

The Laboratory of the Chicago Department of Health.—Dr. Adolph Gehrman announces his resignation as Bacteriologist and Director, and that he has taken charge of the bacteriological and hygienic department of the Columbus Laboratories in that city.

The Richmond, Va., Academy of Medicine and Surgery.—At the regular meeting, held on Tuesday, June 24, the subject for discussion was: Some Experiments in Light for the Treatment of Pulmonary Tuberculosis. The discussion was opened by Dr. R. F. Williams.

The Vacancy in the Office of Coroner's Physician.—The competitive examination for the position of coroner's physician, announced in our issue for June 21st, to take place on July 7th, has been suspended pending an investigation concerning the eligibility of those composing a new list of candidates.

The Board of Health of the City of Chicago has issued a bulletin warning people against the use of the "toy pistol" as a means of celebrating on the Fourth of July. It is advised also that all wounds caused by toy pistols should be carefully kept open to prevent the development of the bacilli of tetanus, in which street dirt abounds.

Dr. Roswell Park at Yale.—At the closing exercises of Yale Medical School the address to the graduating class was delivered by Dr. Roswell Park, of Buffalo, Director of the New York State Pathological Laboratory. Dr. Park's subject was "A Study of Medical Words, Deeds, and Men." The

address opened with a tribute to some of the eminent men who have done for Yale, and particular attention was called to the labors and researches of Professors Whitney and Marsh, one along the lines of comparative philology, the other along those of comparative anatomy.

To Test the Constitutionality of the New York State Vaccination Law.—E. C. Viermeester a Brooklyn lawyer, has brought an action against the Board of Education with a view to testing the constitutionality of the law under which a child is excluded from the public schools unless it has been vaccinated. The legislature by Chapter 661 of the laws of 1893, known as the Public Health Law, provided that no child not vaccinated should be admitted to the schools. The purpose of the present application is to obtain an adjudication of the constitutionality of that provision.

The Medical College of Ohio.—A number of changes and additions have been made, which will add greatly to the strength of the school. The department of Surgery will be conducted, didactically and clinically, by Professor Conner and Professor Ransohoff. Professor C. A. L. Reed has been appointed to the chair of Clinical Gynecology, and Dr. A. H. Freiberg to that of Orthopædic Surgery; Professor A. V. Phelps will have full control of the anatomical teaching of all classes, and bedside instruction is to be systematically given in both the Good Samaritan and Cincinnati Hospitals.

Hospital for Persons Threatened with Insanity.—The State Commission in Lunacy has decided to have constructed in New York City, one in the Borough of Manhattan and the other in the Borough of Brooklyn, hospitals for persons threatened with insanity. Here patients will be treated immediately, and, if possible, insane symptoms will be eradicated. These patients will not be put among inmates of the State hospitals for the insane until their insanity is clearly established.

Dr. Frederick Peterson, president of the State Commission in Lunacy, has sailed for Europe, and while there will inspect the various detention hospitals for the insane similar in type to those that it is proposed to establish in New York.

The Massachusetts Medical Society held its one hundred and twenty-first annual meeting in Boston on June 10th and 11th. A number of valuable papers were presented including a symposium of The Use of Alcohol in Medicine, which was contributed to by Dr. F. G. Benedict of Wesleyan University, Dr. A. R. Cushney of the University of Michigan, Dr. S. J. Meltzer of New York and Dr. Graham Lusk of the University and Bellevue Hospital Medical College. Dr. Willard S. Everett of Hyde Park delivered the annual discourse. The following officers were elected: President, Dr. G. E. Francis, of Worcester; vice-president, Dr. S. W. Hayes, of New Bedford; treasurer, Dr. Edward M. Buckingham, of Boston; corresponding secretary, Dr. Charles W. Swan, of Brookline; recording secretary, Dr. Francis W. Goss, of Roxbury; librarian, Dr. Edwin H. Brigham, of Brookline. The membership now numbers above three thousand.

The Compensation to President McKinley's Physicians.—The U. S. Senate has agreed to an amendment to the general deficiency bill which provides for an appropriation of \$45,000 to cover all unpaid expenses incurred during the last illness of President McKinley at Buffalo including compensation for the physicians in attendance. The bill provides that no part of the sum appropriated shall be paid to any person in the employ of the government. Under this provision neither Surgeon General Rixey of the navy nor Dr. Eugene Wasdin of the U. S. Marine Hospital-Service will receive any extra compensation for their services.

The Medical Society of New Jersey held its annual meeting at Atlantic City on June 24th, 25th and 26th. Asbury Park was selected as the next place of meeting and the following officers were elected: President, Dr. E. L. B. Godfrey, of Camden; first vice-president, Dr. Henry Mitchell, of Asbury Park; second vice-president, Dr. A. W. Taylor, of Beverly; third vice-president, Dr. Walter B. Johnson, of Paterson; corresponding secretary, Dr. E. W. Hedges, of Plainfield; recording secretary, Dr. W. J. Chandler, of South Orange; treasurer, Dr. Archibald Mercer, of Newark.

Cambridge, Mass., Churches Closed on Account of the Prevalence of Small-pox.—For the first time in the history of the city, religious services were practically suspended on Sunday, June 22nd. All but two of the churches acceded to the request of Mayor McNamee not to hold services on that day, because of the alarming epidemic of small-pox which prevails. The two exceptions were churches far removed from the infected districts. From ten to twenty new cases are reported daily. The pest house is full, and the city has asked Gov. Crane for tents to form a temporary detention and convalescent camp. The Harvard College district is not as yet affected.

The Philadelphia Hospitals.—Preliminary steps have been taken by the city of Philadelphia to purchase one hundred and fifty acres of ground on Petty's Island in the Delaware river for "the erection of buildings for almshouses and hospitals for the insane poor and other municipal purposes," to quote the wording of the resolution presented to the common council. The consideration named is the sum of \$480,000. It is understood that among the "other municipal purposes" for which the land is to be used is as a location for a municipal hospital for contagious diseases. This hospital is now located in the twenty-eighth ward and the citizens of that ward have been very active in their efforts to secure its removal. It is understood that the State of New Jersey, within whose jurisdiction the island lies will exhaust every means in its power to prevent the carrying out of the plan.

The Philadelphia County Medical Society at its June business meeting unanimously instructed its delegates to vote for its ex-President, Dr. William M. Welch, as President of the Medical Society of the State of Pennsylvania.

Fog and Smoke.—At the present juncture in New York, the following editorial remarks in the

British Medical Journal for June 7th are particularly apposite: "If any justification were needed for Mr. Ernest Hart's persistent warfare against London fog and smoke, it will be found in the evidence lately given by Mr. Haldane before the Ventilation Committee of the House of Commons Committee. This able observer, speaking with the full authority of his distinguished position, said: 'With regard to the importance of excluding fog, I would point out that the air during a London fog is extremely impure. Chemically the impurities are, of course, derived chiefly from the combustion of fuel coal. The proportion of carbonic acid was found by Dr. Russell to rise as high as 16 volumes per 10,000, in a bad London fog—the carbonic acid by itself.' Is that generally known—the large increase of carbonic dioxide in a fog? 'I think very few people seem to know it.' That is enough to asphyxiate you straight off, 16 in 10,000. It is very unpleasant air. 'What is the limit of carbonic dioxide in 10,000 of air? In air vitiated by respiration I suppose the ordinary accepted limit is 2 volumes.' So it now turns out that our old enemy, in addition to containing 'irritating particulate impurities, containing, as they do, not only water, but tarry matters and sulphuric acid,' is impregnated with carbonic acid in sufficient quantity not only to make life inconvenient and uncomfortable, but even to endanger its very continuance. We are glad to see that the crusade in which Mr. Hart was so interested has been taken up by the capable hands of Sir William Richmond, and we cordially wish him every success in his useful task." Who will vigorously push the crusade for New York?

Vacancies in the Army Medical Corps.—Out of 129 candidates for appointment as Assistant Surgeons in the army, only eighteen have passed the examinations recently held. The Surgeon General of the army is greatly disappointed at the showing of the applicants, and almost despairs of filling the vacancies now existing by the Autumn, when the services of a number of young surgeons should be available to relieve those whose terms of duty have expired in the Philippines. An army examining board has been in session at Washington since last April, passing upon the qualifications of all who have been authorized to appear, with the result that forty-eight vacancies still remain unfilled, but with few applicants on file to be passed upon. The present situation is most embarrassing to the War Department and is unprecedented in the history of the corps. Next October the army board will hold another examination, and meanwhile an effort will be made to secure the attendance of a large number of candidates well qualified for commissions.

The following are the applicants accepted, and who will be appointed in the order given: Dr. William H. Moncrief, of Atlanta; Dr. Reynold M. Kirby-Smith, of Sewanee, Tenn.; Dr. George L. Collins, of Boston; Dr. Nelson Gapen, of Washington, D. C.; Dr. William T. Davis, of Versailles, Ky.; Dr. Charles F. Morse, of Montpelier, Vt.; Dr. Samuel E. Lambert, of Mobile, Ala.; Dr. Theodore Lamson, of Newton, Mass.; Dr.

Hayward S. Hansell, of Atlanta, Ga.; Dr. Junius C. Gregory, of New Kent County, Va.; Dr. Clarence H. Connor, of Clinton, La.; Dr. J. W. Grissinger, of York, Penn.; Dr. Will L. Pyles, of Washington, D. C.; Dr. Thomas Devereaux, of Minneapolis, Minn.; Dr. William H. Smart, of Washington, D. C.; Dr. Robert H. Pierson, of Syracuse, N. Y.; Dr. Cary A. Snoddy, of Nashville, Tenn.; and Dr. Harry S. Purnell, of Berlin, Md.

Resolutions Regarding Dr. Pomeroy and Dr. Pyle.—At a meeting of the New York Otological Society, held May 27, 1902, the following minutes and resolutions were adopted:

Whereas, Death has removed from among us a former member and one of the founders of this Society, Dr. Oren D. Pomeroy, long and favorably known and respected among us, therefore be it

Resolved, That we deeply regret the loss we have sustained in the demise of one of the pioneers of otology in America, and one who, until illness clouded his advancing years, kept fully abreast with its advances.

Resolved, That we extend our sympathy to the bereaved family of the deceased, and that a copy of these resolutions be spread in full upon the minutes of the Society.

COMMITTEE. { N. G. HEPBURN, M. D.
J. B. CLEMENS, M. D.

Resolved, That the members of the New York Otological Society receive with profound regret the announcement of the death of their esteemed colleague, Dr. Edwin W. Pyle.

Resolved, That in the death of Dr. Pyle this Society loses an earnest and conscientious member, and otology an enthusiastic and scholarly disciple.

It is hereby ordered, That this expression of the Society's regard be spread upon the minutes of the meeting in the form of resolution, and that an engrossed copy of the same be presented to the family of Dr. Pyle.

Committee for the Society, FRED. WHITING, M. D.

The Fourth International Congress of Gynecology and Obstetrics is to be held in Rome from September 15 to 21, 1902, under the patronage of His Majesty the King of Italy. Professor Ercole Pasquali, of Rome, is the President, and Professor Ernesto Pestalozza, of Florence, the general secretary. In this congress the foremost workers in gynecology and obstetrics will take part, and the American Committee, of which Dr. George J. Engelmann, of Boston, is the chairman, earnestly desires that the United States shall be fully and adequately represented.

The importance of the congress is evidenced by the following list of eminent physicians who have promised to take part in the various discussions:

Medical Indications for Interrupting Pregnancy: Professor Barton Cook Hirst, of Philadelphia; Professor Hoffmeyer, of Würzburg; Professor Pinard, of Paris; Professor Rein, of St. Petersburg; Professor Schauta, of Vienna; and Professor Simpson, of Edinburgh. *Hysterectomy for Puerperal Infection*: Professor Fehling, of Strassburg; Professor Leopold, of Dresden; Professor Treub, of Amsterdam; and Professor Fugier, of Paris. *Genital*

Tuberculosis: Professor Martin, of Griefswald, and Professor Veit, of Leyden. *The Surgical Treatment of Cancer of the Uterus*: Professor Cullen, of Baltimore; Professor Freund, of Berlin; Professor Jonnesco, of Bucharest; Professor Pozzi, of Paris; and Professor Wertheim, of Vienna. Dr. Palmer Dudley, the secretary of the American Committee, has received a letter from Professor Pestalozza, dated May 26th, in which he says: "The only Americans upon whom we can count up til now for papers are Messrs. Cullen and Barton Cook Hirst. But I hope that you will have succeeded in convincing some others of your American *confrères*. We owe the designation of Italy as the place of meeting particularly to our American colleagues, and we all desire to receive them here in great numbers. In addition, the majority of members of the International Society belong to the United States. Therefore, the committee, and myself personally, desire most urgently that you should succeed in obtaining the cooperation of your noted gynecologists and obstetricians."

The Roman Committee is actively engaged in preparing a programme of entertainments, excursions, etc., and at the close of the Congress there will be an excursion, of particular interest, to Sicily. It is expected to arrange a round trip fare by either the North German Lloyd or the Italian National line at a very reduced rate, and considerable reductions will also be granted on the Italian railroads. These advantages will also be shared by members of the families of the congressists.

Further particulars as to membership, dues, etc., may be obtained from Dr. A. Palmer Dudley, Secretary for America, International Congress, 678 Madison Avenue, New York.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending June 28, 1902:

DISEASES	Week end'g June 21.		Week end'g June 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.	50	8	3	11
Scarlet fever.	270	28	231	18
Cerebro-spinal meningitis.	0	4	1	2
Meningis.	305	22	250	17
Diphtheria and Croup. .	30	32	300	25
Small-pox.	50	8	10	12
Tuberculosis.	241	143	270	137

Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending June 28, 1902:

Smallpox—United States.				
California.	Los Angeles.	June 7-14.	1	CASE.
.....	San Francisco.	June 11-21.	1	CASE.
Colorado.	Denver.	June 7-14.	3	CASES.
Florida.	Jacksonville.	June 14-21.	2	CASES.
Illinois.	Yellow Springs.	June 14-21.	1	CASE.
.....	Chicago.	June 14-21.	7	CASES.

Indiana.....	Indianapolis.....	June 7-21.....	18 cases.	
"	Terre Haute.....	June 14-21.....	2 cases.	
Kansas.....	Wichita.....	June 14-21.....	4 cases.	
Kentucky.....	Covington.....	June 14-21.....	2 cases.	
Louisiana.....	New Orleans.....	June 14-21.....	1 case 9 hours in city.	
Massachusetts.....	Boston.....	June 14-21.....	6 cases.	1 death.
"	Cambridge.....	June 14-21.....	41 cases.	1 death.
"	Chicago.....	June 14-21.....	1 case.	
"	Lowell.....	June 14-21.....	3 cases.	
"	Malden.....	June 14-21.....	2 cases.	
"	Worcester.....	June 13-20.....	1 case.	
Michigan.....	Detroit.....	June 14-21.....	5 cases.	1 death.
"	Ludington.....	June 7-14.....	3 cases.	
Missouri.....	St. Louis.....	June 15-22.....	25 cases.	1 death.
Nebraska.....	Omaha.....	June 14-21.....	19 cases.	
N. Hampshire.....	Nashua.....	June 14-21.....	11 cases.	
New Jersey.....	Hudson County.....			
"	Jersey City.....			
"	included.....	June 15-22.....	33 cases.	3 deaths.
"	Newark.....	June 14-21.....	20 cases.	7 deaths.
New York.....	Elmira.....	June 14-21.....	1 case.	
"	New York.....	June 14-21.....	50 cases.	8 deaths.
Ohio.....	Cincinnati.....	June 13-20.....	12 cases.	
"	Cleveland.....	June 14-21.....	52 cases.	5 deaths.
"	Hamilton.....	June 14-21.....	8 cases.	
"	Toledo.....	June 14-21.....	2 cases.	
"	Youngstown.....	June 7-14.....	1 case.	
Pennsylvania.....	Johnstown.....	June 14-21.....	13 cases.	1 death.
"	Philadelphia.....	June 14-21.....	20 cases.	3 deaths.
"	Scranton.....	June 14-21.....	5 cases.	
Rhode Island.....	Providence.....	June 14-21.....	7 cases.	
South Carolina.....	Greenville.....	June 14-21.....	1 case.	
Wisconsin.....	Green Bay.....	June 14-21.....	8 cases.	
"	Milwaukee.....	June 14-21.....	8 cases.	

Smallpox—Insular.

Porto Rico.....	Ponce.....	To May 14.....	74 cases.	
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Smallpox—Foreign.

Belgium.....	Antwerp.....	May 31-June 7.....	1 case.	2 deaths.
Brazil.....	Pernambuco.....	Apr. 15-May 13.....		42 deaths.
Columbia.....	Cartagena.....	June 1-8.....		
France.....	Panama.....	June 8-16.....	10 cases.	
"	Rhemes.....	June 1-8.....	2 cases.	1 death.
Gt. Britain.....	Birmingham.....	May 31-June 7.....	9 cases.	29 deaths.
"	London.....	May 3-June 7.....	188 cases.	
"	South Shields.....	May 24-June 7.....	8 cases.	1 death.
India.....	Bombay.....	May 20-27.....		9 deaths.
"	Calcutta.....	May 17-24.....	2 cases.	
"	Karachi.....	May 18-25.....	3 cases.	1 death.
"	Madras.....	May 10-16.....		2 deaths.
Italy.....	Milan.....	Apr. 1-30.....	5 cases.	
"	Palermo.....	Apr. 31-June 7.....	13 cases.	2 deaths.
Mexico.....	City of Mexico.....	June 8-15.....	5 cases.	2 deaths.
Russia.....	Moscow.....	May 24-31.....	15 cases.	3 deaths.
"	Odessa.....	May 24-June 7.....	11 cases.	1 death.
"	St. Petersburg.....	May 24-June 7.....	24 cases.	5 deaths.
"	Warsaw.....	May 17-24.....		1 death.
Turkey.....	Smyrna.....	May 18-24.....		2 deaths.

Yellow Fever.

Brazil.....	Pernambuco.....	Apr. 15-May 15.....		1 death.
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Cholera—Insular.

Philippine Islands.....	Manila.....	Apr. 28-May 10.....	332 cases.	267 deaths.
"	Provinces.....	Apr. 28-May 10.....	1090 cases.	781 deaths.

Cholera—Foreign.

India.....	Bombay.....	May 20-27.....		3 deaths.
"	Calcutta.....	May 18-24.....		55 deaths.
Japan.....	Karatsu.....	June 23.....	Present	

Plague.

Brazil.....	Pernambuco.....	Apr. 15-May 15.....		61 deaths.
Egypt.....	General.....	May 28-June 4.....	48 cases.	2 deaths.
"	Alexandria.....	Apr. 14-June 4.....	18 cases.	11 deaths.
India.....	Bombay.....	May 20-27.....		174 deaths.
"	Calcutta.....	May 17-24.....		205 deaths.
"	Karachi.....	May 18-25.....	77 cases.	66 deaths.
Japan.....	Nagasaki.....	May 11-20.....	1 case.	1 death.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending June 28, 1902:

EVANS, S. G., Passed Assistant Surgeon. Detached from the Pensacola Navy Yard, Florida, and ordered to the Naval Station, Port Royal, S. C.

FAUNTLEROY, A. M., Assistant Surgeon. Detached from the Naval Hospital, New York, and ordered to the *Scorpion*.

GARTON, W. M., Passed Assistant Surgeon. Detached from the Naval Hospital, New York, and ordered to the *Columbia*.

HOLCOMBE, R. C., Assistant Surgeon. Detached from the *Manila* and ordered home to await orders.

HENEBERGER, L. G., Medical Inspector. Detached from duty as a member of the Medical Examining Board, Naval Laboratory, New York, and ordered to the *Brooklyn*.

HIBBETT, C. T., Surgeon. Detached from the *Brooklyn* and ordered home to await orders.

RIGGS, C. E., Passed Assistant Surgeon. Detached from the Naval Station, Port Royal, S. C., and ordered to the *Dolphin*.

ROSS, J. W., Surgeon, retired. Ordered to the Pensacola Navy Yard.

STONE, E. P., Surgeon. Detached from the *Dolphin* and ordered to the *Mayflower*.

WRIGHT, B. L., Assistant Surgeon. Ordered to Fort Bayard, N. M., for treatment at the United States General Hospital at that place.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending June 28, 1902:

FANNING, GEORGE J., Contract Surgeon, will proceed to Fort Huachuca, Arizona, for duty.

GRUBBS, ROBERT B., First Lieutenant and Assistant Surgeon, will proceed to San Francisco on or about September 17th, for further orders.

HARVEY, LUTHER S., Captain and Assistant Surgeon. The leave of absence granted him on account of sickness is extended to include July 20th.

HAVARD, VALERY, Lieutenant Colonel and Deputy Surgeon-General, is detailed to represent the Medical Department of the Army at the Second International Conference for the Prevention of Syphilis and Venereal Diseases, to be held in Brussels, Belgium, and will proceed to that place not later than July 15th.

LIPPITT, W. F., Captain and Assistant Surgeon, is granted leave of absence for fifteen days.

MAZZURI, PAUL, Captain and Assistant Surgeon. The leave of absence granted him is extended one month.

MUNSON, EDWARD L., Captain and Assistant Surgeon, will proceed to the Philippine Islands on a transport not later than August 1st.

OVERTON, DAVID W., Contract Surgeon, will proceed to New York City for instructions.

WHEELER, LEWIS H., Contract Surgeon, is relieved from further duty in the Philippine Islands, and will report to the commanding officer, Fort Yates, for duty.

WINTERBERG, W. HOEFNER, Captain and Assistant Surgeon, having tendered his resignation, is honorably discharged, to take effect July 31st.

WOODSON, ROBERT S., Captain and Assistant Surgeon, will report in person to the commanding general, Department of California, for duty with the Ninth Infantry, en route to the Department of the East.

Marine-Hospital Service:

Official List of the Changes of Station and Duties of Commissioned and Non-commissioned officers of the United States Marine-Hospital Service for the Seven Days ending June 26, 1902:

COBB, J. O., Surgeon. To proceed to Missoula, Montana, for special temporary duty.

GARDNER, C. H., Passed Assistant Surgeon. Granted leave of absence for two days from June 9th, under paragraph 179 of the *Regulations*.

HOBBY, W. C., Assistant Surgeon. Granted leave of absence for fourteen days upon being relieved from temporary duty at Brunswick Quarantine Station.

MARTIN, H. McD., Acting Assistant Surgeon. Granted leave of absence for thirty days from June 16th.

MEAD, F. W., Surgeon. Granted leave of absence for two months from July 1st.

ROSS, M. H., Acting Assistant Surgeon. Granted leave of absence for fourteen days from June 13th.

RYDER, L. W., Senior Pharmacist. Granted leave of absence for eleven days from June 23rd.

SAFFORD, M. V., Acting Assistant Surgeon. Granted leave of absence for fifteen days from July 1st.

SOUTHARD, F. A., Junior Pharmacist. Granted leave of absence for fifteen days from July 8th.

STIER, CARL, Junior Pharmacist. Relieved from duty at Memphis, and directed to proceed to Mullet Key Quarantine Station and report to the medical office in command for duty and assignment to quarters.

THOMAS, A. R., Passed Assistant Surgeon. The leave of absence granted for him for one month on account of sickness by the Bureau letter of June 10th is revoked, and he is directed to proceed to Naples, Italy, and report to Passed Assistant Surgeon J. M. EAGER for duty.

TRONLER, R. F., Senior Pharmacist. Granted leave of absence for seven days from June 20th, under paragraph 201 of the *Regulations*.

Boards Convened.

Board convened to meet at Washington, D. C., June 23, 1902, for the physical examination of GEORGE W. DAVID, Revenue Cutter Service. Detail for the Board: Surgeon R. M. WOODWARD, chairman; Assistant Surgeon B. S. WARREN, recorder.

Board convened to meet at Washington, D. C., June 26, 1902, for the physical examination of Third Lieutenant F. W. SMITH, Revenue Cutter Service. Detail for the Board: Surgeon J. H. WHITE, chairman; Surgeon L. L. WILLIAMS, Surgeon R. M. WOODWARD, recorder.

Appointment.

Sanitary Inspector LEA HUME is appointed acting assistant surgeon for duty at Eagle Pass, Texas, to date from June 1, 1902.

Births, Marriages, and Deaths.

Married.

MYER HUNTER.—In Mobile, Alabama, on Tuesday, June 24th, Dr. Paul Jerome Acker and Miss Annie Elma Hunter.

BAUDEL—MATHISEN.—In Brooklyn, on Wednesday, June 25th, Dr. Charles F. Baudel and Miss Martha Mathisen.

EGAN—FOSTER.—In New York, on Wednesday, June 25th, Dr. J. B. S. Egan and Mrs. Maria del Pino Foster.

FRISSELL—MONTGOMERY.—In Simsbury, Connecticut, on Wednesday, June 18th, Dr. Louis F. Frissell, of New York, and Miss Annette Wood Montgomery.

GALLAGHER—YOUNG.—In Boston, on Wednesday, June 18th, Dr. Howard Gallagher, of Lowell, Massachusetts, and Miss Elsie Young.

HAGARTY—KNOX.—In St. Louis, on Wednesday, June 25th, Dr. Thomas Hagarty and Miss Nancy V. Knox.

JONES—WHITE.—In Baltimore, on Thursday, June 26th, Dr. Charles Hampson Jones and Miss Emma M. White.

KAHLKE—CRAWFORD.—In Berlin, Wisconsin, on Sunday, June 22d, Dr. Charles E. Kahlke, of Chicago, and Miss Agnes Crawford.

LEADLEY—DIVER.—In Washington, on Wednesday, June 25th, Dr. Frank Porter Leadley, of Rochester, and Miss Hettie N. Diver.

HOUGH—MITCHELL.—In New York, on Thursday, June 26th, Dr. William Stewart Hough and Miss Daisy Mitchell.

ROSE—SHANKS.—In Rochester, on Thursday, June 19th, Dr. Nathan Cullen Rose, of Detroit, and Miss Carrie H. Shanks.

RYAN—BUTLER.—In New York, on Monday, June 24th, Dr. Philip Xavier Ryan and Miss Lillian Janet Butler.

SCANLON—SHERIDAN.—In Scranton, Pennsylvania, on Tuesday, June 24th, Dr. Edward F. Scanlon and Miss Mary T. Sheridan.

SCHAWIN—GADDESS.—In Washington, on Wednesday, June 18th, Dr. George Hamilton Schwinn and Miss Elvira Willis Gaddess.

SHEA—KELLY.—In Brooklyn, on Wednesday, June 25th, Dr. Augustus W. Shea, of Nashua, N. H., and Miss Lucy E. Kelly.

SIMMS—KERR.—In New Orleans, on Wednesday, June 25th, Dr. Bartlett Simms and Miss Alma Kerr.

STACK—WHITE.—In Neponset, Massachusetts, on Wednesday, June 25th, Dr. Charles F. Stack and Miss Margaret E. White.

TRAVELL—GREENE.—In Albany, on Thursday, June 26th, Dr. Charles Howard Travell and Miss Anna Westfall Greene.

WALDRON—BLAUVELT.—In Nyack, N. Y., on Thursday, June 26th, Dr. Louis V. Waldron, of Yonkers, N. Y., and Miss Addie A. Blauvelt.

WILL—JONES.—In Kansas City, Missouri, on Thursday, June 26th, Dr. J. K. Will, of Bonner Springs, Kansas, and Miss Bessie Jones.

Died.

ANDREWS.—In Brooklyn, on Thursday, June 26th, Dr. Benjamin Andrews, in the eighty-third year of his age.

BARNES.—In Scranton, Pennsylvania, on Friday, June 26th, Dr. Lewis S. Barnes.

FISHER.—In Washington, on Thursday, June 26th, Dr. William N. Fisher, in the thirtieth year of his age.

JELKS.—In Hot Springs, Arkansas, on Tuesday, June 24th, Dr. James T. Jelks, in the fifty-third year of his age.

JENKS.—In New York, on Wednesday, June 25th, Dr. Ernest P. Potter Jenks, in the thirty-sixth year of his age.

MORRIS.—In Austin, Texas, on Thursday, June 12th, Dr. W. A. Morris, in the ninetieth year of his age.

PRAEGER.—In Brooklyn, on Sunday, June 22d, Dr. Hubert F. Praeger, in the fifty-second year of his age.

OBITUARY NOTES.

DR. JAMES THOMAS JELKS, one of the most prominent physicians of Hot Spring, Arkansas, died suddenly on June 24th, in the fifty-third year of his age. He entered upon the practice of medicine in 1870. From 1883 to 1890 he was professor of genito-urinary surgery and venereal diseases at the College of Physicians and Surgeons of Chicago, and has been professor of gynecology and syphilology at Barnes Medical College, St. Louis, since 1892. He was a member of various medical organizations, and a voluminous writer, his works being principally in the form of contributions to medical literature.

WYATT JOHNSTON, M. D., OF MONTREAL.

The untimely death of this most promising pathologist will call up in many a breast, in this country as well as across the frontier, the memory of his admirable personal qualities. For the last few years Dr. Johnston's work had been directed more particularly in the channels of legal medicine, but he is best known for his work in pathology, notably for the early part he took in popularizing and perfecting Widal's test in the diagnosis of typhoid fever. In bacteriology, too, he was an effective and painstaking worker. His singular modesty and amiability won for him in all quarters an admiration that his professional attainments did but add to.

Pith of Current Literature.

MEDICINE.

The Influence of Age Upon the Incidence of Optic Neuritis in Cases of Intracranial Tumor.

—Dr. H. D. Singer (*Lancet*, June 14th) has studied the question of the occurrence of optic neuritis at various ages in eighty-eight cases of cerebral and cerebellar tumor, and arrives at the following conclusion: Absence of optic neuritis in intracranial tumor, exclusive of those occurring in the pons, is rare in patients under forty years of age and becomes increasingly more frequent after that period of life.

The Relation of Purin Bodies to Certain Metabolic Disorders.

By I. W. Hall, M. B.—(*Brit. Med. Jour.*, June 14th: Scientific Grants Committee of the British Medical Association. *Report LXVIII*).—Under the term "purin" are included all the substances containing the nucleus C_5N_4 ; those specially relating to the human organism are xanthin, hypoxanthin, uric acid, guanine, adenine, and the methyl-xanthin. They exist as free substances in partial solution, or are bound together with the other constituents of nuclein, from which they may be obtained as clearance products. Together with creatine and other nitrogenous bodies, they are generally known as "extractives." The addition of certain foods of a known purin-holding (per cent.) to the previous diet leads to an increased egestion of urinary purins. But only a definite percentage of the food purins pass through the body unaltered, the remainder being excreted as allantoin, ovaluric acid, and urea. The quantity varies within about 10 per cent. in different individuals. The author describes the methods used in the estimation of purin bodies in foodstuffs, and in the second part of his article considers the exogenous purin in normal metabolism.

The Œdema of Anæmia.

By Dr. T. Houston. (*Brit. Med. Jour.*, June 14th: Scientific Grants Committee of the British Med. Assoc. *Report LIX*.)

The author sums up his conclusions as follows: 1. The absence of loss of weight in anæmic conditions, and the fact that the patient seldom seems emaciated is mainly due to the fact that there is abnormal accumulation of fluid in the blood and tissues. If this excess of fluid were deducted it would probably be found that in these, as in other chronic illnesses, there is a progressive loss of weight in proportion to the severity and duration of the disease. 2. In the cure of such anæmic conditions, especially chlorosis, the first stage seems to be the getting rid from the blood and tissues of this excess of fluid. 3. A gain of weight in a case of pernicious anæmia under treatment, and without any improvement in the hæmoglobin, must be regarded as an unfavorable sign, indicating dilution of the blood and a consequent escape of serum into the tissues. It may, however, be a critical stage of the disease, and indicate the first step toward concentration of the blood. Immediately after this sudden increase in œdema there is either a marked improvement or the patient dies. 4. The œdema of anæmic conditions seems to result from a hydræmic plethora of the

blood, and is somewhat different in origin and nature from the œdema usually found in Bright's disease. 5. Œdema, diarrhœa, and profuse sweatings are often the result of dilution of the blood, and may be merely Nature's method of counteracting the excessive and abnormal volume of the blood.

Temporary Reminiscence of a Long-Forgotten Language During the Delirium of Broncho-Pneumonia.

By H. Freeborn, M. B.—With Remarks by C. A. Mercier, M. B. (*Lancet*, June 14th).—The case of a woman, aged seventy years, suffering from bronchopneumonia. From the first to the sixth day of the disease the patient was wandering while awake, and continually talking in her sleep. Her temperature fell on the sixth day; on the seventh day she was found to be speaking in a language unknown to those about her. This was found to be Hindustani. That night the Hindustani was mixed with English, and she spoke to and of friends of her girlhood. On the eighth day the Hindustani had entirely disappeared and she was talking to and of friends of a later date in English, French, and German. The patient was born in India, which country she left at the age of three years, up to which time she spoke no English—only Indian. Her ayah returned to India immediately after the child reached England. Through the whole delirium there could be recognized a sequence. She apparently began at the beginning of her life and went through it until she reached the time when she was married and had her children growing up around her.

A New Symptom in Tetany. Contraction of the Diaphragm Coincident with the Heart-beat.

The Phrenic Phenomenon. By Dr. A. I. Solovieff (*Roussky Vrach*, May 11th).—The abnormal excitability of the nerve trunks in tetany is well known, and the two characteristic phenomena, those of Trousseau and of Chvostek, which are seen in this disease, depend upon this irritability. The author reports a typical case of tetanus in which there were unusual appearances about the heart apex. The patient complained of palpitation, and on inspection it was noticed that the intercostal spaces on the left side of the lower part of the chest were forcibly drawn in at each beat, while the lower ribs were lifted and the epigastrium pulsated. On auscultation, there was a slight bruit transmitted to the left, and inspiratory in character. The heart and the abdominal arteries were normal, and on examination with the Röntgen rays it was found that these peculiar contractions in the region of the heart apex were due to contractile movements of the diaphragm, the left half of which contracted with each heart-beat, while the right half moved much more slowly and passively, as a result of traction from the left side.

The Treatment of Pulmonary Tuberculosis by Hygiene.

—Dr. C. T. Williams (*Lancet*, June 14th) by treatment of pulmonary tuberculosis by hygiene means what is usually termed open-air treatment, as distinguished from medicinal and climatic treatment. One of the great advantages of the open-air treatment is that it is not only suited to cases of early and limited pulmonary tuberculosis which can be arrested by various measures, but that its benefits

are also well shown in cases of excessive tuberculation with cavities, irritable or quiescent, and, above all, in pyrexial cases, where, owing to the pulmonary changes, the pyrexia is often very persistent. In such cases, after medicines have failed, it is found that exposure on a bed or on a light couch by day and by night to the pure air in a shelter or verandah will in time prove effective and the pyrexia will gradually subside. Patients who are chilly in the sitting posture can stand an extraordinarily low temperature in the lying position from its more equalizing effect upon the circulation. The dietary should be very abundant, and constant supervision is required to ensure the full amount of food being taken, in spite, oftentimes, of a failing appetite. All classes of food should be represented in proper ratios—the nitrogenous, the fatty, and the carbohydrate. The relative proportion of rest and exercise and the kind of exercise prescribed have to be carefully regulated from time to time and suited to the individual. An hour's rest before the midday and evening meals should be insisted upon. When fever is present the whole day should be spent at rest. The form of exercise most in vogue is walking, first on the level, and next on well graduated ascents. The great point is at first not to attempt a rate of over one mile and a half or two miles an hour. A clear sign of overexertion is absence of relish for meals at the end of the day. Do not restrict all patients to walking; riding, skating, cycling, tennis, golf and croquet may be preferred in some cases. The sanatorium should be placed on gently sloping ground, well sheltered to the north and east from cold winds, with a sunny exposure; an elevated site is to be preferred. It should face due south and should consist of, at least three buildings, viz.: (1) The sanatorium proper; (2) the medical superintendent's house; and (3) the administrative block. There should be two sets of *liegebetten* for winter and summer, the former facing south, the latter north into the pine woods. But too much must not be expected from the hygienic treatment of consumption. It fails to accomplish much in catarrhal phthisis, where the help of a warm climate and good nursing are essential for success.

Gold Miner's Phthisis and Some of the Danger to Health Incidental to Gold Mining in the Transvaal.—Dr. T. OLIVER (*Lancet*, June 14th) considers that the so-called gold-miner's disease of the lungs is due to the inhalation of dust and is akin to stone-mason's phthisis. It is slowly developed, the earliest symptom being morning cough with a little frothy, mucous expectoration. Dyspnoea on exertion gradually manifests itself, there being but little pain; only a sense of tightness in the chest. Hæmoptysis is not a symptom of the disease. The appetite fails, and emaciation becomes progressive. The pulse is quickened but there are no night sweats. The disease may attack any portion of the lung, but it has less predilection for the apex than has tuberculous phthisis. From first to last it is an afebrile and a painless affection. On physical examination there can usually be detected distinct dulness, limited in area but well defined. The breath sounds are loud and coarse, and dry clicking can be heard toward the end of inspiration. The

expiratory murmur is prolonged. The physical signs are those of a limited fibrosis of the lung unaccompanied by an acute pleurisy. Expectoration is scanty and tubercle bacilli are invariably absent in the early stages of the disease, gold miner's phthisis being, at its inception, like all other pneumoconioses, a non-tuberculous disease.

Influence of Diet Upon Biliary Lithiasis.—M. E. Dufourt (*Presse médicale*, May 24th) says that to exclude fats, spiced foods and alcohol from the food is insufficient, while to emphasize the fact that albuminous foods are the better cholagogues is dangerous. Patients with biliary lithiasis must be cautioned against excessive eating, but the hydrocarbons and herbaceous vegetables have also advantages which must not be overlooked.

A Case of Solitary Tubercle in the Cerebellum. By Dr. E. Deplano (*Riforma medica*, April 21st).—The patient was a man, aged thirty-three years, with no tuberculous history or any signs of tuberculosis elsewhere in the body. The symptoms presented were: Almost constant headache, which occasionally presented exacerbations, localized principally in the neck; vomiting; rigidity of the neck-muscles; epileptiform convulsions, and paroxysmal modifications of the pulse and the respiration, a sense of continuous hunger, delusions, and finally sudden death. A solitary tubercle was found occupying almost the entire right lobe of the cerebellum. A tuberculous focus which had healed was found in one lung apex, and a tuberculous infarction was found in one kidney.

Infectiousness of Dirt Under the Nails of Children as Regards Tuberculosis.—Dr. K. Preisich and Dr. A. Schütz (*Berliner klinische Wochenschrift*, May 19th) examined the dirt under the finger-nails of sixty-six children and found tubercle bacilli in fourteen. In five of these cases, there was no tuberculosis in the family. The authors insist upon the importance of keeping the hands and nails of infants and children clean, especially when there is tuberculosis in the parents or relatives. Infection becomes easy by reason of the constant sticking of the fingers in the mouth.

Treatment of Tuberculosis with Tuberculin.—Dr. C. S. Engel (*Berliner klinische Wochenschrift*, May 12th) points out that an essential difference between the tubercle bacillus and the diphtheria bacillus consists in the fact that the toxins of the former are closely bound up with the bacillus and are liberated only when it is disturbed, while the latter gives up its toxins to the surrounding culture media. Immunity in tuberculosis is therefore more difficult of achievement. Of fourteen patients upon whom the author tried the tuberculin cure, but six showed improvement in weight and these had no bacilli in the sputum. In three others, the treatment had to be discontinued on account of deterioration in the patient's condition. Theoretically, the author believes improvement can be brought about only in patients in whom there has been an entrance of the tubercle toxins into the circulation.

Remarks on a Case of Hereditary Localized Œdema Proving Fatal by Laryngeal Obstruction.—Dr. T. W. Griffith (*Brit. Med. Jour.*, June 14th) reports the case of a girl, aged eighteen years, who, when first seen in 1886, was suffering from great œdema of the right arm and hand, and from dyspnoea due to œdema of the epiglottidean mucous membrane. The œdema subsided without operative intervention. Ever since infancy she had been subject to localized swellings on various parts of the surface of the body. Her father, from his earliest childhood had presented swellings of the same kind, which, on three occasions, had affected the throat, from the last of which he died. The patient had several more attacks involving the throat, and finally, in 1902, she had an attack which apparently passed off; but shortly afterward she suddenly started up, clutched at her throat, became livid, and died almost at once. At the autopsy the mucous membrane of the larynx was found to be very œdematous, tense, and pale, and the sides of the laryngeal cavity came in contact with one another a short distance below its superior aperture. The œdema affected not only the mucous membrane, but also the deeper connective tissue and even the substance of the muscles.

Diphtheria and the Bacillus of Diphtheria in Scarlatina: On the Question of the Co-existence of Scarlatina and Diphtheria. By Dr. I. A. Schabadi (*Roussky Vrach*, May 11th. *Continued*). The clinical diagnosis of a case of scarlatina complicated by diphtheria is a difficult one. The chief symptom lies in the appearance of diphtheria patches on the mucous membrane of the throat which was previously only the seat of changes that occur in scarlatina, but unfortunately these membranes appear in typical form in the minority of cases. The spreading of the membrane to the rest of the throat beyond the tonsils, the swelling of the glands in the neck, the increase of the fever, and albuminuria are symptoms that point to the co-existence of diphtheria, but they are not pathognomonic, as they may be present in uncomplicated cases of scarlet fever. The appearance of a laryngitis is, however, an important sign. The prognosis of cases of scarlatina complicated with diphtheria is very bad, and of six patients observed by the author only one recovered. In all these cases the Klebs-Löffler bacillus was found to be present, and was found to be virulent upon injection to animals. (*To be concluded.*)

Eosinophilia Associated with Hydatid Disease. By C. G. Seligman, M. B., and L. S. Dudgeon, M. R. C. P. (*Lancet*, June 21st).—The authors report the case of a woman, aged twenty-two years, suffering from hydatid cyst of the liver. Examination of the blood gave the following result: Red cells, 6,290,625 per cubic millimetre; hæmoglobin 70 per cent.; leucocytes 17,000,000 per cubic millimetre. A differential count of 500 leucocytes resulted as follows: polymorphonuclear neutrophils, 22 per cent.; eosinophiles, 57 per cent.; lymphocytes, 22 per cent.; and basophiles, 1 per cent. An operation was performed and the cyst evacuated, after which the number of eosinophiles rapidly dropped to normal. This finding is in line with those of previous observers who have found marked eosinophilia to occur in trichinosis, filariasis, and Bilharzia disease.

SURGERY.

Perityphlitis in Woman. By Dr. M. I. Rostovtseff (*Roussky Vrach*, May 11th).—The diagnosis of appendicular inflammation in women presents considerable difficulties, as it is often mistaken for salpingitis, etc., but practically the diagnosis is not as important as is stated sometimes, for the treatment of both conditions is the same. In some cases, however, the mistake in the diagnosis is fatal, for if the ovary or appendages are removed without removing the appendix, there may be fatal peritonitis from the perforation of the organ. The bilaterality of the affection, especially its existence on the left side only, would speak in favor of the annexa as the seat of disease, rather than the appendix, but even this useful rule is not without exceptions, for there are cases of appendicitis with pain on the left side, and there are cases of salpingitis with the right tube alone involved. The presence of a vaginal or urethral discharge, or the history of such a discharge, also points to the possibility of a salpingitis. In cases of peritonitis starting from the appendix the symptoms are the same as in those beginning with a salpingitis, but the symptoms in the former cases set in much more violently, and rapidly than in the latter class. General peritonitis from an appendix is much more serious than the same lesion from the effusion of pus from a tube. All the author's patients that had general peritonitis as a sequel of appendicitis died in spite of operation, and the same result was observed in all his cases which were treated expectantly. On the other hand, several cases of gynæcological peritonitis ended favorably. The chief diagnostic signs are the localization of the pain and local symptoms fairly high up on the right side in appendicitis, and fairly low down on both sides, or on one side, possibly the left in salpingitis. All these signs, however, have but a relative value, and according to Fowler the diagnosis often cannot be made except by exploratory incision.

Paranephritis and Pyonephrosis as Sequels of Furuncles.—Professor A. Cohn (*Münchener medizinische Wochenschrift*, May 13th) reports two cases of furunculosis of the skin which were followed by pyonephrosis. One of the patients suffered from renal calculi, and the author believes that the bacteria taken into the circulation, settled in the spaces between the calculi, and multiplied there. In normal kidneys this sequela would be practically impossible.

Neurectomy for Facial Neuralgia.—Dr. E. M. Magruder (*Medical News*, June 21st) enumerates three methods of surgical treatment: (1) Division of the nerve-trunk or branch that gives pain. He considers this method as hardly worthy of mention, as there is very soon a reestablishment of function and return of pain. (2) Excision of the ganglion of Gasser: in this connection he quotes Anders to the effect that it is a difficult and dangerous operation, is followed by dangerous trophic lesions and does not give permanent relief. (3) Excision of a portion of the offending nerve. With this third method the author has had very encouraging results. Six cases are recorded. All the patients felt repaid for the trouble and discomfort of the operation by the relief afforded, though it was only temporary.

A Case of Crural Hernia of the Bladder. Resection. Cure. Dr. Umberto Manega (*Riforma medica*, April 15th) reports this case because herniæ of the bladder into the inguinal region are rare enough, but herniæ into the femoral region are extremely rare. The patient was a man aged fifty-one years, who had had a hernia for ten years before it gave any trouble, though it had been slowly increasing in size. On examination, the tumor was found to be in the inguino-femoral region, ovoid in shape and about the size of a hen's egg. The tumor was reducible, gave an impulse on coughing, and was distinctly situated beneath Poupart's ligament. Its reduction did not produce any desire to urinate. When the sac was exposed for incision, the author had not noticed anything which would make him think of the bladder, but on incising the sac, a quantity of urinous liquid escaped. The author, having satisfied himself that he was dealing with the bladder, applied a circular suture including the serous and muscular coats of the herniated bladder, near the crural ring; excised at a distance of about a centimetre from this suture the projecting part of the bladder, and drew his annular suture. This closed the opening in the bladder effectively, and the operation was finished as an ordinary hernia operation according to Tricomi's method. A catheter *à demeure* was left in the urethra for three days afterwards. The patient made a good recovery.

Analysis of Ninety-six Operations for the Relief of Tuberculosis of the Testicle.—Dr. Orville Horwitz (*Journal of the American Medical Association*, June 21st) says that impartial study of the recounted cases seems to warrant the following conclusions: (1) A primary tuberculous infection of either the epididymis or testicle may occur, the former being by far the more common. (2) A primary infection of the epididymis, with secondarily that of the testicle, is more common than the descending one. (3) Primary involvement of either the epididymis or the testicle usually takes place through the circulation. (4) Secondary tuberculous involvement of the epididymis or testicle sometimes follows a primary focus of the disease in other portions of the body. (5) The invasion of the testicle may be rapid, associated with acute inflammatory symptoms; or slow, the symptoms simulating those of either chronic syphilitic orchitis or malignant disease of the organ. (6) The tuberculin test should always be employed in doubtful cases where only one focus of the disease is known to exist. (7) In doubtful cases associated with hydrocele, the fluid should be examined for the tubercle bacilli. (8) The injections of either emulsions of iodoform or of zinc sulphate into the diseased part are not to be recommended. (9) In all cases of encapsulated caseous nodules quiescent in the epididymis, epididymectomy should be performed. (10) Epididymectomy, together with resection of the vas deferens, is not attended by either atrophy of the testicle or sexual weakness. (11) The drainage of tuberculous abscesses followed by the use of the curette is only to be employed where radical treatment is not permissible. (12) In instances where the epididymis alone is involved, a resection of the diseased structure is all that is required. (13) Double orchidectomy should

be performed when both glands are diseased, provided there is not extensive co-existing tuberculous infection of other organs.

OBSTETRICS.

Incision of the Ovary for the Relief of Ovarian Tension Pain.—Dr. H. Howitt (*Dominion Medical Monthly*, May) points out that frequency of abnormal tension, either of the gross tissue of the affected part sufficient to irritate the sensitive nerve filaments, or in some portion of the supplying nerve trunk, as a cause of ovarian pain, and refers to the analogy of orchitis. Owing to some obscure cause sometimes congenital, more frequently acquired, the surface of the oophoron becomes too dense and unyielding to permit rupture of matured Graafian vesicles in the normal way. Hence, ovulation is deranged or completely arrested, according to the resistance that exists. The ovary increases in size, loses its normal, flattened, ovoid contour, and becomes rounded, while at the same time its weight and tension are increased. The increase in weight often leads to more or less prolapse of the organ. To the eye its surface presents less corrugation and a more fibrous appearance than normally. The aetiology of this abnormal condition of the ovarian cortical zone is obscure. It is more common in women reared in indolence, and of a neglected physical, and possibly moral, development. The symptoms are too well known to need enumeration, but ovarian pain, reflex disturbances, a morbid craving for sympathy, and concentration of the mind on self are the main features. The affection generally, though not invariably, begins at puberty, and is aggravated by marriage. Too often a cursory diagnosis of hysteria, followed by the administration of a placebo, is all that is done. Castration has been recommended, and indeed practised until it became a craze; but the trend of medical opinion for some time past has been opposed to such extreme measures. Since medication is insufficient and castration condemned, the author proposes to substitute a simple operation requiring only a short time for its performance. The ovary is exposed and guarded by a sterile sponge or gauze, then a number of cross cuts are quickly made through the dense capsule and in such a manner as to divide it into small islands, not more than a square line in extent. The tension is manifested by the way the first incision gapes. All cysts are opened; those larger than a grape are enucleated, while the cavities of the smaller are merely touched with pure carbolic acid. In cases where the capsule is as thick as ordinary pasteboard, the removal of a portion is more likely to bring permanent relief. The author shaves off one or two rows of the islands, first from end to end of the organ, and then from side to side, thus exposing a cross of denuded tissue. Not a particle of normal ovarian tissue is removed. The organ, reduced in size and weight, regains its normal shape. Hæmorrhage has never been troublesome nor have adhesions. The relief of pain and of the worrying reflex manifestations in all the author's cases, fourteen in number, have been highly gratifying. Two cases are recorded. The author gives the following as the conditions that should exist in order to make the procedure justifiable beyond a doubt: 1. The pain and general disturbance should

be sufficiently severe to render the patient incapable of attending to her ordinary duties, of considerable duration, and not amenable to judicious medical treatment. 2. The surgeon, as a rule, should be able to satisfy himself by examination that the ovaries are somewhat enlarged, more or less rounded in shape, tense, and abnormally sensitive. 3. There should be a history of aggravation of the symptoms before or during menstruation, and by anything that tends to excite ovulation. The author disclaims any idea of originality.

The Annual Variation of Puerperal Fever Compared with that of Some Allied Diseases.

—Dr. A. L. Galabin (*Lancet*, June 14th) shows by the graphic method of curves the variation in prevalence of puerperal septicæmia in different years, as compared with that of erysipelas, general septicæmia and pyæmia, scarlet fever, and acute rheumatism. While a satisfactory improvement in the mortality of puerperal fever has occurred for the first time in twenty years, a further development of antiseptic midwifery is still required in England and Wales, outside London, to make the improvement equal to that already attained in other septic diseases. The relation of fatal puerperal fever to erysipelas is still closer than has been generally supposed, and is much closer than that of either disease to septicæmia and pyæmia generally. A consequence of this seems to be that an antistreptococcal serum derived from erysipelas would be more likely to be useful in puerperal fever than one derived from any other source of streptococci except puerperal fever itself.

DISEASES OF CHILDREN.

Spina Bifida: Its Operative Treatment Among Out-Patients. By J. H. Nicoll, M. B.—(*British Medical Journal*, June 21st).—With reference to treatment, cases of spina bifida may be broadly classified as follows: (1.) Cases with badly ulcerating or leaking sacs. These as a rule die of septic meningitis, whether treated or not. (2.) Cases in which the sac is so extensive and so sessile as to render it impossible to obtain flaps sufficiently free effectually to close the large gap. Such cases may be treated by the following methods: (a) Injection of Morton's fluid or other irritant, the needle or cannula entering the sac through sound tissue; (b) introduction of a strip of iodoform gauze or other packing by the same route, the end of the strip being fixed by suture in the muscles; (c) introduction of a needle for the purpose of tearing and roughening the sac. (3.) Cases in which the sac contains nerves or spinal cord, but is sufficiently pedunculated to admit of excision. (4.) Cases of pure meningocele. The sac is simply opened, explored, and cut away. The methods employed in the treatment of hydrocephalus are as follows: (a) Drainage of cerebro-spinal fluid at the time of operating for spina bifida. (b) Continuous drainage by a tube inserted into the spinal canal through the neck of an excised spina bifida sac at the time of operation. (c) The establishing of a drainage canal from the spinal canal (at the site of, and during the operation for, spina bifida) into either the peritoneal cavity, or the cellular subcutaneous tissue, or both. This may be done by a drain which is absorbable after a time, or by a drain which is re-

moved by secondary operation after a period of weeks or months. (d) Drainage of the cerebral ventricles, either externally or into the meninges. (e) Application of various solutions (chiefly iodine) to the interior of the cerebral ventricles. The author's experience of this method has impressed him favorably, but it is not devoid of risk.

A New Principle of Curing Club-Foot in Severe Cases in Children a Few Years Old. By Dr. A. Ogston (*British Medical Journal*, June 21st).—The chief obstacles to the rectification of club-foot are the tarsal bones. The ossification of these bones is not completed for many years, even in healthy children. In club-foot it is still slower. If the whole or a considerable part of a tarsal bone is resected for club-foot, that bone is lost; it is not restored. But if an incision is made through the soft parts at some suitable spot, and the enclosing layer of unossified cartilage divided, the bony kernel may be removed by a Volkmann's sharp spoon, and the bone will be restored by ossification from the shell of cartilage which remains. A tarsal bone which has in this manner been deprived of its osseous centre is soft and plastic like a squeezed orange, and very moderate pressure suffices to mould it into any required shape, so that it ceases to offer any notable opposition to the rectification of the deformity of the clubbed foot. And several bones can, by gliding the wound of the soft parts in the required directions, be dealt with in the same way through the one external wound in such a manner that the whole or any required part of their osseous centres can be spooned out where they oppose rectification. If this is done with antiseptic precautions, the interior of the scooped-out bone is filled with a blood-clot, which is, as in a simple fracture, gradually replaced by cartilage which slowly ossifies; and the bone, with all its ligaments and joints is intact. The only other structure requiring division is the tendo Achillis, which should be cut in the usual way by a tenotome at the same sitting. The method is applicable to children at least six years old, possibly a couple of years later.

Prophylaxis and Treatment of Eczema in Nurslings.—M. A. Schwab (*Presse médicale*, May 21st) says that infants should be nursed at the breast when this is possible. If they are artificially fed, the milk must be so modified that it agrees perfectly with the child. Sometimes an eczematous baby will improve if one or two bottles a day are substituted for the breast. General treatment is of little avail except to correct manifest disturbances. Locally, the milder the treatment, the better. Inert dusting powders are indicated in the first stage. Oxide of zinc (six per cent. in vaseline and lanolin) is a good ointment, to which salicylic acid or menthol (one-sixth per cent.) may be added if there seems to be itching. Powdering is the treatment of choice, and the hands must be encased at night to prevent scratching.

Basedow's Disease in Children. By Dr. Vittorio Ovassa (*Riforma medica*, April 16th).—In no European treatise on Diseases of Children is Basedow's disease mentioned, and Jacobi, of New York, in his treatise mentions four cases of this affection. Altogether about a dozen cases have been recorded un-

ul now, and the author presents the histories of three additional cases. The children whose cases are here recorded are seven, five, and eleven years old respectively.

NERVOUS DISEASES.

Certain Clinical Types of Brain Syphilis.—Dr. Pearce Bailey (*Medical Record*, June 21st) points out that, in and about centres of dense population, direct syphilitic lesions form a long chapter in cerebral pathology. The author has found cases of brain syphilis three times more frequent than sciatica, and in about the same ratio to progressive muscular atrophy and paralysis agitans. It has been more frequent also, though in less proportion, than infantile spinal palsy.

Multiple Neuritis.—Dr. Daniel R. Brower (*Medical Record*, June 21st) enumerates and describes the several forms of neuritis and points out that the treatment involves rest, the relief of pain and insomnia, the use in the early stages of the constant galvanic current of low ampérage and applied daily to the nerve trunks involved, and attention to elimination by the skin, bowels, and kidneys. The several etiological factors give indications for treatment. Vigorous restorative treatment should be instituted after the acute stage has passed. Much benefit may be had may the hypodermic use of strychnine. A daily injection, beginning with one-sixtieth of a grain and gradually increasing to a full physiological dose.

American Medical Association.

SECTION IN PRACTICE OF MEDICINE.

Third Day, Thursday, June 12th.

The Occurrence of Gout in the United States, with an Analysis of Thirty-six Cases.—Dr. T. B. FUTCHER, of Baltimore, in his paper, arrived at the following conclusions: 1. Gout in the United States is undoubtedly more common than is generally supposed. 2. Out of 13,400 medical cases admitted to Dr. Osler's wards in the Johns Hopkins Hospital during a period of thirteen years there were 35 gout cases, or 0.24 per cent. of the total number of patients. For the same number of years at Saint Bartholomew's Hospital there were 116 gout cases out of a total of 31,100 medical admissions, or 0.37 per cent. of the cases. Thus, among hospital patients, gout is only about one-third more frequent in London than in Baltimore. All the 36 cases were in white males. The largest number of cases occurred in the fifth decade. 3. The majority of cases appear to have earned, rather than inherited, their gout. Alcohol and lead seemed to be the most potent predisposing etiological factors. 4. Thirty-three of the 36 cases had reached the chronic stage before they came under observation. In 17 of the cases tophi were present. 5. Among the most interesting complications may be mentioned 3 cases of gouty bursitis; 1 case of parotiditis; 1 of pericarditis; 1 of retrocedent gout with symptoms simulating intestinal obstruction. 6. There was evidence of disease of the kidneys in the majority of the cases. Albuminuria occurred in 27, and hyaline and granular casts in 23 instances. 7. Arteriosclerosis

was present in 23 cases and a mitral systolic murmur in 5 cases. 8. Many gout cases are mistaken for rheumatism. Four of the cases were repeatedly diagnosed as such on the early admissions, the appearance of tophi later revealing their true nature. 9. The series illustrates the great importance of examining the ears and the vicinity of the joints for the presence of tophi in all cases of multiple arthritis.

Syphilis of the Liver.—Dr. CHARLES G. STOCKTON, of Buffalo, said that, though the chief pathological changes induced by syphilis of the liver appeared to have been clearly studied and classified, the clinician occasionally met with instances of undoubted syphilis with such puzzling hepatic manifestations that classification had to be abandoned. There was no fundamental difference between the pathology of congenital and acquired syphilis. In either we might have, first, diffuse hepatitis or parenchymatous degeneration, succeeded by ingrowth of fibroid tissues; changes were probably due to the local effect of the specific toxine rather than to local infection. Secondly, gummata occurring in large tumors, scattered masses, miliary granulomata, or in a budding stage, as mere aggregations of lymphoid cells; these lesions appeared to be the outcome of stimulation of tissue from the local action of micro-organisms. In some cases the liver was apparently invaded through the lymphatic system, sometimes by the peritoneal cavity; in others, the disease manifested itself in the blood vessels, or by obliteration of some of the portal branches or distributions of the hepatic artery. The author then cited cases showing the conditions under which hypertrophy or deformity of the liver might occur, besides pain, ascites, jaundice, and other symptoms commonly associated with affections of the liver other than syphilitic. It was generally conceded that serious syphilitic lesions of the liver occurred only in the last stages of the disease. With the exception of perihepatitis and lymphatic involvement, he was sure that this was true. The last named lesion he had seen at a comparatively early period. Besides this, he was satisfied that, in the early stages of the affection, we found the liver congested, moderately enlarged, somewhat tender, and functioning poorly. Very likely this was the immediate result of a constitutional disturbance, *i. e.*, the systemic intoxication. He expressed the opinion that lymphatic complications were more common in syphilis than might be inferred from the literature. The subject had not received adequate consideration.

The Treatment of Croupous Pneumonia.—Dr. E. FLETCHER INGALLS, of Chicago, gave an analysis of the cases treated in Cook County Hospital for the fifteen months preceding April 1, 1902. He said, in substance, that the frightful mortality in this disease had made our best pathologists therapeutic nihilists. Few physicians would admit that their efforts to mitigate the severity of pneumonia were of no avail. However, there were some remedial agents which deserved consideration. The patient should have abundant nourishment, but the stomach should not be overloaded; the oil silk jacket might be applied. Pain might be relieved by hot or cold applications, cupping, or drugs. He

recommended ammonium bromide or hyoscyamus, for the cough. The temperature could be controlled by various means. He spoke of the action of various stimulants and of antipneumococcus serum. In those cases in which the consolidation did not speedily resolve, he thought that the process could be stimulated by the administration of calcium chloride, ammonium iodide, and possibly by alkaline diuretics, such as potassium acetate.

An Analysis of Seventy Cases of Gastropotosis.

—Dr. J. DUTTON STEELE and Dr. ALBERT P. FRANCINE, of Philadelphia, drew the following conclusions: (1.) Gastropotosis is much more common than might be inferred from the meagre reference made to it in a majority of the text books upon general medicine. In women showing symptoms of gastric motor insufficiency, its presence is almost constant, and it is probably the most important factor in the causation of such symptoms. It is much less frequent in men. (2.) The occurrence of gastropotosis is not confined to any particular age or class of individuals. There are no causative factors common to all cases, and no explanation of its ætiology heretofore given is broad enough to be satisfactory, if we accept the theory of congenital predisposition, which is entirely hypothetical. (3.) The position assumed by the stomach in all their cases was vertical or sub-vertical. Total descent was not observed and probably is extremely rare. Some dilatation of the pyloric extremity was always present. When this dilatation affects the pyloric end alone it may perhaps safely be assumed that the dilatation is secondary to the descent of the pyloric. In general dilatation and gastropotosis it is probable that the displacement is secondary to the dilatation. The data in regard to the position of the stomach were obtained in every case by inflation with air through the stomach tube. The colon was inflated through the rectum. (4.) The transverse colon invariably shared in the displacement, assumed the "M" or "V" shape, and, when inflated by air, was in close contact with the greater curvature of the stomach. The hepatic flexure may not be displaced or may sink to the level of the umbilicus. The splenic flexure lies behind the stomach and eludes demonstration. (5.) The right kidney was movable in 60.9 of the cases. The left kidney but rarely showed abnormal movability, and the spleen in only one case. The fact that the liver was observed to be unduly movable and sagging downward in three of the six cases operated upon, suggests that ptosis of this organ may have eluded their method of physical examination, and be more frequent than is usually supposed. (6.) There is no condition of the gastric contents peculiar to gastropotosis. Absence or diminution of the free hydrochloric acid is the rule. In a few cases the amount was normal. Superacidity was rare and usually occurred in cases where general dilatation existed, and when there was a strong neurotic taint. (7.) There were no characteristic changes in the blood or urine. (8.) The subjective symptoms were those of gastric motor insufficiency, and were of a mild grade in cases of primary ptosis, but more severe when general dilatation existed. Pain was present in the upper abdominal region in about half, and in the lumbar causes that produced neurasthenia appeared to favor region in a quarter of the cases. (9.) The same

the development of ptosis of the abdominal viscera. When the two conditions are established, they probably react upon each other, deleteriously, but clinical evidence tends to contradict the theory previously widespread, that they have a direct causative relation.

Ætiology of Acute Articular Rheumatism.—Dr. GEORGE W. WEBSTER, of Chicago, offered the following conclusions: (1.) Many organisms produce arthritis. (2.) Probably all cases of acute articular rheumatism are due to infection. (3.) Probably all organisms known to cause either acute articular rheumatism or other forms of arthritis, also give rise to other pathological conditions. (4.) It would thus seem to be, not merely a local infection or inflammation, but a general infection, the commonest seat of the principal lesion being the joints, but also involving the heart—endocardium, pericardium, and muscle—occasionally the meninges and other structures, and to be caused by a diplococcus circulating freely in the blood. The diplococcus seems to be merely a germ capable of causing a widespread inflammation, and the joints are included in its sphere of action. As in pneumonia, we may have a general infection with local manifestations or inflammatory reaction in the meninges, the pleura, the endocardium, pericardium, post-nasal space, peritoneum, lymphatics and lungs, the latter being probably the usual site of the localizing inflammation. (5.) It is quite possible that there is some hereditary diathetic or constitutional peculiarity, the nature of which is completely unknown to us, which may favor the infections in general, and possibly that of rheumatic infection in particular. (6.) That there may be varying degrees of susceptibility depending upon exhaustion, depressing influences, as cold and the like, seems reasonable. These are the occasions and not causes; they favor, but do not cause. (7.) That susceptibility varies greatly there can be no doubt. Whether this depends on alkali tension has not yet been demonstrated, but it seems plausible on the ground of variation in the bactericidal action of the blood. This may explain the value of alkalis in the treatment of rheumatic affections.

Ætiology and Prophylaxis of Cardiac Manifestations of Articular Rheumatism.—Dr. JOSEPH M. PATTON, of Chicago, said that it had been admitted that many of the so-called hereditary diseases of the heart were probably of rheumatic origin, while it was generally conceded that those cardiopathies of early life which obtained with the entire absence of clinical history, or at least an indefinite mention of "growing pains," were of rheumatic origin. In several hundred ambulatory cases of acute and chronic disease of the heart, observed during the last ten years, fully thirty per cent. failed absolutely to give any history of rheumatic manifestation, though usually some such history could be traced in the parents or other members of the family. Sansom believed that practically all cases of heart disease in individuals under thirty-five years of age were rheumatic, and all fetal endocarditis rheumatic. In a certain proportion of cases there appeared a degree of myocarditis which could not be explained by extension of inflammation, or by embolic or other direct infective processes, and we

must assume, with Hanot, that toxins were able to produce acute inflammation of the heart. Pericarditis, according to Baumgarten, occurred in about one-third of the cases of acute rheumatism. Of one hundred and fifty cases of rheumatic heart disease reported by Lees, the pericardium was involved in only nine instances; twenty per cent. of Sibson's cases of acute rheumatism were complicated by pericarditis. Latham gave 7.5 per cent., and Chambers and Ormerod gave 13 per cent. and 71.7 per cent. respectively. Acute rheumatism was generally conceded to be the most frequent cause of endocarditis. Of Sibson's cases, 325 in number, 107 had endocarditis alone, and 54 endopericarditis. The occurrence of acute myocarditis in connection with rheumatism was generally admitted. For avoiding heart complications in acute rheumatism he urged the importance of early control of the condition, as shown by mitigation of the joint symptoms and subsidence of the fever, and believed that this was best obtained by the temporary employment of pure salicylic acid in doses sufficient to relieve pain and fever, with sweating and more or less depression, to be followed by sodium salicylate combined with the alkaline diuretics. He thought the continuous application of cold to the precordia the most effectual local measure. Hot applications had an analgetic effect and were more readily tolerated by children. Their effect on the inflammatory condition was decidedly less than cold. Aconite was distinctly beneficial in quieting and slowing the heart. In the earlier excitable stages aconite, combined with sodium bromide, would act to advantage.

Review of the Cases of Articular Rheumatism in the Medical Clinic of the Johns Hopkins Hospital.—Dr. THOMAS MCCREA, of Baltimore, said that in a period of thirteen years there were 270 cases of acute articular rheumatism. Of these, 198 were males, and 72 females; 223 were whites, and 47 were colored; the largest increase was in the mid-decade, with the second decade coming next. The oldest patient was sixty-six years old. The largest number occurred in the first half of the year, and 55 per cent. in the months of February, March, April and May. September was the month with the fewest cases. There was a family history of rheumatism in 25 per cent., and of tuberculosis in 14 per cent. There was a previous history of rheumatism in 45 per cent.; of amygdalitis, however, only in 4 per cent., and of chorea in 3 per cent. Nearly 4 per cent. gave a history of the more or less constant use of alcohol. In about 75 per cent. the age of the first attack was below 30, the largest number, 36 per cent., being in the second, and only 8 per cent. in the first decade. There was a history of exposure to cold, wet, etc., in 12 per cent. of all the cases. Arthritis was the most predominant symptom of onset in over 80 per cent., but in 17 cases a chill occurred at the onset, in 10 amygdalitis, and in single cases various conditions, among others trauma. The arthritis was an inevitable feature, occurring more often in the legs than in the arms, the knee joint being involved in over 50 per cent.; in all the joints of the lower extremities, corresponding joints, e. g., both knees, were affected more frequently than singly, while the contrary was true in all the joints of the upper extremities. The average duration of fever was twelve days. There were

not any cases of hyperpyrexia. About 30 per cent. of the cases had a fever above 103° F. The heart sounds were clear throughout in 38 per cent.; definite organic lesions were present in 32 per cent., and the remaining cases were more or less doubtful. Of these 78 doubtful cases, in 18 there were murmurs present during the attack, which disappeared. In the remaining 60, there was in all a systolic murmur of varying distribution, in a large number at the apex only, of soft quality and not transmitted. The heart condition in other ways normal. In 9 cases the murmur disappeared under observation. In 5 of these the murmur was apparently due to an organic lesion, the other 4 being doubtful. The age at the first attack in reference to the cardiac condition showed that, of the patients who had the first attack below the age of twenty years, 45 per cent. had a definite lesion, while of those over the age of twenty at the first attack, only 21 per cent. had a lesion. This pericarditis occurred in 6 per cent., and with the first attack in only 3 of the 16 patients. The time varied from the fifth to the sixty-first day. The rub persisted for a period of from five to eighteen days. There was associated delirium in only one instance. The fever in only 3 cases was above 103° F. There was a leucocytosis of 15,000 to 25,000 in all of the seven cases in which counts were made. There was associated endocarditis in 8 cases, doubtful in 4 cases, and no evidence of it in 4. Effusion occurred in 2 cases, adherent pericardium in 3, and death in 3. The pulse rate of the series showed that only in 41 per cent. was the pulse raised over 100, only in 13 cases or 6 per cent., was it over 120. The urine was clear throughout in 48 per cent. Albumin was found on admission only once in 34 per cent., occasionally in 5 per cent., and throughout in 11 per cent. A positive diazo-reaction was given in 3 out of 91 cases. The average percentage of hæmoglobin in 77 cases was 66, the red cells in 69 were 4,532,000, and the leucocytes in 83 were 11,700. In 35 cases the leucocytes were 10,000; the highest leucocyte count was 26,000. The average differential count showed nothing unusual. The average stay in the hospital was 26 days, and the average duration 38 days. Cultures throughout from the blood, joints, and urine were negative. Death occurred in three of the series, all having pericarditis.

SECTION IN DISEASES OF CHILDREN.

Second Day, Wednesday, June 11th.

SYMPOSIUM ON INFANT FEEDING.

Acute Gastro-enteritis of Infants.—Dr. MARGARET TAYLOR SHUTT, of Springfield, Ill., said that the heat of summer played an important part by depressing the child's vitality and increasing the thirst, thereby causing overfeeding and by the more easy production of fermentation in the food products during hot weather than at other times. She stated that perhaps the greatest cause of summer complaint in children was improper or overfeeding. Fever, prostration, vomiting, frequent and abnormal stools made up the clinical picture, and the diagnosis could only be mistaken in the beginning for the onset of some one of the exanthematous diseases. The prognosis depended first on the child's vitality, and secondly on whether

it received intelligent care and treatment, the greatest problem being whether directions with regard to proper feeding and hygiene would be intelligently carried out by the mother. The most important points in the treatment were to keep the child cool and clean and give it a limited quantity of the proper sort of food. During the attacks all milk food should be absolutely stopped, the whole alimentary tract cleaned out, fever reduced by sponging the body and irrigating the colon and intestinal antiseptics secured as far as possible. The most explicit directions must be given as to the proper kind and quantity of food after the attacks, and tonic treatment where indicated.

Milk Idiosyncrasies in Children.—Dr. LOUIS FISCHER, of New York, said that by this term he meant those cases in which milk could not be digested at all. Some patients were poisoned by the slightest amount of it given in any form, and seemed to have an idiosyncrasy against milk almost analogous to drug idiosyncrasies. Many individual peculiarities were noted. There seemed to be a constant irritability of the digestive tract and an absence of normal assimilative power, accompanied with intestinal indigestion of milk, cheesy curds in the stools, vomiting, nausea, and frequently colic. The dietetic treatment was the most important, the question as to what food should be given in the interim until the acute symptoms subsided was sometimes a troublesome problem. Breast milk was just as frequently incompatible as cow's milk. The author reported excellent results in a series of cases from the use of a malt soup, the formula of which was as follows: Take of wheat flour about two ounces; to this add about 11 ounces of milk. Soak the wheat flour thoroughly and rub it through a sieve or strainer. Put into a second dish 20 ounces of water, to which add 3 ounces of malt extract; dissolve the above at a temperature of about 120° F., and then add about 2½ drachms of eleven-per cent. potassium carbonate solution. Finally, mix all the above ingredients and boil. This gave a food containing albuminoids, 2.0 per cent; fat, 1.2 per cent., and carbohydrates, 12.1. There were in this mixture vegetable proteids, 0.9. This food was very well borne and gave no discomfort.

Improvement of Breast Milk and Prolongation of Lactation.—Dr. THOMAS S. SOUTHWORTH, of New York City, stated that lactation was a much neglected subject. Full chemical analyses of breast milk were important in judging the quality of milk, but were by no means imperative. The specific gravity afforded a simpler method of judging its quality. The improvement of the quality and quantity of breast milk was not a complicated matter if begun early enough. Faulty or deficient milk on the part of the mother was often dependent upon an unsuitable diet or lack of outdoor exercise. Those cases of early failures of breast milk where the supply was diminished or disappeared in the first week or two, might often be prevented and the milk completely restored, provided the woman was properly managed. Bad nursing habits and faulty maternal diet were the chief cause of trouble later on. To insure the mother's

having a full supply of milk, plenty of fluid should be drunk during the first week of the baby's life. Then, throughout the period of lactation there were four fluids she should have, important in the order of their enumeration: First, plenty of good cow's milk should be taken every day, as this was the greatest stimulator known of the maternal supply; secondly, corn meal gruel, and thirdly, plenty of water; and fourthly, for a beverage, cocoa. Tea should be prohibited. The balance of the diet should be plain, unstimulating and nutritious. Beer was not beneficial and had been found to be even harmful. The same might be said with regard to the malt. Constipation and anæmia must be corrected, and sleep, exercise, and fresh air provided. The importance of breast milk for the child made it advisable to continue nursing during the greater part of the first year, either with or without the assistance of a few bottle feedings. Serious responsibility was involved in weaning, as exclusive bottle feeding caused a larger mortality than where at least partial breast feedings were maintained.

Infant Feeding.—Dr. ALEXANDER MCALLISTER, of Camden, N. J., enumerated the difficulties growing out of the necessity of using an artificial food rather than a natural one, stating that it was important to have a proper conception of the many difficulties that beset the feeding of the child both in the selection and the preparation of the proper food for the particular child in question. It should be remembered that cow's casein was not mother's casein, and that, even though cow's milk might be intelligently modified, it would never be made exactly as mother's milk.

Dr. F. C. Wahrer said that a few years ago the milk supply of large cities was anything but milk. He referred to the great advances that had been made by enterprising physicians and the dairymen in improving the milk supply. He agreed that the best substitute for mother's milk was cow's milk as pure as could be got. This might be slightly modified to meet the occasion, but he had seen many children thrive on the pure cow's milk.

Dr. Charles G. Kerley, of New York, said that most children could be fed on properly modified milk, but that it must not be expected to feed every child alike. The milk must be changed as the child advanced. Many physicians got discouraged because the child did not immediately improve and thrive, when they had started the percentages too high to begin with. The child must be started on very low percentages when fed artificially and must work up; at the same time they must be carefully watched. The patient must be fed by the napkin. A careful observation of this and its characteristics was absolutely essential for an intelligent understanding of the condition of the child. It was true that there were some cases that could not be fed on milk at first, particularly the cases that had been experimented upon with all kinds of food and fed in all kinds of ways, until their digestion was so impaired that they could not tolerate cow's milk, and sometimes were not able to do so for a long time. The

speaker disagreed with Dr. Southworth regarding the value of the malt extracts. In a series of experiments made some years ago, with a view to improving the milk of the mother in a number of ways, he found that the malt extracts and the malt preparations were more effectual than anything else in bringing up the percentage of fat.

Dr. John Lovett Morse, of Boston, considered milk idiosyncrasies rare. Breast milk should not be given up, even if artificial feeding had to be resorted to.

Dr. J. P. C. Griffith, of Philadelphia, said that he had no doubt that in the majority of cases physicians began with the percentages too high for the baby. In regard to the question of vomiting, the fact was lost sight of that the dilution was not sufficient and the percentage of fat was too high. Many of the idiosyncrasies of milk were due to the fact that the child through past mismanagements had lost its digestive power. All children who had had such digestive disturbances would relapse at some time. It was a great mistake to change the food with every little variation of the digestive power of the child. His advice was: Be sure you are on the right track and then follow out that track.

Dr. A. C. Cotton, of Chicago, said that the only way to settle the matter was to decide it for yourself. The man behind the bottle must mix his milk with brains and suit the feeding to the baby in question. If every mother were assured that her baby could not live and grow to maturity unless it was nursed in the natural way, it would be the greatest incentive possible for mothers to nurse their babies instead of shirking their duty.

Dr. A. Jacobi, of New York, said that physicians generalized too much with regard to infants' feeding. The only two points of value learned in the last ten years were that cow's milk, which was pure, fresh, and germ free, was the only food a child should be fed on artificially with proper modifications. In regard to the feeding of a new-born infant, of course, the baby was hungry, the baby ought to be hungry, and should be fed in a proper way, principally with water. There was no excuse for allowing a new-born baby to lose its weight in the first week of its life, and a small quantity of some simple food might be given. Plenty of water, however, flushed out the kidneys and the excretory organs, and prepared the child for the proper handling of its food. If plenty of water was given the child at first, uric acid infarcts would probably be prevented. Many of the cases of renal calculus would not occur. There was no one special method of feeding that was absolutely the true one to the exclusion of all others. In each case the food must be suited to the individual, but there was this one principle that the milk should be good, fresh, pure, and clean, and should be germ free.

Adenoids.—*Dr. W. Freudenthal*, of New York, presented a paper entering into both acute and chronic inflammation of adenoids with the indications for palliative and operative treatment.

The Treatment of Acute Earache, Otitis Media in Young Children.—*Dr. GEORGE L. RICHARDS*, of Fall River, Mass., said that earache in children was a most troublesome and annoying affection. Many methods had been advised for its relief and none of them was attended with very much success. Several of these methods were mentioned only to be condemned. The author advocated a medicated gelatoglycerin bougie, which he had been using for some time with excellent results. The bougie was made according to the following formula: \mathcal{R} carbolic acid, 7 minims; fluid extract of opium, 6 minims; cocaine, 3 grains; atropine sulphate, 3 grains; water 52 minims; gelatin, 18 grains; dehydrated glycerin, 158 grains; a sufficient quantity to make 42 bougies. This gave to each bougie 1-6 minim of carbolic acid, and 1-7 of fluid extract of opium, 1-14 grain of cocaine, and 1-14 grain of atropine sulphate. These small bougies were particularly useful because they might be kept in the house and be inserted by the mother at night when the child woke up screaming with earache.

Angiosarcoma.—*Dr. Cook*, of Chicago, read a paper on this subject and presented a specimen of a tumor removed from a child aged three years and a half, involving both the kidneys and huing up almost the entire abdominal cavity.

The Clinical Features of Some of the Anæmias of Childhood.—*Dr. W. C. HOLLOPETER*, of Philadelphia, said that the gastro-intestinal tract was more to blame in these troubles than the food that went into it. The great primary cause of anæmia in childhood, and the least recognized was dental decay. This furnished more cases of anæmia than all the other disorders of childhood put together. The result of dental decay was to infect the mouth and stomach and poison the gastro-intestinal tract, producing a general catarrhal condition, making the blood deteriorate and rendering the nervous system of the growing child unstable. Oral sepsis must be avoided, therefore, and gastric catarrh prevented by a proper toilet of the teeth. The child suffering from anæmia and catarrhal affection of the gastro-intestinal tract could not grow and develop properly. Associated with decaying teeth would be found many cases of amygdalitis, pharyngitis, infection of the ear and gastro-intestinal infection, all of which might be prevented by a proper hygiene of the mouth. The second unrecognized factor in the anæmias of childhood was nasal stenosis, which produced mouth breathing. This was frequently the result of the acute infectious diseases, and could generally be avoided by a proper toilet of the nose and mouth during acute inflammation. The third factor contributing to anæmia in children was eyestrain, characterized by vomiting, headache, etc., in car riding and car sickness, and might be prevented and corrected by proper glasses.

Retropharyngeal Abscess in Infancy.—*Dr. JOHN LOVETT MORSE*, of Boston, reviewed, the clinical history of these cases which, he said, usually occurred in the second or third year of

life and were almost always secondary to disease of the adenoids. In the diagnosis the author emphasized the importance of digital examination of the throat. Suppuration, he said, rarely took place in more than one lymph node though several might be involved. Retropharyngeal abscess was always preceded by retropharyngeal adenitis. When suppuration occurred it developed in five or six days, and the abscess formation was in the lateral wall of the pharynx rather than in the back. Several interesting cases were reported showing that the prognosis in those cases treated by incision and evacuation of the pus was very good, while, if they were not incised, general infection might take place with an unfortunate result.

Report of a Case of Bulbar Paralysis.—Dr. A. C. COTTON, of Chicago, reported an instructive case of bulbar paralysis occurring in a girl aged eleven years, and following diphtheria, which had occurred several years before. The case was interesting on account of the various diagnoses that had been made before the paralysis was discovered.

Third Day, Thursday, June 12th.

Synostosis of the Skull with Universal Calcification of the Arteries in a Boy of Three Years of Age.—By Dr. David Riesman. The author stated that arterial diseases in children were not nearly so rare as commonly supposed, and that they frequently followed on some of the infectious diseases. The case reported was remarkable on account of the synostosis of the cranial sutures, which was shown by the specimen. A number of medical men saw the case in question and it was pronounced an extraordinary case of malnutrition, deficient metabolism being no doubt at the bottom of the whole condition; and the boy died of inanition. No drug or any treatment was of any avail or had any effect on the course of the disease. The author thought that the malnutrition of the case was perhaps secondary to a congenital abnormality. He referred to the interesting analogy between cases of this sort and certain forms of infantilism and cretinism. An interesting feature of this case was the atrophic condition of the thymus gland, but what bearing this had upon the condition present the author was unable to say.

Spontaneous Hæmorrhage in the New-Born.

—Dr. A. ABT, of Chicago, said that there were two kinds of hæmorrhage observed in the newborn child, traumatic and spontaneous. The paper dealt wholly with the spontaneous variety, and was accompanied with the report of ten interesting cases. There might be a variety of causes producing hæmorrhage. It was possible it might be from any one of a number of infections. One case was directly traceable to hereditary syphilis. The recent tendency had been to study these cases along bacteriological lines, and there were numerous micro-organisms that were thought to be factors. There were, however, many conditions as predisposing factors. Changes in the blood vessels themselves might favor it. The character of the hæmorrhage was, in some slow and oozing, and in others, profuse at intervals. The site of the hæmorrhage was also varied. It might occur

from the umbilicus under the skin, from the nose, mouth, vagina, stomach, bowel, ear, etc. The temperature varied and in one case ran as high as 104° F. and remained elevated during the entire course of the disease. In another it remained subnormal. Cyanosis was a late manifestation in two cases. In a few, icterus occurred, and, in one, convulsions and muscular twitchings. Evacuations from the bowels were very offensive before the occurrence of the hæmorrhages. As to treatment, internal remedies had no influence on the disorder nor had local styptics any permanent value. The use of gelatin deserved some mention. The author concluded from a number of experiments on animals that the subcutaneous injection of gelatin would produce a toxæmia in children. The nature of these toxins was not known, but they should be considered as ptomaines. A further proof was not needed that gelatin caused a rapid coagulation of the blood. Undoubtedly it could be given with good results by the stomach, but it was very questionable whether it should be given by the subcutaneous method in the present state of our knowledge.

Dr. Rosa Engelman, of Chicago, suggested that inasmuch as infections were thought to play such a part in the hæmorrhages, the germs found should be inoculated and cultures made, so as to arrive at some classification of them. In addition to all these supposed infections there might be back of it all, some constitutional trouble like syphilis. Certainly syphilis played a most important part.

Dr. Holmes, of Chicago, related his experiences with gelatin subcutaneously without reaction in two cases of obstetrics and he did not see why it might not be used in children.

Dr. A. Jacobi, of New York, stated that he had seen a great deal more of hæmorrhages in the newborn fifteen or twenty years ago than he did now and ascribed as a reason that he also saw at that time much more puerperal sepsis. At that time he almost considered the tendency to hæmorrhage in the newborn a natural condition. He thought puerperal sepsis had much to do with the occurrence of hæmorrhage in the newborn. Another important cause was the insufficiency of the blood in certain conditions of anæmia. It might also depend upon the structure of the blood vessels themselves. The intima of the vessels was not fully developed. Hæmorrhage in the newborn was very apt to be copious, because there was a great deal of hæmoglobin in the blood, and yet it was less dense than in the adult. In the hæmatoma found after hæmorrhages, the blood in the child would be found uncoagulated, where, in a similar case in the adult, the blood would have been found coagulated. Meningeal hæmorrhage was quite frequent, and the speaker thought most of the deaths occurring in the first day of life were due to this cause. Most of the cases of hæmorrhage were postnatal, but he thought that puerperal sepsis was the most important cause of them.

Sporadic Cretinism in Children.—Dr. ROSA ENGELMAN, of Chicago, said that cretinism was relatively much more frequent in children than was formerly supposed. It passed oftentimes unrecognized. Koplik was the one who had pleaded most earnestly for its recognition. Heredity seemed to be a factor in the adult form, but this had not been de-

terminated in the child. There was a growing opinion as to its infectious nature, but no very positive data had been obtained. The interdependence of nervous control over secretion was recognized as necessary to healthy functioning, but as to whether disorder of such control was the cause was not certain. The process was a slow decay of the bony development of the body and a consequent dwarfism.

Dr. A. Jacobi, of New York, wished to emphasize the importance of combining the different glands in the treatment. Many of the results of glandular treatment were insufficient because the case was treated in only one direction. After having seen that a single ductless gland had been given without results, a combination with other glands should be made. As a rule, but not always, thyroid feeding would be sufficient for myxœdematous conditions. Another point was a shortening of the cranium, producing as a result a synchondrosis of the bones. Many of these cases were due to rickets—a rickets which ran its course before birth. When the child was born there was a shortening of the bones at the base of the cranium, because of the ossification of the occipital and sphenoid. The basal ganglia were, as a result of this, undeveloped. The cases that had a short base of the cranium would be improved the least.

Dr. David Riesman, of Philadelphia, called attention to the fact that it was in this class of cases that preventive medicine might achieve its most brilliant results. The term arthryria employed by the author should be used to designate functional arthryria and not anatomical arthryria.

Dr. Rosa Engelman, referring to the correlation of the glands stated that the combination of the pituitary with the thyroid showed quite a difference in the growth of the patient.

Chlorosis.—Dr. C. F. WAHRER, of Fort Madison, Ia., said that diagnosis and treatment of this affection was easy for the skilled clinician, but there were many possible conditions with which chlorosis might be confounded. The author reviewed the various theories of the ætiology of chlorosis and described the early and latent forms among adolescents. There was no relation, he thought, between this disease and phthisis.

Dermoid Tumors in Children.—Dr. S. W. KELLEY, of Cleveland, reported two cases, one a dermoid tumor occurring in the testicle of a boy aged two years and a half, and the other in the ovary of a girl aged eight years.

Sudden Death in Infants with Lymphatic Constitution.—Dr. F. X. WALLS, of Chicago, reported two cases of so called thymic sudden death in infants, and presented a brief review of the literature on the subject, showing the relation of sudden death in infants to the lymphatic constitution.

Recognition and Prompt Removal of Post-Nasal Adenoids in Children.—Dr. LOUIS J. LAUTENBACH, of Philadelphia, pointed out the great frequency of this trouble and showed that it was among the poorly nourished and scrofulous that adenoids were most commonly found. They were also oftentimes found in deaf mutes, and perhaps were the cause of their deafmutism in many cases.

The author mentioned the various methods of determining their presence and the modes of making the examination. The nature of the growths varied and presented different appearances. Many constitutional ailments followed in the wake of adenoids and their obstructive influences in respiration were productive of many bodily ailments. The posterior and upper walls of the nasopharyngeal space were by no means always smoothly and regularly arched. There were frequently ridges observed on the posterior and upper pharyngeal wall, and this fact was important in the method of operating. The author did not usually use an anæsthetic in operating, nor did he use the curette, forceps, and cauteries, but operated by scraping the mass out with the finger nail or a steel finger nail. He laid stress on knowing the exact condition of the pharyngeal vault after the operation, and pointed out the necessity of constitutional treatment in all cases of post-nasal adenoids.

Flat-foot in Children: Diagnosis and Treatment.—Dr. R. W. Lovett, of Boston, said that children were not flat-footed when born, as was formerly thought. Flat-foot in infants was found most often in heavy children who walked early, especially if any degree of rickets was present. Laxity of the knees was a common accompaniment of the condition. Such children were unsteady and clumsy. Treatment consisted in the use of proper boots in which was placed a pad of felt or leather, supporting the arch. Steel or celluloid plates might be necessary, or even a steel sole plate, with an upright on the outer side of the leg.

Flat-foot in older children did not differ especially in treatment from that in adults. Rigid flat-foot was, however, not common, and pain was unusual. (*Read by title.*)

New Officers were elected for the ensuing year: Chairman, Dr. John C. Cook, of Chicago; and secretary, Dr. Thomas S. Southworth, of New York.

Book Notices.

Essentials of Physiology. Prepared especially for Students of Medicine. By SIDNEY P. BUDGETT, M. D., Professor of Physiology in the Medical Department of Washington University, St. Louis, Illustrated. Philadelphia and London: W. B. Saunders & Company, 1901. Pp. 7 to 233. (Price, \$1.)

Being a quiz-compend, this small handbook admirably offers in abridged style facts compiled from larger works. By eliminating the questions from the text the subject matter is made more readable. At the conclusion of each chapter the questions are grouped. While there is every evidence of presenting to the student the advances of physiology, there is too little spirit manifested in directing his attention to the salient points which are called for in daily clinical routine. One instance in question is the statement, and this in italics, that the axillary temperature is 37.2° C. (98.8° F.), and then nothing whatsoever is said about the rectal temperature. The illustrations are few and mostly bearing on the nervous system. The author's strong leaning toward dealing with the nervous system is apparent in the elaborateness with which the physiology of the

nervous system is expounded. This manual offers the student an opportunity for a hasty review of the subject of physiology.

A Practical Treatise on Diseases of the Skin for the Use of Students and Practitioners. By JAMES NEVINS HYDE, A. M., M. D., Professor of Skin, Genito-urinary, and Venereal Diseases, Rush Medical College, Chicago, etc., and FRANK HUGH MONTGOMERY, M. D., Associate Professor of Skin, Genito-urinary, and Venereal Diseases, Rush Medical College, etc. Sixth and Revised Edition. Illustrated with 107 Engravings and 27 Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Company, 1901. Pp. xx-17 to 828.

The rapid appearance of new editions of a work virtually means that its contents have been found of value and that the subject it treats of has been acceptably presented to the profession. That this must be true of Dr. Hyde and Dr. Montgomery's treatise on dermatology is shown by the demand for the book, which has exhausted the new editions with increasing rapidity. Five years elapsed between the first and the second edition, and yet only one year after the appearance of the fifth there was a call for a sixth edition. A better endorsement of a treatise and a greater evidence of its growing appreciation by the profession could scarcely be brought forward.

Since its original appearance, the book has been greatly enlarged and in its present form has been brought as much as possible up to date, the additions embracing such advances as have been made in the domain of dermatology. The work has been carried out with a broadness of mind and with judicial discrimination worthy of praise. There is a consideration shown for the opinions of others that materially enhances the merit of the volume and makes it all the more valuable to the student and practitioner seeking for knowledge of the subject of dermatology or for aid in diagnosing and treating some one or other simple or obscure case. The especial features of the work are the careful delineation and description of the various dermatoses, their ætiology, pathology, and treatment, and particularly valuable is the amount of space devoted to diagnosis. The clearness with which all portions of the treatise are written renders it of value to the general practitioner as well as to the specialist, and it can unhesitatingly be stated that it is today one of the best books on dermatology in the English language. The colored and other illustrations, the paper, type, and general make-up leave nothing to be desired and Dr. Hyde's and Dr. Montgomery's treatise can be most strongly recommended to every one interested in the subject of dermatology.

BOOKS, ETC., RECEIVED.

Minor Surgery and Bandaging, including the Treatment of Fractures and Dislocations, the Ligation of Arteries, Amputations, Excisions and Resections, Intestinal Anastomosis, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By Henry R. Wharton, M. D., Professor of Clinical Surgery in the Woman's Medical College of Pennsylvania, etc. Fifth Edition, Enlarged and thoroughly Revised, with 509 Illustrations. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 3 to 621. (Price, \$3.)

Clinical Psychiatry. A Text-book for Students and Physicians. Abstracted and Adapted from the Sixth Ger-

man Edition of Kraepelin's *Lehrbuch der Psychiatrie*. By A. Ross Defendorf, M. D., Lecturer in Psychiatry in Yale University. New York: The Macmillan Company, 1902. Pp. xi-3 to 420. (Price, \$3.50.)

Introduction à l'étude de la figure humaine. Par le Docteur Paul Richer, de l'Académie de médecine. Paris: Gauthier, Magnier et Cie, 1902. Pp. viii-190.

Intubation du Larynx. Instruments—Technique—Avantages. Par le Docteur Perez-Avedaño, Ancien interne des hôpitaux de Buenos-Aires, etc. Préface du Docteur Marfan, Professeur agrégé à la Faculté de médecine, etc. Avec 67 figures et 10 tableaux synoptiques dans le texte et un tableau clinique hors texte. Paris: C. Naud, 1902. Pp. xx-274. (Prix, 4 francs.)

Medical Lectures and Aphorisms. By Samuel Gee, M. D., Fellow of the Royal College of Physicians, etc. London: Smith, Elder & Company, 1902. Pp. viii-296. (Price, 6 shillings.)

Transactions of the Royal Academy of Medicine in Ireland. Volume XIX.

Transactions of the Southern Surgical and Gynecological Association. Volume XIV. Fourteenth Session, held in Richmond, November 12, 13 and 14, 1901.

Transactions of the American Pædiatric Society. Volume XIII. Thirteenth Session, held in Niagara Falls, N. Y., May 27, 28 and 29, 1901.

Report Relating to the Registration of Births, Marriages and Deaths in the Province of Ontario for the Year ending December 31, 1900.

Miscellany.

Sanitary Conditions in Manila.—The last monthly report of the Board of Health for the Philippine Islands, which reached us by mail, contains some interesting data concerning the climatic conditions in the Philippines. The commissioner of public health, Major L. M. Maus, states that, while the death rate among the native Filipinos is high, it is no higher than is naturally to be expected among a densely ignorant population crowded together in unsanitary buildings, poorly supplied with food, and using polluted well water. In proper sanitary habitations and with an ample food supply, the mortality among the natives would, in his opinion, be decreased at least fifty per cent. The report says: "The climate of the Philippines is pleasant, equable, and healthful, and it is doubtful if any other country in the world is more favored in this regard. At the level of the sea throughout the entire archipelago, the mercury rarely goes below 60° or above 90° F. throughout the entire year. From the middle of November to the middle of March the temperature in Manila is delightful; from that time on, to the latter part of June, it is hot during the middle of the day, but considerably less so than in many of the southern states during the summer, and is cool compared to the Texas border along the Rio Grande. From July to November, during the rainy season, the temperature is little higher than during the winter months, which is due to frequent rains and the clouded condition of the sky. Many people who have lived here several years regard the rainy season as preferable to any other season of the year." The report points out that much of the sickness which caused such alarming and hysterically exaggerated reports of the objectionable character of the climate of the Philippines, was due to the unfavorable conditions to which

the troops were submitted in their early occupancy of the island and to their own carelessness. The author states that with the loss of fat, few who understand how to live in the Philippines will suffer from ill health as a result of climatic conditions. The enervating effect of the continued residence can be overcome by occasional vacations in cold countries, or frequent trips to the greater altitude, there being several available places at an elevation of 4,000 to 6,000 feet, where resorts or camps of recuperation could be located with advantage.

In view of the association between bubonic plague and rats, a regular system of rat catching has been undertaken. During February, 20,001 rats were actually delivered to the government laboratory, 9,834 of which were examined microscopically for plague, and 13 found infected. Since last September, 53,773 had been secured, 40,666 examined, and 242 found infected with the plague. Besides the number delivered to the laboratory, many thousands had been destroyed by the official rat catchers and by the natives through the cooperation of the government in furnishing traps, ratbane, etc. Beginning on January 15th, a systematic effort has been made to immunize the susceptible inhabitants of Manila against bubonic plague by means of Shiga anti-pestic vaccine and, up to the time the report was written, 7,440 persons had received the primary inoculation, and 1,335 both primary and secondary. From two hundred to three hundred doses are furnished daily by the government laboratory. Dr. J. B. Tormey, medical inspector of the board, assisted by seven native physicians and Miss Seagran, carry on this work without any opposition from the people. On January 22d arrangements were made with Professor Kitasato, of Tokio, to ship 10,000 doses of Shiga anti-pestic vaccine weekly, the first consignment arriving March 2d.

Difficulty has been experienced in securing competent medical inspectors from civil life and for that reason army officers have been detailed to act temporarily. Since January 1st, 27 provincial, and 86 municipal boards of health, presided over by natives except in two instances, have been established in different provinces. Considerable difficulty has been experienced in securing qualified candidates to fill the position of president of the municipal boards, and in some cases one physician or practicante has been appointed for two or more pueblos situated near each other, the cost or salary being divided between each of the communities. Much valuable work has been done by these local boards of health.

Colotomy: Tumors Complicating It.—At the meeting of the American Proctological Society, held at Saratoga, N. Y., on June 10th and 11th Dr. B. Merrill Ricketts, of Cincinnati, said that colotomy was of itself a simple operation, but there were many complications, one or more of which might now and then arise to make it a most formidable one. Neoplasms, benign and malignant, were occasionally present in the abdominal wall or cavity, or both, to make the operation troublesome, if not at times impossible. Two such cases formed the incentive to call attention to the condition herein mentioned, with the hope that the subject might receive discussion commensurate with its importance. In one case necessitating a left inguinal

colotomy for carcinoma of the rectum an intra-ligamentous cyst gave great annoyance, and greatly prolonged what might otherwise have been a simple operation requiring but a few minutes. The patient died suddenly at the end of seventy-two hours without any warning. An autopsy could not be secured. In the second case a large retroperitoneal tumor of doubtful origin and character was present in the left iliac cavity of a patient requiring colotomy for carcinoma of rectum. It did not appear to have any relation to the rectal neoplasm. It was of slow growth. There was much difficulty in freeing the colon that it might be brought into the abdominal wall. The patient died of exhaustion twenty-two months from the date of operation. Autopsy refused.

Aneurysm of the iliac artery was not infrequent, and when it existed more or less difficulty might be encountered and serious consequences ensue. Extensive adhesions were usually present, necessitating ligation of the vessels before any attempt to bring the gut out of the cavity was made. Herniæ of any part, or all, of the viscera, especially the sigmoid or descending colon through the left or right ring, or both, gave special anxiety, because of the great length of time required for their adjustment as well as of the necessity for considerable time for preparation for operation. The normal anatomical relations of the colon were probably never reestablished. The same might also be said of all the abdominal viscera. Hernia of the urinary bladder might be upon the right or upon the left, usually upon the right (Roberts). Such a condition did not necessitate any radical change in the normal position of the colon or sigmoid, but when present upon the left it might cause more or less difficulty in completing colotomy. It might also complicate the operation when the hernia was upon the right side. This was also true of *hernia of the uterus*, impregnated or non-impregnated. Hernia of this organ was also more frequent upon the right (Ashburn). Pancreatic, renal, splenic, ovarian, tubal, mesenteric, or broad-ligament cysts, especially if they opened into the colon or sigmoid, or uterine fibroma of any type might become adherent to the colon to such a degree as greatly to change their normal relations and thereby cause serious complications. This was also true of the various forms of uterine, tubal, or ovarian impregnation. Hydrocele of an undescended testicle, especially upon the right side, would be a most formidable complication. Tumors, benign or malignant, both involved the left lower abdominal quadrant, and the larger ones any part of the abdominal cavity. They might give rise to much difficulty. Those of the bony pelvis might likewise give annoyance. Adhesions, local or general, within the abdominal cavity from any cause, especially those of tuberculous origin, were common, and when present greatly interfered with rapid, thorough, and safe work. Special care should be taken in the foregoing conditions to see that the proper portion of the gut was utilized in establishing an artificial anus, otherwise the desired object might not be obtained; such a result was not infrequent. Any one or more of these conditions might exist in a given case, and while every operator, no doubt, had sooner or later encountered one or more of them, little had been said concerning them.

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Special Articles.

BRIEF NOTES ON MITRAL INSUFFICIENCY.

By THOMAS E. SATTERTHWAITE, M. D.,
NEW YORK.

Mitral insufficiency, regurgitation or incompetency, is a comparatively common valvular affection and the least serious so long as it is uncomplicated. As to its frequency, Spelling (Gibson, *Diseases of the Heart*, London, 1898), found in 300 cases of endocarditis that in 268 (or 89 per cent.) the left heart was affected, and where only one valve was concerned, it was the mitral in 157 out of 200 cases, or about 78 per cent.

My first clinical returns in 50 valvular cases also made mitral insufficiency the most common. In a further series of 71 cases, including the first and taken from the books of my clinic at the Post-graduate Hospital between the years 1882 and 1888, 45 were classed as mitral insufficiency (63 per cent.), and these figures agree with those of Walshe (*Diseases of the Heart*, London, 1873, p. 105) and Middleton (*Lancet*, October 26, 1889). In ten cases of mitral insufficiency, eight, or 80 per cent., of my post-mortem cases were organic, and 2, or 20 per cent., were inorganic (relative).

But it is rare that mitral insufficiency is the only valvular lesion. From my tables it appears that in 86 per cent. it was associated with aortic, pulmonary, or tricuspid disease, the combination with aortic being the most common (80 per cent.). The most frequent cause of insufficiency is endocarditis, which is also most frequently caused by lithæmia. Under the influence of this and other constitutional vices vegetations form along the borders of the leaflets, which thicken and then retract, while the tendinous cords and papillary muscles also become infiltrated and, contracting, hold the leaflets back. Another cause of inorganic insufficiency is the rupture of a leaflet. All of these phenomena I have seen. Finally, the orifice may be involved in a new growth, or atheroma may prevent closure. Usually, however, the latter infiltrates a leaflet without preventing its closure.

Of the inorganic or relative form there are many varieties, and it may be a temporary or permanent condition. One of the most common causes

is violent physical exercise, such as young men are subjected to in training for athletic sports. In one of the physical culture schools of this city I have been told by the manager, who is also a physician, that most of the prominent athletes under his tuition are affected with mitral regurgitant murmurs during their training. Or an aneurysm of the arch causing the large heart so common in aortic disease is pretty apt to entail some relative, that is, inorganic dilatation, or, in plainer language, stretching of the mitral orifice, inasmuch as the whole left heart must dilate and the tendinous cords and papillary muscles stretch (the leaflets usually failing to enlarge in size, so as to fit the enlarged orifice).

In a somewhat similar way the fatty heart may dilate, the leaflets failing to enlarge proportionately. Now, it is quite apparent that this form of insufficiency is capable of remedy provided the condition governing it is removed.

Probably it is quite common as a temporary affair—after, for example, a set at tennis, a boat race, a running match, in recovery from fevers, after an infection or a cardiac neurosis. But at autopsies we are not likely to see very many of these accidents, because they do not cause death. On the other hand, we not infrequently find at autopsies an artificial mitral insufficiency where post-mortem softening has set in. This condition is less often seen than formerly, owing to the system of post-mortem refrigeration that is now in vogue.

In mitral insufficiency there is such an imperfect closure of the mitral leaflets that during systolic contraction of the left ventricle more or less blood leaks back into the left auricle, already partly filled with blood coming from the lungs. Necessarily the left auricle dilates and then hypertrophies, because it has more blood to be driven into the left ventricle. And inasmuch as the left ventricle has to use more force in order to supply the aorta with its proper quantum of blood, it hypertrophies after dilating. But the overfilling of the left auricle dams the blood back on the lungs and offers such resistance to the column coming from the right ventricle that it also hypertrophies and gives way, causing dilatation of the right auricle as soon as the tricuspid yields.

The most characteristic sign of mitral insufficiency is a systolic murmur at the apex conveyed toward the

axilla and scapula, due to the leakage of the mitral during the contraction of the left ventricle. This murmur will vary in quality; it is usually rough and loud, rarely musical. Organic murmurs are softer and have more of a blowing character. Regurgitant murmurs are also intensified by slight exertion.

Accentuation of the second sound over the pulmonary artery is due to the sudden closure of the pulmonary leaflet caused by the strong resistance ahead of it in the auricle.

Another important sign is weakness of the second aortic sound, because in this case there is decrease in the back pressure in the right auricle.

Inasmuch as the right ventricle gets to be hypertrophied, as well as the left, we look for greatly increased transverse dullness, which may extend from an inch or two to the right of the sternum as far as and beyond the nipple.

In the early development of mitral insufficiency of the organic form the compensatory symptoms usually go hand in hand with the lesion, so that although a systolic murmur is present, the affection may not be appreciated by the patient or by those about him; and yet there will be some embarrassment of the pulmonary circulation, which will be shown by a little shortness of breath on exertion, perhaps by an increase in the pulse rate, with more or less irregularity.

There may be also spitting of blood, for at this period the pulmonary vessels are all dilated and cause some bronchial catarrh. When compensation is fully established, it is mainly through the hypertrophy of the left ventricle, first, and lastly, of the right, and at this time the pulse will as a rule be slow, full, and regular. And compensation may last a long while with patients who are fortunate enough to combine both a knowledge of their condition and the ability to control adverse incidents.

With laboring men and those exposed to unusual vicissitudes there will necessarily be lapses, the breakdown at the end coming earlier; and yet during all this time the systolic murmur may continue to be loud, while its quality, whether rasping, filing, blowing, etc., or even musical, will depend upon the physical character of the orifice and adjacent parts.

In my opinion, however, organic insufficiency passes over eventually into stenosis or obstruction. Acute relative insufficiency is a temporary condition which will mend with rest and systematic treatment, while the forms that result from muscular weakness, as from the poisons of diphtheria, the continued fevers, and infections generally, faulty innervation or fatty degeneration, will improve synchronously with improvement of the conditions that produced them.

And yet in muscular insufficiency of the large heart, in day laborers, and in adherent pericardium,

there is little likelihood of compensation, because the condition that causes it is apt to be permanent.

Ruptures or lapses of compensation are ushered in by relaxation of the ventricular walls, causing venous congestion first of the pulmonary system and later of the systemic. At the end the systolic murmur grows faint and may even become inaudible, owing to the deficient force of the left ventricle. The second pulmonary sound also will become progressively weaker, owing to the yielding of the right ventricle.

Venous pulsation or certainly a wavy motion of the veins of the neck indicates giving way of the right ventricle. The surface becomes livid, there is palpitation, with a weak and intermittent pulse, the cardiac impulse becomes faint or disappears, the liver may be swollen and tender, and the urine scanty and albuminous. About this time dropsy may be expected and delirium cordis, and death is a natural sequence. Or death may result from asystole, though uræmia or pulmonary hæmorrhage may close the chapter.

Up to the period of breaking compensation, the three cardinal signs are: 1. A systolic murmur at the apex conveyed to the left. 2. Accentuation of the second pulmonary sound. 3. Increased transverse dullness of the heart. In and after breaking compensation, the diagnosis must be based on the previous history, because the abnormal transverse dullness may be the only one of the three cardinal physical signs left from which to construct a diagnosis.

If stenosis coexists, as it does in from 70 to 80 per cent. of the cases, we must expect a systolic thrill around about the apex in from 15 to 60 per cent. and a presystolic murmur in at least from 10 to 30 per cent. In children or young people there may be a bulging of the præcordia.

Mitral insufficiency is, as I have said, comparatively easy to diagnose in uncomplicated cases, as the following instance will show.

CASE I.—*Mitral and Tricuspid Insufficiency.*—L. A., a cabinetmaker, born in France, seventy years old, was admitted to hospital January 3, 1881. Eight days previously he was taken with shortness of breath, wheezing, slight cough, and spitting of blood. Soon his legs began to swell. On examination, fluid was found in the pleural cavity. Patient cyanotic; heart sounds indistinct. A few days later a mitral systolic murmur was made out, with increased heart dullness and diffuse heart beat. A cardiac murmur, loudest over the ensiform cartilage, was attributed to tricuspid regurgitation. Later some lung consolidation was made out. At the post-mortem the aortic and pulmonary valves were found normal, while the right cusp of the mitral was thick and contracted and bound up. Left auricle greatly dilated. Mitral admitted the tips of seven fingers. Valves of tricuspid thickened and

restricted in movement; weight of heart, 23 ounces. Both lungs contained red infarcts. Right chest full of serum; left chest nearly full. This case was examined by several of our best clinicians, the result being an absolutely correct diagnosis in essential particulars, the chief point of interest to us being that both the mitral and tricuspid lesions were noted.

But though mitral regurgitation is comparatively easy to diagnosticate, it is unsafe to pin our faith too exclusively on auscultatory murmurs. Often an aortic regurgitant murmur is conveyed to the apex and even, in extreme cases, to the angle of the scapula. To distinguish between the mitral obstructive and the aortic regurgitant, feel the carotid pulse and not the radial, which is later than the carotid; then carry your stethoscope by successive steps from the base to the apex, and you are certain to determine which is the first and which the second sound. It is possible that the murmur may come from a mitral obstruction or an aortic regurgitation, for they may be both produced in the same way, the current of blood in either case playing upon a mitral leaflet, but they are, of course, synchronous with diastole while mitral regurgitation is synchronous with systole.

W. S. Thayer (*American Journal of the Medical Sciences*, November 19, 1901, p. 538), from a study of 74 cases of aortic insufficiency at the Johns Hopkins Hospital, where the lesion was determined by post-mortem examinations, concludes that "in uncomplicated cases of aortic insufficiency a rumbling echoing, presystolic or mid-diastolic murmur, limited to the region of the apex," occurs in fully half these cases (*Medical Record*, January 18, 1902), from which it would appear that the value of the presystolic or diastolic murmur as a sign of mitral obstruction is not so great as has been held.

However, there are other signs of aortic disease, such as the "long heart" and Corrigan pulse and dilated aorta that assist in the diagnosis of aortic insufficiency while the aortic direct murmur is carried upward into the vessels of the neck.

But there are occasional functional murmurs at the apex that are affected by the position of the patient, whether he is upright or lies down. These, however, are not accompanied by an accentuated second pulmonary sound. They may be due to impoverished blood or muscular vibration. Owing to the extreme rarity of a tricuspid insufficiency (according to my records about 4 per cent.), it is very apt to be disregarded in practice. It is also much more difficult of diagnosis, because not only is the centre of the tricuspid area tolerably close to that of the mitral, but the two areas overlap to some extent. In uncomplicated cases of tricuspid insufficiency there is no accentuation of the second pulmonary sound, the systolic murmur is not con-

veyed to the left as much as it is to the right, and there is venous pulsation of the veins in the neck, with a dilated right heart.

In instances where there are merely fresh vegetations on the valves sufficient to cause very slight insufficiency, no murmur may exist. After all, mitral insufficiency is comparatively easy to determine, because the valve is to the left and behind. and as the murmur follows the regurgitant current which flows more or less backward as it goes upward, it is carried somewhat toward the angle of the scapula, and may also be heard in the axilla. If it is heard in both these places, the diagnosis is pretty certain. In fact, in my experience, the diagnosis of pure mitral insufficiency is made in three quarters of the cases. In the one quarter where no diagnosis is made by competent clinicians, the failure is probably irremediable with our present diagnostic resources.

Original Communications.

NEW APPARATUS FOR THERAPEUTIC APPLICATIONS OF THE ROENTGEN RAY TO THE LARYNX, TONGUE, RECTUM, PROSTATE, CERVIX OF UTERUS, VAGINA, ETC.

By E. W. CALDWELL, B. S.,

NEW YORK,

DIRECTOR OF THE EDWARD N. GIBBS X-RAY LABORATORY
UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL
COLLEGE.

It has been noticed that the x ray, when used as a therapeutic agent, is most effective when the part under treatment is superficial or so situated that the rays can reach it directly without first passing through intervening healthy tissue. It is possible that such healthy tissue may not only absorb those particular radiations which are most useful, and thus prevent them from reaching the diseased parts, but because of this absorption it may itself become the seat of unpleasant or even dangerous inflammatory processes with an amount of exposure which is not great enough to produce the quickest and best results upon the deeper parts under treatment.

A few cases of malignant growths of the larynx which have been treated by applying x rays through the side of the neck have come under my observation.

In all of these cases the improvement has been exceedingly slow and the best results were obtained when the exposures were such as to cause a more or less unpleasant dermatitis on the neck.

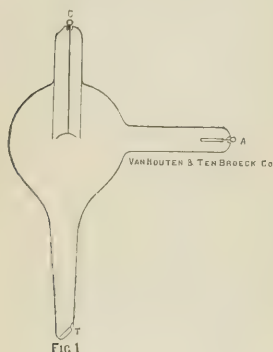
I have therefore devised some apparatus which may be placed in the mouth in such a position that

the x rays will be thrown directly upon the larynx.

The essential part of the apparatus is a new type of x ray tube, two forms of which are shown in Fig. 1 and Fig. 2. In these tubes the target is placed not within the spherical part as usual, but at the end of a tubular projection from it.

The cathode is placed just within a tubular prolongation which extends nearly to the center of the spherical part.

In the tube shown at Fig 1, the target is completely insulated and the anode, *A*, is placed at the



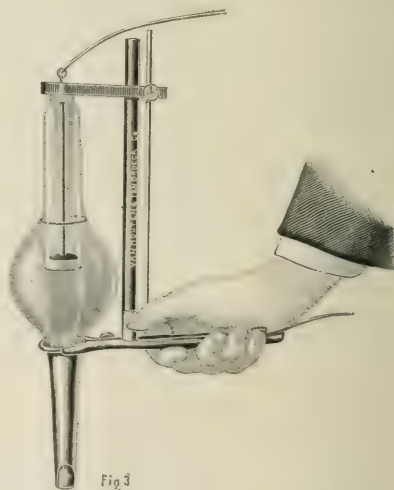
end of a third tubular projection from the spherical part.

If the positive terminal of the exciting machine is connected to a ground wire the tubular projection carrying the anode may be used as a handle and no shock will be felt either by the operator or the patient, when the machine is in operation. This form of tube may be used without any special device for holding it, and the tubular projection carrying the target may be readily introduced through any of the common forms of vaginal and rectal specula, for applying the rays directly to the cervix, the vagina, the rectum, or the prostate gland through the rectum. Since the outer surface is of smooth glass, it may be easily cleaned and sterilized and it might even be inserted through an artificial sinus in the abdominal wall for applying the rays directly to advanced malignant growths of the viscera. When it is to be used in the mouth it is well to have the glass flattened behind the target. This enables the target to be brought very close to the soft palate and in just about the same position occupied by a laryngoscopic mirror. It is obvious that with the target in this position the rays will fall directly upon every part that can be seen in such a mirror. The tube shown at Fig. 2 is similar in appearance to the first one, but the target is provided with a connecting wire extending through the glass and may therefore be made the anode. With this form

of the tube it is desirable to use the shield and handle shown in Fig. 3. The shield is a tubular hood of sheet metal which slips over the projection carrying the target and performs several important functions. It protects the glass against breakage; it contains an aperture through which the x rays pass and therefore limits the area exposed to their action, and finally it makes contact with the connecting wire of the target and completes the electrical connection between the target and the handle, which is, of course, connected to the positive terminal of the exciting machine and to ground.

The metal handle also shown in Fig. 3 supports the shield and the tube and is provided with a switch so placed that it can be operated by the thumb, and arranged to ground the negative wire, thus short circuiting the tube, stopping the x ray, and, at the same time, making both wires safe to handle even while the exciting apparatus is in operation.

If a strong exciting current be used, the target ends of these tubes very quickly become hot. However it should be remembered that, with these tubes the source of x ray is brought five or ten times closer to the part under treatment, than is possible with the ordinary x ray tube. Now since the effect of



the rays decreases approximately as the square of the distance from their source, these tubes, with a given excitation, should have about twenty-five to one hundred times the effect of an ordinary tube, hence it is not necessary to use a strong exciting current or to make long exposures with them.

If an induction coil is used with this apparatus a series spark gap of one or two inches should be included in the circuit in order to prevent short circuiting the secondary winding of the coil when the

tube is short circuited by the switch at the handle.

Apparently the static machine produces less heating than the induction coil, for a given output of x ray, and it is therefore perhaps better adapted for exciting these tubes. A very small machine is best.

The above-described apparatus is a part of the equipment of the Edward N. Gibbs X-Ray Laboratory, University and Bellevue Hospital Medical College.

It has not yet been used enough to warrant any statement as to its efficacy, but enough has been done to demonstrate that such tubes may be operated satisfactorily. It is hoped that they may be of value to those who are using the x ray as a therapeutic agent.

A CASE OF PELIOSIS RHEUMATICA.

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It is some years since Schönlein described a type of purpura hæmorrhagica which he believed to be due to rheumatism. Considerable discussion has been indulged in since that time, in reference to the question of giving an independent position to this affection, which he denominated peliosis rheumatica. The writer has previously reported three^{1,2} cases which were undeniably rheumatic purpura. The following case is so clearly of the same type that he feels that it should be placed in the literature.

Miss F., aged twenty-four, American born, hat bleacher by occupation. She has a fairly good family history; the father is living at the age of sixty-two, and although somewhat broken-down by hard work, is still quite an active man; the mother died three years ago from pneumonia; she has two sisters and one brother living, all of whom are healthy people. She suffered from the usual diseases of childhood, but was never seriously sick until her ninth year, when she was attacked by a severe polyarticular rheumatism from which she recovered in the course of two or three months. She evidently had some endocarditis at that time and possibly a pericardial effusion, since she gives a history of being unable to lie down in bed for two or three weeks. About four months following her rheumatism she suffered from chorea, which persisted more or less until she was seventeen years of age. About two years after the disappearance of the chorea she began to suffer from attacks of giddiness and partial loss of consciousness, which were undoubtedly epileptic in character and representing a true *petit mal*. These attacks have per-

sisted with more or less frequency (from two to twelve a year) up to the present time. Five years ago she had one severe convulsion, during which she frothed at the mouth, bit her tongue, and was unconscious for over half an hour. Her attacks nearly always occur while walking about and usually when on the street. She will be seized by a fear of falling, and if she is walking with any one will take hold of the person, or if alone will take hold of a fence or building for the few seconds that are necessary for her to recover her pose. Although I was the family physician for a period of over eleven years, she has never been under my care but twice preceding her present illness, and each time for an acute attack of amygdalitis, which I believe to be rheumatic in origin. I am not referring at present, however, to the various times that she has been to my office on account of her epilepsy.

About two weeks ago I was called to see her and found her in bed, complaining of sore throat and pain in the left chest, with a temperature of 102° F., and presenting a purpuric eruption beginning on the outer side of the left ankle and extending upward to disappear midway between its origin and the knee. Another patch of purpura was present on the outer side of the left thigh just above the knee. There was no elevation or itching of the eruption. There was some slight enlargement of the inguinal glands and also of the postcervicals. Auscultation of the chest revealed no particular reason for the pain complained of, but disclosed the presence of an insufficient mitral valve, which probably dated from her former attack of rheumatism. She also complained of considerable pain in the left knee and ankle, the latter of which was slightly swollen. The tonsils were swollen and the fauces of a bluish red.

Believing her ailment to be rheumatic, she was ordered ten grains of salicylate of sodium, to be repeated every two hours. Within two days her chest pains were markedly benefited and the pains in the joints had disappeared. The purpura remained the same. A week later she was very much better, but refused the salicylate of sodium because it produced nausea. Four days later she was attacked by a violent pain in the right knee and ankle, which became markedly swollen in the course of twenty-four hours, and examination at this time disclosed a further eruption of a purpuric rash composed of rather large spots which enveloped the right leg and ankle to above the knee. The larger and brighter spots appeared near the joints and were more marked on the outer aspect of the limb. She again attempted to take the salicylate of sodium, but was unable to retain it. She was given seven and one half grains of salophen every two hours; under its influence the swelling disappeared in less than a week, and the purpura gradually faded until it looked like dirty brown spots under the skin. Her general condition was much improved, her appetite was better, and the tongue was less furred. Examination of the blood revealed no changes worth remarking. The urine was acid, high-colored, and of high specific gravity. The bowels were persistently constipated.

¹ International Medical Magazine, January 15, 1898.

² Medicine, June, 1899.

The literature of rheumatic purpura is quite large

and has received a number of accretions during the last two or three years in the way of case reports, but nothing has been developed in reference to its pathology. To this case report it seems desirable to append a short digest of the subject, with some references which were published in connection with one of the cases mentioned in the opening paragraph.

"According to Kaposi (1), a succession of relapses extending over some time is accompanied by nephritis or an organic heart lesion; he has reported two cases that gradually developed aortic insufficiency. Kinnicutt (2), Mollière (3), and others have detected cardiac murmurs during the course of peliosis rheumatica. Oliver (4) believes in the association of rheumatic purpura and ulcerative endocarditis, and the writer has twice observed purpuric eruptions about the chest in ulcerative endocarditis, although no clear history of rheumatic complication was obtainable in either case.

"On the other hand, Immermann (5), Atkinson (6), Osler (7), and others assert that this form of purpura is not complicated by endocarditis; and this case has been under my care for nearly four years without a sign of cardiac disturbance, and repeated search has failed to discover casts, albumin, or blood in the urine.

"Schönlein declared the disease to be hæmorrhagic in character, accompanied by extravasations into the cutaneous layers without internal hæmorrhages; and, as before remarked, this case at no time presented evidence of internal hæmorrhage.

"Kaposi (8) and Neumann have observed cases that manifested a pronounced tendency to recur annually, spring and autumn being the usual seasons for the outbreaks. The case reported certainly shows this tendency. Kaposi (9) mentions that severe bleeding from the gums has been observed, and Scheby-Busch (10) says that bleeding from the mucous membranes occasionally occurs."

References.

1. *Hautkrankheiten*, 1889, p. 277.
2. Kinnicutt, *Archives of Dermatology*, vol. i, p. 193, 1874-'5.
3. Mollière, *Annales de dermatologie*, v, p. 44.
4. Oliver, *International Clinics*, January, 1892, p. 12.
5. Immermann, von Ziemssen's *Cyclopædia of the Practice of Medicine*, vol. xvii, p. 247.
6. Atkinson, *Pepper's System of Medicine*, vol. ii, p. 189.
7. Osler, *Handbook of Practice*, p. 345.
8. Kaposi, *loc. cit.*
9. Kaposi, *loc. cit.*
10. Scheby-Busch, *Deutsches Archiv für Medicin*, B. xiv, p. 490.

612 PROSPECT STREET.

OTITIS MEDIA PURULENTA TREATED BY THE DRY METHOD.

By F. W. DAVIS, M. D.,

CINCINNATI.

To physicians who have not tested the dry method of treating purulent middle ear inflammations the following remarks may be of interest. The natural resistance of the mucous membrane lining the tympanic cavity to micro-organisms is very great, and if drainage is effectually established recovery from disease is very rapid. Dryness is as fatal to most germs as strong chemical antiseptics, and in no way can the tympanic cavity be kept dry so effectually as by gauze drainage. While many cases of purulent middle ear disease end in recovery by the use of watery injections, etc., yet after a thorough trial of dry cleansing and gauze drainage, the writer believes the latter course to be more effectual in all cases whether acute or chronic.

The only objection to its use is that it requires a little more skill than simple syringing and powder-blowing, and the physician unfamiliar with the anatomy of the parts will find it difficult to accomplish. The discharge should be thoroughly wiped away with the cotton-carrier, exposing the drum, perforation or the tympanic cavity if the drum is destroyed. In the latter case the cotton-carrier can be introduced into the middle ear, and cleans it of all secretion. A narrow strip of dry gauze should now be introduced through a speculum and the canal loosely packed to the meatus. This should be allowed to remain until soaked with the discharge, whether it takes one or twenty-four hours. It should then be removed and a piece of dry cotton placed in the meatus and left until the next packing. The packing should usually be done twice daily in acute cases; in chronic cases once daily is usually sufficient. No antiseptics or other medicaments are necessary. Plain sterile gauze is used. In chronic cases, where the discharge is offensive, a few instillations of boric acid in alcohol before each packing correct the factor. The alcohol aids the treatment by its drying action, and the boric acid stimulates the membrane to healthy action. The draining away of the discharges accomplishes cures more rapidly than any other method, is agreeable to the patient, and keeps him under the direct care of the physician. The writer believes that there are very few cases that will not yield to this treatment. The following cases taken from a large number in which the treatment has been successful, will serve to show its value.

Walter E., aged twelve. Otitis media purulenta, both ears, of nine years' duration. Drum membranes about half destroyed, hearing greatly im-

paired, and discharge offensive. After eight days of dry treatment the discharge stopped and hearing was greatly improved. Three months later he has shown no return of the trouble.

Wilber S., aged five. Acute purulent otitis media of the left ear. The discharge stopped and the small perforation healed after five treatments.

Louis S., aged fourteen. Purulent middle ear disease, following scarlet fever, of ten years' duration. Left ear affected. Hearing impaired. Patient discharged as well in thirty days.

408 BROADWAY.

ELECTRIC LIGHT IN DISEASES OF THE RESPIRATORY ORGANS.*

By W. FREUDENTHAL, M. D.,

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The study of the wonderful physical and chemical effects of certain rays of light has led to a number of remarkable inventions, some of which have been known to us only a very few years. No wonder that this has brought nearer to the mind of the investigator the idea of applying these rays as remedies for pathological conditions of the human system. The ease with which the application of these rays is acquired has, alas! brought the whole matter too quickly into the hands of unscrupulous physicians and quacks and—into discredit. Instead of quietly awaiting the results that could be reasonably expected of this method, it has been lauded to the skies by newspapers all over Germany, and now the yellow press of our metropolis has taken hold of it in the same harmful manner. In spite of all, this new branch of our science is destined to gain a permanent place in our therapy. Already there has been established a chair for this branch of medicine at the University of Berlin, the incumbent of which is Professor Lesser. In Copenhagen it was Finsen who received very deservedly the assistance of his government, and in most other capitals of Europe light is being investigated and experimented with in a scientific manner. I, therefore, consider it a great privilege to discuss this topic before this learned society to-day. Let us consider first—

The Physiological Effects of Electric Light.—In a previous paper I discussed the physical and chemical effects of light on the animal system, and in this connection I drew attention to the experiments made by Bergel. This author had studied the effect of light and darkness upon the movement of the ciliated corpuscles, proceeding in the following manner: He put the microscope into a dark cabinet, which was placed upon the observation table. The cabinet was perfectly closed, with the exception of two openings. The one, when illuminated, was for

the observer, but could be darkened by means of curtains when it was desired to shut the light off. Just opposite the microscope was another opening, which could be exposed to direct sunlight or closed, as desired. Now, if a ciliated corpuscle in motion was placed under the microscope, and the latter darkened, it could be seen on inspection after a while that the motion of the corpuscle grew slower and slower, and finally ceased. The more rapid the vibration before the withdrawal of light the longer the period of activity of the corpuscle in the darkness until it became motionless, and, *vice versa*, the slower and weaker the vibration of the cilia the shorter the time up to the cessation of all motion.

When a corpuscle that had been kept in the dark, showing no motion whatever, was exposed to bright daylight again, the oscillation recommenced after a latent period, depending upon the duration of the exposure to darkness. The longer the corpuscle remained in the dark after it had become motionless the longer it continued in a quiescent state until the resumption of oscillation. This could be repeated several times, but soon a sort of fatigue was noticed in the corpuscle. This showed itself also when the corpuscle was kept too long in the dark.

Do not let us forget these facts, as they will help us to understand the effect which light exerts on some diseases of the upper and lower respiratory tract. But light produces more than this. It exerts directly and indirectly a great influence on the metabolism of the whole system when applied to the skin, and in that way it can be advantageously utilized in some constitutional diseases. In the beginning of my experiments with the arc light it was the prevailing view that all rays of light penetrated into the deeper tissues. I hoped in that way, for example, to be able to attack tuberculosis of the lungs, thus destroying perhaps directly the tubercle bacilli by the violet and ultra-violet rays, which, as you know, have the most marked bactericidal power. Now, in applying phototherapy the skin is very nicely transilluminated, but the ultra-violet rays barely penetrate the epidermis, and even when applied in concentrated form do not pass deeper, according to Strebel. The blue and violet rays, which are also bactericidal, are absorbed in the first thick layers of the bloodvessels of the thoracic wall, while red and ultra-red permeate the cutis and pass into the deeper tissues. Those structures which are relatively diaphanous for certain rays allow them to pass through even thick layers, as, for example, the mass of muscles of the chest. According to Strebel,¹ of Munich, the penetration of these rays must be necessarily accompanied by a modification in the motion of the waves—a temporary arrest. Light

*Read before the eighth annual meeting of the American Laryngological, Rhinological, and Otological Society, held at Washington, D. C., June 2, 3, and 4, 1902.

¹ Die bisherigen Leistungen der Lichttherapie. *Berliner Klinik* February, 1902.

is converted into heat waves, and perhaps even into long electrical waves. The transilluminated skin becomes translucent and appears of a brilliant red, and is therefore in a different state than ordinarily. That such a permeation of light cannot be without influence upon the molecular state of the tissues and their functions is easily understood. Direct action upon the chemical processes and stimulation of the functions of the tissues and protoplasm in a reflex manner are the consequences of the exposure to light.

How we may utilize these facts for our purposes we shall see later on in the therapeutic part of this paper.

By direct experiments the effect of the ultra-violet rays had also been determined. After it had become known that cultures of tubercle bacilli were destroyed by the sunlight (R. Koch), it was found that the arc light contained more ultra-violet, *i. e.*, bactericidal, rays than even the sun, and was therefore tested with equal or even better results. We then learned through the experiments of Geisler, Deudonné, and Buchner that the growth of the bacillus of typhoid fever was hindered by light, and Kitasato proved that the bacillus of bubonic plague was killed within three or four hours after exposure to light. After all this and more regarding other infectious germs had been demonstrated, Esmarch tested the disinfecting power of the sunlight by exposing to its direct rays different household materials, such as bed coverings, pillows, etc., all of which had been infected with pure cultures of bacteria. The result was that in the superficial layers the bacteria were destroyed after a few hours, while those deeper down were very little or not at all affected, even when subjected to the sunlight for a number of days. Practically the same results have been obtained when electric light has been applied as a bactericidal agent to the deeper parts of the organism, *i. e.*, nil. But the electric light has other properties to which I will now refer, and which are of the greatest value to us. First, its effect on the skin. The skin is an exceedingly important organ in metabolism, and its functions are neglected more than those of any other organ I know of. It supplements the functions of the kidneys and lungs and is most important in eliminating poisonous products of metabolism through its glands. Now, if arc light or sunlight is applied to the skin, its metabolism will be increased immensely, and indirectly at the same time that of the deeper organs as well. We have to consider, therefore, light as a powerful stimulant and regulator of general nutrition. Electric light has furthermore a very marked *anæsthetic* effect on the skin and those "inner" parts which can be reached by it. Dr. A. V. Minine found that blue light produced an anæmia of the parts exposed, and

that he was "able to dispense with cocaine when suturing wounds, incising abscesses, and for smaller operations." I have not tried it in such cases, but have found that pain between the shoulder blades, etc., in consumptives, was occasionally and sometimes very promptly relieved by the arc light. Pain in the larynx has also been relieved, as we shall see later on. We come now to the—

Therapeutic Action of the Electric Light.—In speaking of the action of the electric rays of light we have to distinguish between the incandescent lamp and the arc light. While the incandescent lamp is nowadays used principally for its sudoriferous effect, the arc light is applied for the reasons set forth above. Dr. J. H. Kellogg, of Battle Creek, Mich., was the first to construct and employ an apparatus for applying incandescent light to the whole body. The difficulties encountered in using the sun bath led him to the study of the electric light as a substitute for sunlight. In 1894 he presented² a description of a new method of applying heat to the body in which the incandescent electric light was utilized as a source of heat. Afterward the study of this was taken up by Willibald Gebhardt, of Berlin, E. Below, Kattenbracker, Strebel, Winternitz, of Vienna, and others. I commenced its study perhaps earlier than any of these gentlemen, without, however, formulating a definite method. Although I felt that we had in the electric light a powerful agent, I could not exactly say in what manner it worked. As early as 1889 I applied incandescent light to the larynx. How I came to use it and the other particulars you will find in my paper on Electric Light, etc.³ Since 1889 electric light has been almost uninterruptedly one of my favorite applications in tuberculous laryngitis. The effect has usually been soothing and the patients have liked it very much. Of late, however, I have become convinced that the arc light is preferable even for the larynx.

There are various apparatuses in the market, which are supposed to serve the same purpose. At the Montefiore Home I have used the so-called actinolite, but in my office an ordinary search light, the same as is used on board ships, is employed. This has been modified now and is called electro arc chromolume, but I prefer the old style. As in my practice cases of lupus are very rare, I have not applied Finsen's apparatus, which is not only very expensive, but theoretically wrong. Finsen has but one source of light, (*i. e.*, one arc light) with which he treats four patients at the same time. Each patient would therefore at best receive only one fourth of one arc light if it were not that a certain amount of rays was lost in the interspaces between the tubes.

² Kellogg's *Review of Therapeutics*. Philadelphia, 1901, p. 175.

³ *Med. Review*, Oct. 25, 1900.

Thus the amount of light for each patient is surely not more than he would receive from an ordinary search light with much less ampère. By these remarks I do not seek to detract one iota from the credit which Professor Finsen so justly deserves, but I write this for scientific purposes and not for flattery. To overcome the great heat produced by the electric light, various devices have been published: lenses, glass screens, running water, etc. The trouble is that they all absorb a certain amount of rays which we cannot afford to lose. We need them all. Even the red rays, which penetrate deepest into the tissues, have some bactericidal power. A glass screen is a very simple matter, but unfortunately glass absorbs particularly the ultra-violet rays. I have found it best to keep on hand pieces of linen on ice, with which the exposed parts are quickly washed as soon as they become hot. Besides, I let the patient turn around slowly in his chair and successively expose the different parts of the chest or larynx to the light. In that way my patients have the benefit of *all* the rays of the arc light, which I consider most advantageous, and they can stand the exposure easily for thirty minutes or longer. Still, for some patients I use the blue glass screen at the beginning of my treatment.

Let us now discuss some of the diseases treated in this way and the results obtained.

I. *Tuberculosis*.—As my first experience with the electric light treatment was in tuberculosis of the larynx, I shall take this up first. The most important symptom which we are called upon to relieve in these cases is dysphagia. You know very well that there are at our disposal a number of remedies with which to combat it. And I will say here that I am to-day just as enthusiastic about the menthol-orthoform emulsion as I was a few years ago. Still, there are ulcerative processes which we cannot reach by any of the customary means. Thus, for example, in a recent post-mortem at the Montefiore Home I observed extensive ulcerations on the laryngeal side of the epiglottis. On account of the occurrence of laryngeal stenosis, the man had been tracheotomized, and when I examined him afterward the epiglottis covered almost the entire entrance of the larynx. It was perfectly flat, so that its laryngeal side could not be seen at all. The patient had tuberculosis of both apices, though not far advanced, and suffered from excruciating pains in the larynx which no drug could relieve. A removal of the entire epiglottis might perhaps have relieved him, but he refused all further operations. As a last resort I tried electric light, and that was the only thing that relieved him *somewhat*. He at least could take some food. Very soon, however, he became too weak to be taken to the room for treatment and died of inanition.

Another case is that of M. S., the history of which I published in part in the *Journal of Tuberculosis*.⁴ I gave at that time the following interesting history:—

"M. S., twenty-three years of age, newsdealer. He became sick a year and a half ago, when he commenced to cough and had 'trouble with the throat.' He went to a clinic, where he was operated on. Nothing further could be elicited from him. On examination, I found a tumor-like infiltration on the right ventricular band. He had dyspnoea, which he attributed to the condition of his lungs. I removed the infiltrated parts and he immediately told me that he could breathe more freely. Although the patient was in an advanced stage of pulmonary tuberculosis, he stood the curettage very easily. In fact, he hardly felt that I was operating on him. There was no loss of blood to speak of, no rise in his temperature, and he felt as comfortable as could be expected. Two weeks later, however, he had a hæmorrhage and fever up to 102.5°. When I examined him again, six days later, at which time he had recovered, I found that there was a recurrence of the infiltration. At the end of another week this had reached the same dimensions as before. I operated again, and now, *i. e.*, three weeks later, the patient feels well and so far there is no visible recurrence. How long this will last is naturally uncertain. Although the hæmorrhage occurring after the first curetting might have been a mere coincidence, still there is a possibility that a new active process had started within the lungs right after my surgical intervention. I have observed another case where the same thing happened, hæmorrhage, high fever, etc. We ought to keep this in mind before resorting to operations. But this is only apropos.

I made the above remarks on February 3rd, and to-day, May 15th, both sides of the larynx again show large infiltrations. Early in March he was seized with pain in the throat, owing most likely to ulcerations below the glottis. Not being able to relieve him otherwise, I began the use of the electric light in the following manner:

March 4th, exposure to throat 10 minutes.			Feels slightly easier while under treatment.
March 7th, " " 10 "	10	"	"
March 8th, " " 12 "	12	"	"
March 9th, " " 15 "	15	"	"
March 11th, " " 20 "	20	"	Had marked pain yesterday, but feels much relieved during and after exposure.
March 12th, " " 25 "	25	"	"
March 14th, " " 30 "	30	"	"

From the 15th on he was exposed regularly five times a week and he feels much easier. I shall continue with that treatment and watch further developments. There is no influence of the electric light treatment visible on the infiltrations in the larynx. These two cases, therefore, show some results from the electric light treatment which are due solely to this and to nothing else.

But, gentlemen, it is impossible to speak of tuberculosis of the larynx without referring to that of the lungs. Although we are assembled here as laryngologists, we cannot in cases of general systemic

⁴ Operative Intervention in Laryngeal Tuberculosis. *Journal of Tuberculosis*, April, 1902.

diseases limit ourselves to the larynx alone. In tuberculosis of the latter we have to treat the lungs as well, just as we have to treat the general syphilis when we have a case of specific affection of the nose or the throat. I therefore subjected the lungs of these patients as well as the larynx to the electric light, and here we have to ask ourselves again, What can we expect from the electric light in tuberculosis of the lungs? Let me say at the start that I have applied this method for over three years, but I do not believe I have cured one single case of advanced tuberculosis by it alone. Still, shall we throw it aside as useless? Surely not. You have not cured one case of tuberculosis by morphine or heroin or hydrotherapy alone, and nevertheless you employ them constantly, often to great advantage. The electric light has come to stay, and it will stay in the treatment of tuberculosis as an auxiliary to other measures. When we consider that the thorax is transilluminated over its entire extent, it will be evident that the skin of this region will be stimulated to renewed activity and that this will be followed by an increase of the general metabolism. In other words, it will augment nutrition by promoting the appetite, by relief of sleeplessness, nervous irritability, etc. Says Strebel: "The good influence of electric light on the strength and nutrition of the tuberculous, if not too much reduced and debilitated, seems, according to my experience, incontestable." This has been the writer's experience as well. In this particular respect electric light stands on the same level as hydrotherapy. Kellogg, in his excellent text-book on *Hydrotherapy*, was the first one to grasp this idea and to discuss both questions. They belong together. Now, it will depend upon the individuality of the patient, upon his strength, and upon the mode of infection (mixed or not), whether in one case we apply a wet pack or douche and in the other case electric light or even sunlight. What is good for one may be poison for the next. In several cases I have noticed that electric light reduced the high temperature for a few hours, just as a sponge bath or a full bath would have done. But I am not prepared to attribute this to the electric light alone. Perhaps we could obtain the same effect by exposing a patient naked or half-naked to the surrounding atmosphere. If, in all these respects, electric light stands on the same level with hydrotherapy, there are two points in which it is far superior, viz.: 1. It removes the pain more promptly. 2. It facilitates expectoration. I have spoken of the first point above, and will only say here that pains in any part of the chest and larynx, from different causes, were relieved very promptly by electric light. Naturally, as long as the original disease was not removed, they returned. As to the second point, I have to remind

you, once more, of the experiments by Bergel. When he exposed a ciliated corpuscle that had been in the dark and inactive to bright daylight, it commenced to oscillate again. In our cases the ciliated corpuscles are inactive because the bronchi are filled with a mass of secretion, etc.

It requires an extraordinary stimulus to make these corpuscles move again. This stimulus is brought about by the arc light, which penetrates into the deepest bronchioli, thus exercising a direct influence upon the ciliated epithelia. Under this influence they resume their work. In other words, they again oscillate and carry the secretions to the upper parts, from which they can be expectorated easily. The patients will tell you that they now are capable of bringing up one or more "big lumps" and consequently feel relieved for a time. I remember one patient who was driven to my office daily up to two days before her death in spite of high fever, etc., as she always felt so much easier after exposure to the electric light. She could expectorate better and had less pain and less fever. In incipient cases you may bring about a cure by these means. I believe that some of my cases have been cured in that way, but in advanced tuberculosis electric light is only a palliative measure of occasionally great value. This difference was clearly shown between my private patients and those of the Montefiore Home. In my private practice I mostly treated early cases, while at the Montefiore Home the majority were far advanced and bedridden. The results varied accordingly. Allow me to give you a few histories:

CASE I.—A. R., twenty-four years of age, a drummer, came to me September 6, 1900. He had been well up to a week before, when he caught a severe cold. Since that time he had had intense pain in the throat, more so at night; could not swallow food, although he was hungry. He admitted he might have had a slight rheumatic attack before. The examination showed an acute amygdalitis sinistra and ulceration in the left fossa glosso epiglottica, both of which I attributed to rheumatism. In a few days the ulcer disappeared under salicylate of sodium and local astringents, and so did to some degree the pain. But very soon he felt it again, "farther up." The left tonsil was more swollen and sensitive to the touch.

September 10th.—Tonsil more swollen, no abscess; oedema of the uvula and neighboring parts on the left side. Severe pain. I applied electric light for forty-five minutes to the left side of the throat, with the result that for the first time in two weeks the patient slept well.

September 11th.—Oedema has disappeared, the tonsil is much less swollen and much less sensitive, and he feels comfortable.

September 20th.—Says he does not regain his strength. Has some pain over the chest. On examination, I found some râles over the left clavicle and

teriorily, bronchial expiration and tubercle bacilli in the sputum. I treated him daily with electric light for about five weeks, when all the symptoms had disappeared. He went back to business and has been in good health since.

In this case the effect of the electric light application to the tonsil and uvula was simply remarkable, and the patient did not know how to thank me enough for it. These primary conditions, however, were, as I believed, of a rheumatic nature, although the pain was very great. When, later on, tuberculosis had developed, we could not effect the cure "over night," as in the beginning, but the result, nevertheless, was extremely gratifying.

CASE II.—Miss M., seventeen years old, was sent to me from Pennsylvania. She had been hoarse for a year, coughed occasionally, had night sweats, no appetite, and often felt dizzy. She was very anæmic, which showed itself especially in the pharynx and epiglottis, while the other parts of the larynx were rather congested and partly thickened (infiltrations?). The lungs showed dulness over both clavicles, more marked on the left side, slight râles anteriorly and posteriorly, and bronchial breathing over the left clavicle. Besides, there were hypertrophies in the nose, which were removed. The sputum could not be examined, as she raised none, but there was no doubt that we had to deal here with a case of tuberculosis. She remained in this city from April 25, to July 5, 1900, after which time she went to the mountains. The symptoms gradually disappeared, there were no râles, breathing was vesicular, there was no rise of temperature or night sweats, when she was discharged. The larynx was still congested, and her appetite had not improved so much as we had hoped for. I hear, though, that she has been well since. In this case of incipient phthisis a "cure" was also effected, so far as we can speak of a cure in such cases, and this was mostly due to electric light.

Of great interest is the following case:

CASE III.—Mrs. Z., aged thirty-four, consulted me first on January 25, 1901. She had had pleurisy twelve years before, from which she recovered entirely. Two years before another attack of pleurisy came on, and since then she had been ill. A year before she became hoarse, but improved after a stay at Liberty, N. Y. Eight months later, while still at Liberty, she became hoarse again and remained so. Her throat felt "raw." She had pain and dysphagia, profuse night sweats, and rise of temperature for the preceding ten days (in the morning, 100° F.; at 1 p. m., 103° ; and at 8 p. m., 102°). No signs of lues. On examination, I found glandular swellings of the neck, more pronounced on the right side. The right vocal cord was ulcerated, and on the left arytenoid there was an infiltration which had the appearance of a polypus.

Lungs: Dulness over the left side almost to the heart, and coarse râles and bronchial breathing. Right anteriorly, dulness over the apex, bronchial breathing, and coarse râles. Left posteriorly, dulness down to the bifurcation, less markedly on the right side. I injected the menthol-orthoform emulsion and exposed her to the electric light. She soon

felt easier in the throat, although her whole condition was getting worse. I noticed, however, a remarkable change in her temperatures; for several hours after exposure to the electric light it went down two degrees or more. While she formerly had had her highest temperature at one p. m., it was now almost normal at that hour.

It ranged in the following way:

February 4th, temp., 8 a. m., 101° —exposure to electric light at 11 a. m.; temp., 1 p. m., 101° ; temp., 8 p. m., 103.6° .

February 5th, temp., 8 a. m., 101° —exposure to electric light at 11 a. m.; temp., 1 p. m., 100° ; temp., 8 p. m., 103° .

February 6th, temp., 8 a. m., 102° —exposure to electric light at 11.30 a. m.; temp., 1 p. m., 100° ; temp., 8 p. m., 103° .

(About the same conditions up to the 9th.)

February 10th, temp., 8 a. m., 102° —exposure to electric light at 10.45 a. m.; temp., 1 p. m., 99.4° ; temp., 8 p. m., 102° .

February 11th, temp., 8 a. m., 100° —exposure to electric light at 11 a. m.; temp., 1 p. m., 98° ; temp., 8 p. m., 102° .

February 12th, temp., 8 a. m., 101° —exposure to electric light at 11 a. m.; temp., 1 p. m., 99° ; temp., 8 p. m., 102° .

February 13th, temp., 8 a. m., 101° —exposure to electric light at 11 a. m.; temp., 1 p. m., 100° ; temp., 8 p. m., 103° .

She remained about the same for three weeks, after which she sank rapidly. Her morning temperature ranged between 102° and 103° F. In spite of this she was driven almost daily to my office, although it was extremely difficult for her to get out of bed. But she persisted in coming, as she always felt so much easier for hours afterward. She visited me up to the 14th of March, when she was no longer able to leave her bed, and two days later exitus letalis occurred.

The following case is also interesting from various points of view.

CASE IV.—I. B., nineteen years old, had not done any work for the preceding three years, during which time he had resided in Denver. A few days before, he returned from that place, on account of "terrible" pain in his throat. For two months he had not been able to eat well, and for a week he had hardly been able to eat anything at all. He could not swallow even a drop of cold water. Examination showed advanced tuberculosis of the lungs, a small cavity in the left lung, a large ulcer of the left tonsil and left arytenoepiglottic fold. I applied menthol-orthoform emulsion, but he did not feel easier the next morning, November 15, 1900. On that day I applied the same emulsion to the larynx and afterward the orthoform alone to the tonsil. But I used the precaution to let him bend over his head to the left, so that the orthoform could remain on the tonsil. The result was such as I had seen frequently before. He could eat and drink for four hours and a half afterward. The next day I commenced with electric light treatment. Although I treated him almost daily from November 16, 1900, to January 3, 1901, the electric light had absolutely no effect in cicatrizing the ulcers or diminishing the dysphagia. In spite of the most careful treatment the ulcers

grew larger, a new one developed on the same side in the retropharynx and another one on the right tonsil. Orthoform always removed the dysphagia, and when I left it off he could not swallow. Still, although he was well aware of that fact, he asked always for the electric light, as he felt very much easier in the chest after its application. And this patient, too, came to my office in spite of high temperature (102° and 103°) until four days before he died.

I have a long list of patients treated by me in the same way for tuberculosis of the throat and lungs. While by far the majority liked the treatment and asked for it, I can see in the electric light only an *adjutant to the host of other remedies at our disposal, an adjutant that is of great assistance to us in the management of some cases of tuberculosis.*

Hay Asthma.—As in these cases the neurotic element is almost invariably an important factor, the effect of the electric light treatment has been much more conspicuous. I have had patients come into my office with râles all over the chest, constant sneezing, etc., who left one half-hour later with no râles to be heard and a slight coryza only. A colleague of this city has told me that he has achieved the same results with the high tension current. I can understand that, since the rays from both sources are said to have very similar effects. Nevertheless, one of my patients came to me directly after he had been treated by another physician with static electricity in vain, and I was able to afford him the most marked relief immediately. Perhaps there is a good deal of suggestion in that treatment; but it makes no difference how we cure our patients, if we only cure them.

I generally apply electric light to the face indirectly, by letting the rays pass through a blue screen. The heat of the electric light in summer would be too intense to bear for any length of time on the face. I pursue the same plan on the chest if there is a necessity of applying it here. During the last two years I have treated twenty-four patients with hay fever. Out of these, fourteen experienced decided improvement in all respects very soon after the treatment was commenced. In some cases the profuse discharge from the nose, sneezing, and asthma were relieved right after the first exposure to light. All these fourteen patients could stay in the city and attend to their business, but of course had to come for treatment regularly. Six out of these fourteen were treated during two seasons, and it seemed as if all had much weaker attacks the second time than in the previous year. The rest of the patients, ten, improved but little or left treatment too soon to form an opinion.

The following will serve as an illustration:

Mr. C. K., aged thirty-five, manufacturer, came to me first on September 9, 1900. A year before he

was attacked for the first time by hay fever, and this year it commenced as early as August 6th, at noon (!) He had all the symptoms of this disease in a very aggravated form; sneezing, running of the nose and eyes, asthma, insomnia, loss of appetite, etc. I applied suprarenal extract to his nose and exposed him to the light, when he professed to feel like a new man. Besides, I gave him hydrochloric acid to take internally, and in two days he went to business again. I saw him every two or three days until the beginning of October, when he had no further trouble.

The good result in this case was so much the more remarkable, as this patient had been subjected to all sorts of treatment. He even saw a very prominent consulting internist in this city, who told him nothing could be done for hay fever patients! The following year I began treating him on July 16th, in order, if possible, to avoid a recurrence. We succeeded to a certain degree, as the symptoms were much less marked. Only from the 4th to the 7th of September he felt quite heavy. At other times he occasionally had slight sneezing and rattling in his chest, which reminded him that he was not as yet out of it entirely.

May this one case suffice for a series of others which showed similar, although not always such distinct results. After the foregoing, I consider myself justified in declaring the electric light treatment a most important factor in combating the symptoms of hay fever. Whether this is due merely or mostly to suggestion, I cannot say, but the symptoms of hay fever are so unpleasant and so annoying that we must try any remedy at our disposal to relieve them.

Gentlemen, in conclusion, allow me to say that it has taken sometimes all my courage to keep up these investigations as electric light has been brought into such great discredit. Whether all my observations and experiments, after all, will stand the test of time, I cannot foretell. Be this as it may, the fact remains that the study of light has already brought forth and will in future bring forth more beneficial effects, not only in the treatment of disease, but also in its prevention.

The Naval Medical School.—Orders issued by the Secretary of the Navy provide that the United States naval laboratory and department of instruction at New York shall hereafter be designated the United States Naval Laboratory. The United States Naval Museum of Hygiene at Washington will hereafter be known as the United States Naval Museum of Hygiene and Medical School. Assistant surgeons, as soon as practicable after admission to the navy, will be ordered to the United States Naval Museum of Hygiene and Medical School for such duty and instruction, under the rules and regulations prescribed by the surgeon general of the navy, as may be necessary to familiarize them with the duties of medical officers afloat and ashore.

TETANUS.

By KENNETH E. KELLOGG, M. D.,
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Tetanus is an infectious disease, caused by the entrance into the tissues of the bacillus of Nicolaier, commonly known as the tetanus bacillus, which was isolated, discovered, and studied by Nicolaier in the year 1885.

This infectious disease is a typical example of a true toxemia. The symptoms are caused solely by the intense toxine which is elaborated by, and thrown into the system from, the germ, which remains and proliferates at the seat of entrance. That the bacillus does not migrate and itself cause the intense constitutional symptoms has been proved by experiments of Kitasato and a number of other eminent and reliable investigators. Kitasato was unable to find the bacillus in the spinal marrow, the nerves, spleen, liver, lungs, kidneys, or blood from the heart, nor has he been able to obtain cultures from these organs of unmistakable tetanus.

The germ is one of the anaerobic class, which thrives and multiplies by sporing in places devoid of oxygen and is destroyed by exposure to this element. The spores are extremely tenacious and strongly resist various destructive agents. It is an interesting fact to note that the germ is rarely found in forests and woods, but more generally in open spaces and those where the soil is impregnated with garbage and refuse. Sternberg states that the germ is present more especially in the superficial layers of the soil, and is one of the most widely distributed of bacilli.

The germ exists more commonly in warm climates, and is found frequently among negroes and in military camps.

The bacillus *gains* entrance to the body through a penetrating, lacerated, punctured, or incised wound. Upon its entrance, the germ halts and there elaborates its virus, the so-called tetanic toxine.

This toxine is a most virulent one, only 1-124 of a grain of which will instantly kill. The poison is highly diffusive, spreading as it does along the lymphatic and blood channels, muscular planes, and perineural spaces. That this toxine is the one and only agent in the causation of the tetanic spasms is demonstrated by injections into animals of the germ-free toxine, which injection is followed by the characteristic spasms. On the other hand, animals which are inoculated with toxine-free bacilli without spores fail to exhibit these spasms. In experimentation, germ-free toxins are injected into animals, and these toxins produce immediate results.

The toxine itself can be greatly modified by admixture with various chemical agents, especially phenol, sodium salicylate, iodoform, and potassium permanganate, also by direct exposure to sunlight.

That the poison is actually present in the blood is again proved by Kitasato, who inoculated small quantities (3 cubic centimetres) of blood from the heart of a fresh cadaver. The animal died with characteristic tetanus symptoms. That this poison exists and circulates in the blood and lymph channels is dwelt upon at length; inasmuch as older authorities were of the opinion that the principal cause of the spasms was a distinct and definite irritation of the distal nerves, and amputation and excision were freely practised. The bacillus itself is a long, slender rod with rounded ends. One end contains the spore. It is one of the saprogenic class.

Regarding the pathology, as is well known, the principal tissue changes are the result of a vascular dilatation, chiefly throughout the nervous system. The anterior horns are especially congested. It seems natural to suppose that these changes are the result or the effect rather than the cause of the disease. The symptoms of tetanus are too well known and generally understood to warrant a repetition of their description.

Now, as regards treatment. Behring and Tizani introduced the tetanic antitoxine. By these observers, the blood serum of animals rendered highly immune to tetanus by previous injections of tetanotoxine taken from cultures of the bacilli, has the power, when introduced into the system of another, of neutralizing the toxic power of the poison of tetanus, or of conferring immunity on the animal. But, unfortunately, this antitoxine has not achieved the success wished for or expected from it. It has failed to produce definite if any results in many cases.

It is a highly diffusive agent, and is quickly eliminated from the system, more quickly thrown off than is the tetanotoxine produced. For this reason a constant saturation of the system would seem necessary. Furthermore, it is an indefinite and unstable substance and one which varies in its potency, and in the writer's opinion, as at present prepared, fails of better results than, and is inferior to, chemical antidotes.

Granting the disease to be one of ptomaine poisoning pure and simple, and assuming that the effects are the direct result of the irritation of the nervous cells, especially of the central nervous system, and that this irritation is due to the absorption into the system of poisonous products of the bacteria which are lodged in a certain locality, it would seem that two indications present

themselves in the treatment: 1. The destruction of the toxine-producing germ. 2. The neutralization of this toxine after it has entered the system.

Carbolic acid appears to be the drug, par excellence, in accomplishing this object. The amount injected and its effects can be controlled by noting its physiological action.

After the parts have been thoroughly incised and, in case of sloughing, the edges excised and all pockets exposed, and the parts thoroughly irrigated, a 0.5 per cent. watery solution of carbolic acid should be injected in a circular manner surrounding the wound.

If the case is seen late, and there are already evidences of a general absorption, it would be better that these injections be made along and on each side of the spinal column. Anywhere from 2 to 4 grammes may be injected, and for the first few days the injections should be made frequently, every three or four hours. The injections should be tapered off according to the symptoms, both in frequency and in strength.

The physician should be on the alert constantly for the first symptoms of systemic poisoning, and when they do appear the strength and frequency of the injections should be diminished, but they should not necessarily be discontinued. In cases treated by this method, in some of the patients an improvement has been noticed within a few hours.

Nerve section or excision is hardly justifiable in the majority of cases, inasmuch as the tetanotoxine travels along the various channels, saturating the system and irritating the central nervous cells. In cases of extreme local spasm, these procedures might be warranted. Nor does it seem permissible to use escharotics, as is so generally done, since we have learned so much as to the causation of the disease, thanks to bacteriology. In using caustics our object is defeated, for a crust, or barrier, is formed, under which the bacteria grow and thrive, protected from their enemy, oxygen.

The following eight points favor carbolic acid as an important drug in the treatment of the disease.

1. Actual figures indicate as many cures from the use of chemical agents as from antitoxine.
2. The use of phenol does not contraindicate the administration of antitoxine.
3. There are no exact methods of measuring tetanic antitoxine.
4. The antitoxine of tetanus is not destroyed by carbolic-acid solution.
5. Inasmuch as the antitoxine is not a stable article, we are not justified in continually saturating the system (which would appear essential) with this agent of which we know comparatively

little. On the other hand, of carbolic acid we know considerable, and we have a definite and reliable method of ascertaining its action and the extent to which it should be used.

6. Investigators have failed to save infected animals, even with immense doses of the antitoxine.

7. Cases have been treated alternately, first with the antitoxine and then with phenol, with the more satisfactory results during the administration of the latter.

8. Three cases have been treated in New York recently with antitoxine, with three deaths.

POLYHYDRAMNIOS; ITS DIFFERENTIAL DIAGNOSIS AND TREATMENT, WITH THE REPORT OF CASES.

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CASE I.—A multipara, much depressed in general health, with rapidly increasing distention of the abdomen, the cervix tightly closed, dilated by an elastic bag, the membranes ruptured artificially and compression made by a broad bandage held across the abdomen by assistants. Eleven quarts of amniotic fluid escaped. The fœtus presented in a transverse position and was delivered by podalic version. The placenta was removed, the uterus douched with antiseptic solution and tamponed. Abdominal compression was continued, the mother making a good recovery. The fœtus had but little tissue in cord and brain. Both were rudimentary in character. It was otherwise well developed and stillborn.

CASE II.—A multipara, sent for removal of a cystic tumor, supposed to be ovarian. During previous pregnancies she had been well; during the present pregnancy she had had much nausea and rapidly increasing distention of the abdomen, beginning at the fifth month. The urine was practically normal; the blood showed slight anæmia. On examination, the abdomen was greatly distended; no fetal parts or heart sounds could be found. The finger passed through the cervix detected a small fetal head floating in fluid. A diagnosis of polyhydramnios was made, the membranes were ruptured, and about two gallons of fluid were allowed to escape. Labor followed with twins, one of which had a normal chorion and amnion, with the sac unbroken; the other had polyhydramnios. The placenta was large and œdematous, the veins of the cord of one twin were greatly enlarged and tortuous, and the tissue of the placenta and cord was granular, with areas of cystic degeneration. The mother recovered well.

CASE III.—A primipara, previously well. During early pregnancy she had been excessively fright-

ened by lightning. She was at the end of the ninth month. She came into tedious labor with excessive amniotic liquid. A male child weighing five pounds and a half was delivered by the forceps. It breathed feebly and lived ten minutes. The posterior portion of the vertebral column and the lower cervical and upper dorsal regions were deficient in development, and a meningocele* was present. The placenta was thicker and larger than normal, the quantity of amniotic liquid was not much in excess, the cord was very long and spiral. The mother made a good recovery.

CASE IV.—A primipara, white, aged eighteen. Her mother had died in confinement, cause not stated. One pelvis was narrowed at the lower portion, expanded at the brim symmetrically; the urine was normal; the patient was fairly well nourished and had suffered little during pregnancy. She complained of pain in the right upper portion of the abdomen, dyspnoea, and sleeplessness. On examination, abdominal distention was found marked; the foetus could not be outlined, nor could fetal heart sounds be distinctly heard; the patient's lower limbs were considerably swollen, and her heart action was labored. The patient complained of indefinite pains for several days, when the os was found fully dilated. She was given tincture of *nuxvomica*, the membranes were ruptured, and compression was applied to the abdomen. When the membranes ruptured, the head immediately engaged, and the child descended and was allowed to emerge from the body of the mother gradually.

The placenta was removed and the uterus douched and packed with gauze. The mother made an uninterrupted recovery. The foetus gasped, but did not breathe; its heart beat persisted for three quarters of an hour in spite of respiratory failure. Upon autopsy, general dropsy was found and in the abdomen and pericardium there was a large quantity of fluid. The lungs were oedematous, the kidneys showed atrophy of the pyramids, and the liver was softened and enlarged. The cord was shorter than the average, the placenta boggy, light in color, large, and friable. The decidua was much roughened, resembling a fibrinous exudate.

CASE V.—A multipara, with a moderate quantity of fluid. Dilatation was well advanced, but the pains were inefficient because of overdistention of the uterus. I made the patient sit upon a bucket, punctured the membranes, and allowed several quarts of fluid to escape. Then I gave quinine and ergot. The child was speedily delivered; it failed to be nourished properly and died in ten days with symptoms of intestinal obstruction.

By polyhydramnios is meant more than two pints of amniotic liquid at full term. As much as seven gallons has been seen in the human species. The pathology of the condition is not fully known. Many conditions accompany polyhydramnios. The placenta is often large, dropsical, and infiltrated, Jungbluth's vessels are often enlarged, and the amnion and chorion may be thickened, with extensive fissures in the epithelial layer of the

amnion and fatty degeneration of cells. By experiment, seven times more fluid passes through the veins than through the arteries of the cord. Any foetal condition causing venous engorgement tends to produce polyhydramnios. Irritating substances formed in lymphatics may cause this condition. It does not result from increased renal action in the foetal kidneys. Excessive secretion from the cerebrospinal canal of the foetus may contribute to polyhydramnios. Polyhydramnios is normal at the fourth month, and its persistence results from failure in normal development. By cryoscopy further information regarding the osmotic properties of the maternal and foetal blood and of the liquor amnii may increase our knowledge. Bacteriology gives no information upon the subject.

The diagnosis is made first by diagnosing pregnancy, then by observing that in polyhydramnios we can usually obtain evidence of faint uterine contraction and can often insert the finger through the cervix and detect a presenting part. Ectopic gestation must be kept in mind, as polyhydramnios may complicate ectopic pregnancy. In ovarian cyst the illness is longer, the swelling at first unilateral. The intermittent hardening of the tumor is absent and the uterus can be found but little enlarged. In ascites the dulness changes when the position of the patient is altered.

When pregnancy is found, a second diagnosis must be made to recognize or eliminate the presence of pregnancy and ovarian cyst, pregnancy and ascites, pleural pregnancy, a hydatid mole, a very large child, or a malformed foetus. In hydatid mole, the pear-shaped uterus has little fluctuation and there is repeated discharge of blood. In case of a large or malformed foetus the heart, can usually be heard and palpation reveals the child. While twin pregnancy can generally be recognized, it may be completely mistaken for polyhydramnios. In exceptional cases an ovarian cyst complicating pregnancy may be difficult to diagnose, and an exploratory incision may be necessary.

Attention is called to misleading phenomena, the absence of such tension upon the membranes as would be expected from the quantity of amniotic liquid, and also the absence of early shortening of the cervix.

Treatment by drugs is without value. When polyhydramnios is slight and not increasing, the patient's health remaining good, pregnancy should not be interrupted. When distention increases rapidly and the patient's health is impaired, under thorough antiseptic precautions the cervix should be dilated sufficiently to admit the finger. A uterine dressing forceps, closed, should be inserted

and the membranes ruptured, the forceps opened, and a rent made sufficiently large to permit the introduction of the finger. Fluid should be allowed to escape very gradually until the presenting part descends firmly against the cervix. Firm pressure must be made over the abdomen by a many-tailed abdominal binder or broad bandage held by assistants. The patient must be watched, as labor is often precipitate and the fetus may assume unfavorable positions. Labor should not be hurried in the interests of the child, because the fetus is often deformed.

Polyhydramnios is dangerous to the mother from overdistention, relaxation, hæmorrhage, and increased danger of sepsis. The uterus must be completely emptied and made to contract. A hot intrauterine douche of a one-per-cent. solution of lysol, tamponing with iodoform gauze, the hypodermic use of strychnine and ergot, and other stimulation are necessary. Occasionally, after abdominal section, the excess of amniotic liquid has disappeared by absorption.

A CASE OF AMAUROTIC FAMILY IDIOCY.*

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Louis Meyer, fifteen months old, born of healthy parents. Father, twenty-seven; mother, twenty-six years of age, born in Russia; have been eleven years in the United States. They were married four and a half years ago; are not consanguineous. The mother has had no miscarriages; she was always well, except at the fourth month of her last pregnancy, when she had an attack of abdominal colic, was sick for about one week, and recovered completely. The father was always in good health. Their first child is now three years and a half old; is in perfect health, physically and mentally.

The child's great-uncle (brother of the child's grandfather on the paternal side) is about forty-eight years of age; his marriage was not consanguineous. He has had eleven children; they were born in the following order: Four healthy, five sickly, and the last two are healthy. Six of them are perfectly well; five of them died at the age of two years, although the parents consulted a pioneer of Homœopathy, but his efforts were fruitless. They had large heads, thick faces, and an idiotic laugh. They were paralyzed; could not see or grasp anything. The father thinks that his son's ailment is similar.

The infant was perfectly well until he was four months old; he then became very restless. A week later, the mother noticed a discharge from his ears, and his restlessness had ceased. She consulted a physician at the "Eye and Ear Infirmary"—he gave her some medication for injection, still, the discharge continued for about two months, then entirely subsided.

The child appeared to be entirely normal until the end of the seventh month when he used to grasp things and play with them for a short time, and, supported by his mother, he could stand. On reaching the eighth month, the child ceased to take any interest in its surroundings. He began to become listless and apathetic, he could not hold up his head, and, at times made purposeless movements of his limbs. At this age, I examined him, and found that there was a great suspicion of hydrocephalus—the head was very large, measuring 19 inches in circumference; there were prominent, fluctuating, wide open fontanelles, and a dis-



FIG. 1. Dr. Hymanson's case. Photograph of Louis Meyer, fifteen months old. Amaurotic family idiocy.

tinct water-wave was felt on flipping the head with the finger. The fontanelles, at the age of ten months, gradually closed and his head grew no larger.

The child is still being nursed by his mother. His first two teeth appeared when he was six months old; he has at present seven teeth. He is subject to frequent bronchial attacks. He has gradually become very weak; he is not able to hold his head up straight, but keeps it mostly backwards. He cannot turn around without assistance; it seems as though the physical and psychical development has ceased. He is very anæmic, his muscles are daily becoming more weak and flabby, and there is a gradual cessation of spontaneous movement. His general aspect is becoming more idiotic, he has a vacant look, he seems to see light, he does not

* Case presented at a meeting of the Eastern Medical Society, January 10, 1902.

recognize his parents. He seems to be deaf, but he becomes frightened when anyone knocks at the door. His sense of taste is not entirely gone; he dislikes bitter or salt things very much, but takes sweet things voraciously. He sighs quite often. During his sleep he keeps his eyes and mouth wide open. Reflexes are present and the reaction to the faradaic current is normal. The condition of the child is going from bad to worse.

Dr. Schapring, who examined the eyes of the child, reports the following:—

The pupils slightly contracted, and equally so on both sides. There was no reaction to light stimulus. No nystagmus. No strabismus. In the region of the posterior pole of each eye the ophthalmoscope showed changes exactly as described by Waren Tay¹: Corresponding to the macula lutea of each eye there is a large bluish-white spot, with softened edges, which covers a space about twice the size of the optic disc. At its centre, corresponding to the fovea centralis, there is a brownish-red, fairly circular dot, contrasting strongly with the white patch surrounding it. This appearance may



FIG. 2.—Dr. Hymanson's Case. Photograph of child Louis Meyer, fifteen months of age amaurotic family idiocy.

be compared with that of the yellow spot in cases of embolism of the central artery of the retina. The optic nerves were in a state of atrophy, the color of the optic discs being greyish and the calibre of the blood vessels, both arteries and veins, markedly reduced.

The child lived till about the age of nineteen months. Two weeks before his death, he developed an extraordinary anorexia, so that it was difficult to get him to take any food or even a little water. He became very much emaciated and developed bedsores on the gluteal region. He could hardly move his extremities. His temperature was somewhat subnormal, 97.5° to 98° F. He had no convulsions. An autopsy was not permitted.

The disease was first described by Waren Tay¹, in 1881, and B. Sachs³ in 1887; since then there have been about 68 cases recorded. Of these 40 are known to have terminated fatally, while the result of the rest is not known. According to Falkenheim²,

47 were seen by physicians and 17 were described by the parents and relatives and the diagnosis was based on their descriptions. He states that one of the reported cases is still alive; the child is nine years of age, but this is certainly an exception to the rule, as the children usually die at the age of two years or two years and a half. The ætiology of the disease is still obscure; it is common among the Hebrews, particularly, among the Russian-Polish Jews. The family predisposition is evident from the fact that twenty-eight cases tabulated by B. Sachs³ occurred in fifteen families. There did not seem to be any history of syphilis, alcoholism, or nervous derangement in any of the cases. There was no consanguinity except in four cases (according to Falkenheim.) The development of the affection was not prevented by change of feeding from the mother's breast to that of the wet nurse or to artificial food. No prophylactic measures have been discovered and treatment was of no avail. The largest number of case, viz., 30, was observed in America; 11 in England, 14 in Germany, and the remainder occurred in other countries. E. Frey⁴, who has made an autopsy on a child a year and a half old, corroborates the statement of Hirsch⁵ that the degeneration occurring in this form of idiocy is not congenital, but *post natum*. It is not due to a defect of development, and he and others have demonstrated, that the form and structure as well as the convolutions of the brain were normally arranged. It seems that there is some inexplicable condition, probably of an infective nature, possibly derived from the mother's milk, according to Jacobi⁶, which causes a progressive degeneration in the cortices of the hemispheres and affects the cells and fibres of the entire nervous system, although, as stated above, according to Falkenheim food has no influence on the disease.

The chief features of the disease are: Idiocy, weakness of all the muscles, terminating in paralysis, gradual loss of sight, and characteristic changes in the macula lutea, marasmus, and death at the end of the second year.

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4. E. Frey. *Neurologisches Centralblatt*. September 16, 1901.
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SPINAL COCAINIZATION WITH DOUBLE AMPUTATION ON A CHILD.

By WILLIAM W. BROOKE, M. D.,

JERSEY CITY.

This case, of which the following is a short history, is of interest inasmuch as I have been unable to obtain record of a similar occurrence under Spinal Anesthesia.

During March of the present year there was admitted to the City Hospital, Jersey City, William Judge, colored, nine years old, who had spent several nights sleeping in places exposed to the cold weather of that time. On the night previous to his admission his feet became frozen, with marked swelling of both legs and thighs. In a few days they were gangrenous, when it was decided to wait for a line of demarcation.

During the time of waiting he had a septic temperature ranging between 99.2° and 106° F., with rapid, feeble pulse and marked delirium.

Sixteen days following his admission, he having rallied sufficiently, I decided on spinal analgesia. Dr. Lampron administered the cocaine, using thirty minims of a two-per-cent. solution, in the usual way, under proper precautions. It is of interest to note with what rapidity it acted; in three minutes there was complete anesthesia in one leg, the left, and in five minutes complete in both. I amputated both at the middle third, the stumps healing in nine days by first intention.

I was pleased to note the lack of severe after-effects, there being a temperature of 103.2° F., one hour after the operation, which, however, fell to 99.6° the next morning and remained below 99.8° until complete recovery. The headache was mild and of short duration, with little nausea and no vomiting; in fact, the boy was fairly comfortable twenty-four hours after the operation, which I marveled at, considering his poor condition previous to the operation. The pulse remained full and regular, though a little rapid during the operation and for two days after, when it became more slow.

I do not claim originality in this case, but merely mention the same to show how cocaine has worked in a child so young.

City Hospital, May 20, 1902.

Note on Media for Distinguishing *Bacterium Coli*, *Bacillus Typhosus* and Related Species. By Dr. A. S. GRUNBAUM and Dr. E. H. HUME (*Brit. Med. Jour.*, June 14th).—By the addition of neutral red to the well-known MacConkey's medium (taurocholate-lactose-agar) *Bacterium coli* can be easily distinguished by the crimson color of its colonies. The chief use of such a medium is, of course, in the examination of feces or water in which the presence of intestinal bacteria is suspected. The taurocholate inhibits the growth of nearly all but intestinal bacteria, and the neutral red at once differentiates *Bacterium coli* from other forms. A lactose agar to which both neutral red and "krystall-violett" (1-100,000) have been added, gives a double-stain effect. Colon colonies are red, while typhoid colonies vary from blue to purple.

Our Subscribers' Discussions.

A SERIES OF MONTHLY PRIZE ESSAYS.

[Questions for discussion in this department are announced once a month. So far as they have been decided upon, the subsequent questions are as follows:

XIV.—How do you treat chronic ulcers of the leg? (Answers due not later than July 10, 1902.)

XV.—How do you treat rhus poisoning? (Answers due not later than August 11, 1902.)

XVI.—What is the best non-operative treatment of dysmenorrhœa? (Answers due not later than September 10, 1902.)

XVII.—How do you treat nocturnal incontinence of urine in children? (Answers due not later than October 10, 1902.)

Whoever among our subscribers (with the limitations mentioned below) answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short, no one answer to contain more than six hundred words. We shall publish the substance of such of the answers as seem to us most likely to prove interesting to our readers, and we reserve the right to publish any of the answers in any department of the JOURNAL.

Only subscribers to the NEW YORK MEDICAL JOURNAL (including regular and volunteer officers of the medical corps of the United States Army, Navy, and Marine-Hospital Service, commissioned or under contract) will be entitled to compete, and all persons known to be engaged in medical journalism are disqualified. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish.]

The prize of \$25 for the best essay submitted in June has been awarded to Dr. Charles H. Glidden, of Little Falls, N. Y., whose paper appears below.

PRIZE QUESTION NO. XIII.

THE PREPARATION OF COW'S MILK FOR INFANT FEEDING.

By CHARLES H. GLIDDEN, M. D.,
LITTLE FALLS, N. Y.

Any method of preparing cow's milk for infant feeding must first take into account the source of supply. We must insist upon supervising every detail in its care, from the time it leaves the cow's udder until it is placed in the nursing bottle. We must see that the milk comes from a healthy, well fed, and well groomed herd of cows, and that the stables are well ventilated, clean and dry. The utensils used should be thoroughly cleaned and the milk kept, until delivery, away from the odor-laden air of the stable and the kitchen pantry. Delivery should be made in sealed bottles.

The first proposition, therefore, is to secure the best supply of milk obtainable. The well known fact that infants thrive on cow's milk in winter and get diarrhœa in summer would indicate that any change in the composition, either chemical or otherwise, is not so important as its purity and the methods of preserving it. Our first duty, then, is to remove the grosser impurities by straining through cheese-

cloth and a layer of absorbent cotton, after which the process of steaming, as hereafter described, should be carried out in order to destroy any pathogenic bacteria present. It must then be sealed in bottles by clean plugs of cotton and kept at a temperature of 40° F.

The second proposition is sterilization and preserving. The chemical modification of cow's milk depends upon the fact that the albuminoids are four times as abundant as in human milk, sugar showing a deficiency, while the fats are about equal. To approximate the composition of human milk, it is necessary to dilute cow's milk with about four times its bulk of water, in order to obtain the proportion of albuminoids, and in so doing we shall also diminish the amount of coagulable substances. We must now add cream and sugar in considerable quantities. It is quite possible to obtain fresh centrifugal cream of almost invariable richness (or, in other words, with a fixed percentage of fats) in nearly every town and city. Of cream we should now add in the proportion of three parts to two of milk. Of the best quality of milk sugar about seven drachms to the pint would be required. The following formula is to be left with the nurse:

Milk, two ounces;

Cream, three ounces;

Water, ten ounces;

Sugar of milk, six drachms by weight.

This is nearly the formula of Meigs and Rotch, and will answer well as a basis, but the amount prepared and the different components must be changed and regulated to suit the individual case.

The third proposition is modification to approximate human milk. The mixture being ready, it is now placed in the nursing bottles, of which there should be at least nine or ten, in order that a supply of food for twenty-four hours may be prepared at once, and that the same bottle need not be used twice in one day. These should not have corners, either externally or internally, for the retention of dirt or unused milk, and, with the nipple, must be sterilized before filling. Enough of the mixture for one feeding is put into each bottle, and the bottles are placed in a tray and thence in the steamer or sterilizer. A good sterilizer can be purchased for two or three dollars, or a tinsmith will make one for seventy-five cents which answers the purpose admirably. In winter thirty minutes of steaming is sufficient, but in summer from forty to forty-five minutes will be required, the object being to raise the temperature of the food to about 170°, and to keep it there a sufficient time to destroy any pathogenic organism present. The bottles are next plugged with absorbent cotton and placed in the ice chest to remain until used. When a bottle is opened for feeding, warm in a water bath and add from half an

ounce to an ounce of lime water, freshly prepared each day, with boiled water and lime-water tablets. Litmus paper may be provided, and with a little experience any one can gauge the amount of lime water required to produce the proper alkalinity.

BANER'S FORMULA.

Dr. John A. Lane, of Fortuna, Cal., writes as follows:

There are two very common errors made by the general practitioner in adapting cow's milk to infants. The first is by beginning with two large a percentage of fats and proteids; the second is in continuing a weak formula too long.

The adapted milk is simply a means the end of which is to get the infant to thrive on whole cow's milk when it is a year old. The guide to the physician is the agreement with the infant's digestion and a steady gain in weight. The adapting is better understood and more easily changed by thinking and working, as Rotch suggests, in percentages. There have been many formulæ advanced for the modifying to certain percentages, but most are too complicated to be used at home by the mother or nurse. Holt's system of progressive solutions, which are diluted or modified, does not appeal to me, nor does Chapin's top-milk method. The most convenient method is that advanced by Baner in the *New York Medical Journal* for March 12, 1898. It may appear complicated, but the directions given to the mother are so plain that no mistake can be made. It has the advantage over the other methods in making odd quantities. This is quite complicated with the others, but is quite easy with Baner's formula.

Having decided upon the quantity for one day's feeding and the percentages of fat, sugar and proteid, we are ready to find the amount of cream, milk, sugar, and water necessary to make the requisite quantity of a given formula. The formula is as follows:

Given—Quantity desired (in ounces), I.
Desired percentage of fat, F.
Desired percentage of sugar, S.
Desired percentage of proteid, P.

To find (in ounces).

$$\text{Cream} = \frac{I}{12} \times (F - P).$$

$$\text{Milk} = \frac{I \times P}{4} - C.$$

$$\text{Water} = I - (C \times M).$$

$$\text{Dry milk sugar} = \frac{(S - P) \times I}{100}.$$

Suppose we want 24 ounces of a mixture to contain four per cent. of fat, seven per cent. of sugar, and one and five tenths per cent. of proteid—

$$\text{Cream} = \frac{24}{12} \times 2.5 = 5 \text{ ounces.}$$

$$\text{Milk} = \frac{24 \times 1.5}{4} = 5 = 4 \text{ ounces.}$$

$$\text{Water} = 24 - 9 = 15 \text{ ounces.}$$

$$\text{Dry milk sugar} = \frac{5.5 \times 24}{100} = 1.32 \text{ ounces.}$$

The written directions to the mother would be to dissolve four heaping teaspoonfuls¹ of dry milk sugar in fifteen ounces of water, add four ounces of milk and five ounces of cream, and divide into as many bottles as desired.

The cream in this formula is the twenty-four hours' gravity cream skimmed off; the milk is whole milk.

It must be remembered that cow's milk has an acid reaction, while mother's milk is almost invariably alkaline. It is, therefore, necessary to add some alkali sufficient to neutralize acidity and secure a slight degree of alkalinity in milk mixtures. This is most conveniently done by adding one ounce of lime water to twenty ounces of mixture.

The question of pasteurizing or sterilizing is not so difficult in this section as in others. The hot summers are not common and summer diarrhoeas not prevalent. If it becomes necessary, pasteurizing is the method of choice. It is as effective as sterilization, but does not change the albumins so much.

The dextrinized gruel is not used as a routine diluent of cow's milk, but if much difficulty is experienced in adapting cow's milk to the infant, then the milk and cream are diluted with gruel which has been dextrinized. This contains starches in soluble form, while the cellulose attenuates the curd.

In conclusion, always begin with a weak formula and work up to the point of tolerance; add one ounce of lime water to each twenty ounces of solution; if necessary, pasteurize, but raw milk is best if it can be taken. Weigh the infant regularly; if it does not gain in weight, the formula is at fault and needs to be changed.

THE USE OF WHITE OF EGG.

Dr. Jennie G. Drennan, of St. Thomas, Ont., Canada, writes as follows: The great difficulty in utilizing cow's milk as a means of nourishment for the human infant consists in the difference of composition of these two. By nature one is intended for the brute child, and the other for the human infant; and as the former requires to form muscle and bone more quickly and at the expense of brain and finer elements, and the latter *vice versa*, so their food must differ. The milk of the cow is richer in proteids, fats, and salts, while that of the human

mother is richer in sugar and water. In order to prepare from cow's milk a food similar to human milk, the ratio of its constituent parts must be changed and made to correspond to that of human milk. The following table shows the composition of the two kinds of milk:

	Human.	Cow's.
Water	890.....	858
Solids	110.....	142
	1,000	1,000
	Solids.	
	Human.	Cow's.
Proteids—Casein, serum-albumins.	35.....	68
Fats and butter.....	25.....	38
Sugar	48.....	30
Salts	2.....	6
	110	142

The water must be increased from 858 parts per 1,000 to 890 parts; the solids decreased from 142 parts per 1,000 to 110 parts per 1,000. By the addition of water the former difficulty might be easily remedied, but the latter requires more consideration, for not only must the mass of solids be decreased, but these solids must be individually dealt with. Moreover, the mere addition of water would lessen to a too great extent the solids; therefore we must also add with the water some proteid matter. For example, if to a litre of milk which contains water, 858 parts, solids, 142 parts, we add a half a litre of water, we change the ratio of solids from 142 in a 1,000 parts to $94\frac{2}{3}$ parts per 1,000, showing clearly that solids must be added as well as water. As human milk contains more serum-albumin than casein, as compared with cow's milk, it will be the serum albumin which it will be necessary to add to cow's milk. This can be obtained from vegetables, such as barley, etc., or from the white of the egg. I think the use of egg albumen preferable to the vegetable form for in using the former we are adding an animal product to an animal product. The following formula, called the Dresden mixture, was prepared a few years ago by some German scientists: Carefully prepared, it will keep for months. All dishes and utensils and the hands of the preparer should be scrupulously clean. The egg used should be rinsed in alcohol, broken, and the white dripped into a bowl with a spout; then thirteen drachms of sterilized milk sugar should be slowly stirred in—not beaten, for it is advisable to have no air beaten into it; to this paste add slowly, stirring well, one pint and a half of sterilized water, and strain through sterilized gauze into a pint of sterilized—not boiled—milk which has been cooled. The

¹Three heaping teaspoonfuls or two level tablespoonfuls of milk sugar are equal to one ounce.

milk used should contain $9\frac{1}{2}$ per cent. richness, and for this purpose the top of good milk which had stood on the ice will give the desired amount of fat, or thin cream may be added to milk which has not stood long enough for the cream to rise. Boiling of the milk causes coagulation of the serum albumin, and therefore is not to be allowed:

R Water.....	one pint and a half
Milk.....	$9\frac{1}{2}$ per cent., one pint
Sugar.....	thirteen drachms
White of egg.....	one

As will be seen from a careful analysis, this formula does not exactly resemble human milk, but approximately does so.

It is better not to attempt to increase the salts of the milk by the addition of sodium chloride or calcium as they cause a precipitation of the casein.

This prepared milk should be poured into as many sterilized nursing bottles as are required to hold it. The food can be warmed by setting the bottle in a double boiler of water and warmed to a blood heat.

Therapeutical Notes.

Nucleinic Acid in Tuberculosis.—Dr. Victor C. Vaughan (*Clinical Review*, May) says that, believing in a general way in Metchnikoff's theory of phagocytic resistance to disease germs, he considered that anything which would increase the number of phagocytes, or multinuclear white corpuscles, would augment the bodily resistance to disease. Inasmuch as these phagocytes are largely composed of nuclein, he thought that the introduction of nucleinic acid into the blood would build up the phagocytes and so improve the individual resistance to disease; and, on experimenting in this way, he found that the number of leucocytes was increased. Hahn, of Munich, and others have since confirmed this observation. Vaughan still uses nucleinic acid in the early stages of tuberculosis. It is in no sense a specific, but simply a tonic for the phagocytes. The only way to determine which cases are likely to do well on this treatment is as follows: If a drachm of a one-per-cent solution of yeast nucleinic acid is injected under the skin and a leucocyte count of 16,000, or more, is found at the end of three hours, the germicidal action of the blood has been increased, and the nucleinic acid treatment is beneficial. If such increase in the leucocytes does not take place the remedy is useless. It fails in a large number of cases. Dr. Vaughan says that this is the first time for five or six years in which he has referred to this subject; for his first paper on yeast nucleinic acid caused such a flooding with advertisements of various proprietary nuclein preparations, many of which he knew to be worthless, that he swore he would never say another word about it. Nucleinic acid, however, given hypodermically or intravenously with proper care in the early stages of tuberculosis, is a useful treatment in that disease, but it is in no sense specific.

Intra-laryngeal Medication in Pulmonary Diseases.—Sir T. D. Acland (*Practitioner*, April) in a lecture on bronchiectasis delivered at the Hospital for Diseases of the Chest, Brompton, says that it has long been recognized that considerable quantities of medicated fluids could be injected into the trachea by means of a suitably-constructed laryngeal syringe, and Rosenberg, Grainger Stewart, and, latterly, Colin Campbell (*Transactions of the Royal Medico-Chirurgical Society*, 1895, vol. lxxviii., p. 39), have advocated their use in various pulmonary affections. The lecturer has tried these injections with no very encouraging success, and, as regards bronchiectasis at least, his experience has not been favorable. He has seen considerable constitutional disturbance, violent cough, and marked rise of temperature follow each injection, so much so that he would be disinclined to carry out the treatment, unless for special reasons other methods were contraindicated.

The solutions recommended by Mr. Colin Campbell are:

A.	
R Benzosol.....	24 grains
Alcohol.....	$\frac{1}{2}$ a drachm
M. add pure glycerin.....	$\frac{1}{2}$ an ounce.
B.	
R Menthol.....	24 grains
Alcohol.....	$\frac{1}{2}$ a drachm
Glycerin.....	$\frac{1}{2}$ an ounce.

M.

Mix A and B, and warm to 90° F. before using.

Dose.—Two drachms for intralaryngeal injection, two or three times a day.

Sir T. Grainger Stewart's formula is:

R Menthol.....	10 parts
Guaiacon.....	2 "
Olive oil.....	88 "

M. Dose—from 2 to 3 drachms for an intralaryngeal injection.

Dr. Acland says that the probable benefit to be derived from this method of treatment in bronchiectasis is considerably discounted by several factors: 1 that the amount of antiseptic injected is very small; 2 that the injection has to be made before the tubes are cleared, or has to be frequently repeated; 3 that it may cause considerable distress to the patient. The cases in which it would seem likely that good might result, and which at times are benefited, are old cases of chronic bronchitis and bronchorrhœa, in which the local oily application to the mucous membrane of the larger tubes eases the cough and gives a certain amount of relief.

Urotropine in Cystitis.—Dr. J. ODERY SYMES (*Bristol Medico-Chirurgical Journal*, March) says that the best results with urotropine are seen in cases of cystitis secondary to enlargement of the prostate, probably because in such cases the urine on leaving the kidney is acid, and the bladder walls are not deeply penetrated by bacteria. The antiseptic body formed by the urotropine first inhibits the growth of, and then kills, the bacteria that give rise to the alkalinity of the urine; and the bladder, freed from this source of irritation, will, if the drug is resumed from time to time, remain permanently

in good working order. Presumably, cystitis secondary to stricture of the urethra would give equally favorable results.

Cases of cystitis secondary to gonorrhœa do not, in Dr. Symes's experience, do well on urotropine. The symptoms are relieved, and the patient continues to take the drug because of the relief; but in two cases under his care, in both of which the urine was originally alkaline, it was possible to detect organisms in the acid urine after the drug had been taken more or less steadily for in one case five, and in the other, six months. Cessation from urotropine in such cases generally means a return of the symptoms.

Cystitis due to *Bacillus coli*, accompanied with acid urine, such as is seen so frequently in women, does not yield readily to urotropine, probably because this organism is peculiarly resistant to the drug. The author has found freely motile bacilli in the urine of a patient, suffering from vesical colon-bacillus infection, who, for twelve days previously, had been taking ten grains of urotropine three times a day.

His custom has been to give urotropine in doses of from ten grains four times daily, the last dose on going to bed at night. In none of the cases reported has hæmaturia been noted.

For Acute Eczema.—Dr. A. Bayet (*Journal médical de Bruxelles*, April 10th) has had excellent results from moist warm boric applications and especially from the use of the following liniment:

R	Zinc oxide.....	10 grammes (150 grains)
	Carbolic acid.....	1 gramme (15 grains)
	Freshly prepared carron oil	200 grammes (6 ounces)

M.

Toward the end of the eczema weak salicylic ointments are useful. The author gives the following as a type:

R	Venice tale.....	} of each 15 grammes (225 grains)
	Starch.....	
	Salicylic acid.....	0.50 grammes (7½ grains)
	Vaseline.....	} of each 15 grammes (225 grains)
	Lanolin.....	

M.

Usually, according to the author, this treatment suffices to cure completely an acute eczema.

For Psoriasis.—Dr. A. Bayet (*Journal médical de Bruxelles*, April 10th) considers chrysophanic acid still the best agent in the treatment of this disease. He prescribes it in suspension in chloroform or in an ointment. Here are his formulæ:

1. R	Chrysophanic acid....	5 grammes (75 grains)
	Chloroform.....	50 grammes (750 minims)

M.

2. R	Gutta percha tissue..	5 grammes (75 grains)
	Chloroform.....	50 grammes (750 minims)

M.

The first solution is applied by means of a brush; then when the chloroform has evaporated and the yellow layer of chrysophanic acid is deposited, one or two layers of the second solution are freely applied. At the end of four or five days the patient removes the pellicle in the bath, and a fresh application is made. This mode of treatment is particularly

suitable to limited patches. When the patches are spread over the body in too great numbers the author prefers the ointment. The inconveniences of this treatment are the facts that it is conspicuous, stains the linen, irritates the mucous membranes and gives rise to chrysophanic dermatitis. During the treatment the urine must be watched.

Bourget's Ointment for Rheumatism.—*Progrès médical* for June 21st gives the following:

R	Salicylic acid.....	10 parts
	Lanolin.....	10 parts
	Oil of turpentine.....	70 parts
	Lard.....	80 parts
M.	fit ulguent.	

The Treatment of Granular Pharyngitis.—M. Moure (*Presse médicale; Journal de Bruxelles*, June 19th) recommends painting the back of the throat twice weekly with the following:

R	Iodine.....	0.25 grammes (3¼ grains)
	Potassium iodide.....	0.30 grammes (4½ grains)
	Laudanum.....	3.00 grammes (45 minims)
	Glycerin.....	120.00 grammes (4 ounces)

M.

This may also be used as a gargle in a strength of a teaspoonful to half a tumblerful or a tumblerful of tepid water.

The author also recommends the use in similar proportions as a gargle, or pure as a local application, of the following:

R	Sodium baborate.....	6 grammes (90 grains)
	Antipyrine.....	4 grammes (60 grains)
	Tincture of guaiacum..	—aa 5 grammes (75 minims)
	Spirit of peppermint..	—aa 5 grammes (75 minims)
	Neutral glycerin.....	140 grammes (4½ ounces)

M.

For Rheumatic Pleurisy in Children.—*Provence médicale* for May 31st ascribes the following to Comby:

R	Sodium salicylate.....	3 grammes (45 grains)
	Syrup of raspberries.....	30 grammes (1 ounce)
	Distilled water.....	70 grammes (2 ounces)

M.

A tablespoonful every two hours for a child six years of age. Seven grains and a half of sodium salicylate may be given during the day for each year of the child's age.

Compound Pyrogallol Ointment.—*Arte medica* for May 4th gives the following formula as a soothing application against the irritation of psoriasis, eczema, etc.:

R	Salicylic acid.....	2 grammes (30 grains)
	Pyrogallol acid.....	} of each 5 grammes (75 grains)
	Ichthylol.....	
	White vaseline.....	88 grammes (to 3 ounces)

M.

For Amenorrhœa.—The *Gazzetta medica lombarda*, for April 27th, says that in many cases apiol succeeds when given hypodermically, and recommends the following formula:

R	Crystallized apiol.....	10 grammes
	Sterilized olive oil.....	50 grammes

M.

A cubic centimetre (about fifteen drops) may be injected daily.

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MR. BURKE'S BENEFACTION.

The recent announcement that the sum of \$4,000,000 had been given by Mr. John M. Burke for the purpose, mainly if not exclusively, of providing a refuge for convalescents discharged from the hospitals was hailed by the people of New York as that of a much needed benefaction. There are few of us that have not at one time or another been made aware of some individual instance of distress caused by the necessary discharge of an unfortunate from a hospital while yet he was not sufficiently restored to resume work. Large and numerous as our hospitals are, they would have to be many times multiplied and amplified to make room for new-comers solely in need of hospital treatment if others that had preceded them were to be kept until their health and strength were thoroughly regained. It is pitiful, nevertheless, to witness the despair of a man who, though able to hobble about on crutches, finds himself obliged to leave a hospital before he is in the least able to return to his occupation, which may have been that of a porter. Being unable to earn wages, he is destitute, practically a pauper for the time being, and it is all the worse if he has a family on his hands. It may be months before he is in condition to go to work again with safety or, indeed, before he can get employment. How welcome, then, is some provision for his maintenance in the meantime!

But since Mr. Burke's generous action was made known we have heard comment to the effect that it would not effect the good generally expected of it for the reason that it was found difficult to fill the retreats for convalescents already in existence. This is a surprising state of things, but we have no ground for questioning the allegation, for it comes

from those whose hospital connections are such that they cannot fail to know the facts. But we may question if there is not some particular and avoidable reason that makes convalescents averse to entering the institutions now provided. We feel persuaded that there is. It is, of course, not to be expected that Mr. Burke's benefaction will prove the means of doing away altogether with the distress that comes from the enforced idleness of wage earners who are for a time disabled, unless indeed—and this is unlikely—provision is to be made for the families of the disabled as well as for themselves. But half a loaf is better than no bread, and a distinct mitigation of suffering will be effected in the case of these families if, although not themselves provided for they are relieved of the additional burden of feeding one more mouth. All these things considered, we look for great good to come from Mr. Burke's gift.

POISONOUS SPIDERS.

There has long been a widespread—indeed, almost universal—popular conviction that certain spiders were venomous, and from time to time there have been published authentic reports going to show that even some of our American varieties were capable of setting up much local irritation by their bite. A curious epidemic of chorea which overran Italy in the fifteenth century was attributed to the bite of the European tarantula, the *Lycosa tarantula* of Italy and Spain, but that notion may be dismissed as unworthy of serious consideration. Nevertheless, the tarantula of southern Europe is still looked upon as highly poisonous.

The subject of venomous spiders has recently been treated of somewhat systematically by Dr. R. Kobert, in a monograph entitled *Beiträge zur Kenntnis der Giftspinnen*. We have not seen the book itself, but an interesting notice of it, by Dr. D. Gerhardt, appears in the *Centralblatt für innere Medizin* for June 14th. It seems that, besides making use of the preexisting literature of the subject, the author has had correspondence concerning it with various physicians of southern Russia and has himself experimented with spider's venom. His literary researches show that the ancient Greek, Roman, and Arabian writings establish the fact that the subject was well understood in the remote past.

Kobert gives special consideration to two varieties of poisonous spiders—the aforesaid tarantula and the malmignatte, *Latrodectus malmignathus*. The genus *Latrodectus*, be it remarked, includes various species of dark-colored spiders found in tropical countries. They have a hairy body and long claws, and all of them are reputed dangerous. A writer in Raige-Delorme and Dechambre's *Dictionnaire encyclopédique des sciences médicales* says of *Latrodectus malmignathus* that its bite produces fever which results in lethargy. It is a diminutive species common in Italy, Spain, Algeria, and other countries bordering on the Levant. The bite of *Latrodectus katipo*, a species found among the rushes and sedges near the seashore of New Zealand, is said to be "dangerous and even fatal."

According to Kobert, the tarantula, which is particularly prevalent in Italy and southern Russia, rarely gives rise to more than transitory local inflammatory trouble by its bite. On the other hand, the bite of *Latrodectus malmignathus*, *Latrodectus erebus*, and closely allied species, particularly common in Corsica, southern Russia, central Asia, and Australia, is apt to be followed by severe general symptoms, such as pronounced pains in the limbs, muscular weakness (even to the extent of decided paresis), collapse, and in rare cases death, the fatal result being generally the culmination of an illness of several days' or weeks' duration. Kobert has been experimenting with spider poison, and he finds that an extract of *Latrodectus erebus* is decidedly poisonous to dogs, and so also is that of the common garden spider, *Epeira diademata*, to cats, whence he concludes that the bite of the last-named spider may be poisonous to man.

THE CASE OF JANE TOPPAN.

Our sense of the security of society is assuredly not heightened by the announcement that a trained nurse alleges that she has committed thirty-one murders under the very eyes of physicians who trusted her. If the ostensible minister of relief changes mysteriously into a secret poisoner, what have we not to fear? Happily, occurrences calculated to rouse our anxiety on this score are so rare that when they do take place they are the talk, not of the town alone, but of the whole country. Not a few of those alienists who

have been the readiest to discern "moral insanity" in the perpetrators of criminal acts of extreme outrageousness have most insisted on the wisdom of punishing the insane as well as the sane for such deeds, holding that insanity does not altogether do away with responsibility. This is a matter for the jurists rather than the alienists to pass upon, but we may be allowed—disclaiming any special applicability of our words to the Toppan case—to say that we are in accord with those of our profession who regard insanity as not entirely incompatible with responsibility on the part of the insane person. Something more deterrent than confinement in a lunatic asylum, even an asylum for insane criminals, ought, it seems to us, to be meted out to such monsters as this woman makes herself out to be.

But perhaps Jane Toppan is more liar than murderer, or, rather, under a delusion as to what she has done. Let us hope that this is the case, and, indeed, it is not very rare for the insane to accuse themselves of sinful acts that they have never committed, all the while holding themselves blameless. There are other perverts who get so much of what they seem to consider as glory from the reputation of having done fearful deeds that they are ready to go all lengths in accusing themselves. Jane Toppan may be one of those. But vainglorious self-accusation of a multitude of murders, much as its detection may relieve society, cannot palliate a single actual murder. Jane Toppan's conviction of one murder is enough to cry for some punishment upon her, quite apart from her alleged fecundity of such crimes. There is one lesson that it seems incumbent on us to draw from this horrible case, and that is that we cannot be too punctilious in insisting on the moral soundness of young women who seek to enter the profession of nursing.

THE USE OF TOBACCO AS A PREVENTIVE AGAINST INFECTION.

It was an old time belief that the smoking of tobacco was in some sort a protective against infectious diseases. The idea is, of course, strenuously combated by the anti-tobaccoists, and has its adherents, on the other hand, as an empirical belief, at the present day, in the medical profession, and has now, in fact, a modicum of experimental evidence to support it. In a Montpellier thesis for 1901, according to Dr. Desprez (*Revue Médicale*, May 14th), Dr. Duman reports a series of laboratory experiments,

made by impregnating culture media aseptically with the volatile principles of tobacco smoke, and then sowing them, and also other media from the same stock but not so impregnated, with various kinds of micro-organisms using the same mother colony for each kind. A careful observation of the comparative differences in development of the cultures leads him to the conclusion that the smoke is without action on the development of the bacilli of tetanus and typhoid, the streptococcus; the *Micrococcus tetragenus*, and the *Leptothrix buccalis*, but that it appears very seriously to affect the evolution, occasionally even to complete inhibition, of the pneumococcus, the bacilli of diphtheria, tuberculosis, and influenza, the staphylococcus, and the spores of thrush (muguet). Its action, however, upon developed colonies, is nil, and it must therefore be regarded as merely a preventive. Dr. Dunan infers that smoking, both before and after the visit, may possibly be serviceable to those whose duty throws them into close association with subjects of grippe, diphtheria, pneumonia, and tuberculosis, and Dr. Desprez exults approvingly over this inference. Sympathetically, so do we; but scientifically, while we welcome Dr. Dunan's conclusions as an excuse, we should ask for further confirmation of his experiments and their results, before relying on them as a justification.

CANCER AND MALARIAL INFECTION.

To those who have caught at the straw of an antagonistic action between malaria and cancer it will be somewhat depressing to learn of Prochnik's observations in the Dutch East Indies (*Wiener klinische Wochenschrift*, 1902, No. 5; *Berliner klinische Wochenschrift*, June 2d) to the effect that malarial infection is neither curative of carcinoma nor protective against it. It seems that cancer of the liver is very common in comparatively young persons in that part of the world, and that the fact is attributed to the frequency with which cirrhosis of the liver occurs, an affection thought by many distinguished tropical physicians to be a very frequent sequela of malarial disease. Apparently, therefore, malarial infection actually favors the development of cancer.

A NOTABLE SUCCESS IN INTRACRANIAL SURGERY.

The prompt success following the recent removal of a large intracranial tumor by Poirier (*Bulletins et mémoires de la Société de chirurgie de Paris*, xxviii., 2, 3; *Berliner klinische Wochenschrift*, June 2d) seems noteworthy. The tumor, the nature of which is not stated in the abstract, was larger than one's fist, weighing nearly ten ounces. It appears to have sprung from without the dura mater, which it

penetrated, growing deep into the brain. The large cavity left by its removal was situated in the temporal lobe of the brain. In twenty-four hours the vomiting ceased and the patient regained consciousness. At the end of thirty-six hours the faculty of speech began to return, and gradually the paralytic phenomena disappeared.

FOUR CÆSAREAN OPERATIONS ON ONE WOMAN.

The heroine of four Cæsarean operations is certainly to be credited with a wholesome maternal instinct. Such a one is a patient of Charles's (*Journal médical de Bruxelles*, February 6th; *Berliner klinische Wochenschrift*, June 2d), a little woman with a rachitic pelvis upon whom he himself did all the operations. Three of the children, together with the mother, are still living; the other child died of bronchitis at the age of thirteen months.

THE FOURTH OF JULY ON WARD'S ISLAND.

We are glad to learn that the Fourth of July was devoted to outdoor athletic sports and trials of skill among the nurses, employees, and patients of the Manhattan State Hospital, West, a State institution for lunatics, of which Dr. E. C. Dent is the superintendent. We thoroughly approve of all practicable diversion for the insane, especially that of games in the open air, and we hope that provision for it will be made more and more in our asylums.

CORONATION HONORS FOR MEDICAL MEN.

The *Philadelphia Medical Journal* states that, while the coronation of King Edward can have no special interest for medical men except as it may bring forth a cron of medical knights and baronets, it "would like to see Mr. Jonathan Hutchinson made a knight, if he has not been made one already." We believe we are correct in stating that the offer of either a knighthood or a baronetcy was made years ago to Mr. Hutchinson, but that his principles as a member of the Society of Friends did not permit him to accept the title. It must be remembered in looking at the list of untitled people whom the general public think worthy of the grant of such honors, that before any such are conferred, it is the custom of the advisers of the Crown first to ascertain the views of the proposed beneficiary, and if they are not sure of an acceptance, not to make public the offer. Principle is the reason for some refusals; insufficient financial standing properly to sustain the dignity for others. It would not be dignified for the offer of the honor to be publicly made and as publicly declined.

News Items.

William Osler, D. C. L.—Trinity University, Toronto, has conferred the degree of D. C. L. on Dr. William Osler.

Chicago Eye, Ear, Nose and Throat College.—Dr. H. B. Wurden has been elected professor of ophthalmology in this institution.

The Denver Emergency Hospital has been opened at Fourteenth and Curtis streets. While the building is not large, the institution has been well fitted up, and has already begun to demonstrate its usefulness.

To Regulate the Sale of Vaccine Virus, Antitoxines, Etc.—The U. S. Senate on June 30th enacted a measure to regulate the sale of viruses, serums, antitoxines and analogous products in the District of Columbia and to regulate interstate traffic therein.

Hospitals for Contagious Diseases are to be provided by this city, an appropriation of \$500,000 having been made. While this sum is only one-third of that asked for by the Health Commissioner, Dr. Lederle, it will be sufficient with which to make a start in this direction.

Rush Medical College Admits Women.—For the first time in the history of the institution women have been allowed to matriculate for graduation upon the same footing as men. Two women have matriculated for the summer quarter and it is expected that a number will apply in the autumn.

Women in the Summer Corps.—The New York Board of Health has this year appointed women among the summer corps of physicians whose duty it is to visit the tenement houses during the hot weather. The names of these physicians are Dr. Katherine Guy, Dr. Isabel Church, Dr. Sarah J. Baker, Dr. Louise Eaton and Dr. Sidonia Weiss.

Further Excavations and Researches at Cos.—It is said that Dr. Rudolf Herzog, of Tübingen, and Professor Vosseler, of Stuttgart, are to proceed shortly to the island of Cos, for the purpose of continuing the researches into the home of Hippocrates, begun by the former in 1898 and 1900. Particular attention will be paid to the search for the Asclepeion, and to unearthing any remains of the once famous medical school at Cos.

The Colorado Medical Society.—At the annual meeting of the Colorado Medical Society held at Pueblo during the last week in June, the following officers were elected: President, Dr. W. W. Grant, Denver; first vice-president, Dr. Sol Kahn, Leadville; second vice-president, Dr. H. A. Black, Pueblo; third vice-president, Dr. T. J. Forsham, Trinidad; recording secretary, Dr. C. T. Love, Denver; assistant recording secretary, Dr. J. Tracy Milvin, Saguache; corresponding secretary, Dr. Joseph M. Blain, Denver; treasurer, Dr. William J. Rothwell, Denver.

The Stillman Infirmary at Harvard for the use of students has been completed, at a cost of \$100,000, the entire charges having been borne by James Stillman of New York. The building is four stories high, is built of brick and limestone. It is proposed to make a small charge to students for accommodations in the infirmary, but the amount thus received will be inadequate to provide for the maintenance of the institution and funds will no doubt be provided for this purpose by subscription.

Cleaning up the New York Markets.—Serious complaints have been lodged with the Health Department by its inspectors against the conditions in the various retail markets in the city, and the president of the Health Department, has taken very active steps towards abating the nuisances, more particularly in and around Fulton and Washington markets. The sidewalks and passage-ways have been filled up with stands, and the surroundings were kept wet and in an unsanitary condition by the keepers of these licensed stands.

The Death of Dr. J. W. Washbourn, which is reported from London, at the early age of thirty-eight years, inflicts upon the science of medicine the loss of a career pregnant with promise. His work in bacteriology and epidemiology was of a character that showed him to be eminently one of those from whose painstaking labors new fields were likely to be opened in the near future. Dr. Washbourn was physician to, and lecturer on bacteriology at, Guy's Hospital.

Cholera Among American Soldiers in the Philippines.—According to press reports ninety American soldiers have died of cholera since the disease first made its appearance among them. Owing to the increase of cholera victims, the health authorities in Manila and in the provinces are enforcing the most stringent regulations.

The totals of cases and deaths from the epidemic are as follows: Manila, 1,530 cases and 1,236 deaths; in the provinces, 7,369 cases and 5,440 deaths.

The Cincinnati College of Medicine and Surgery.—At a recent meeting of the faculty of the Cincinnati College of Medicine and Surgery, Dr. T. V. Fitzpatrick was re-elected Dean of the faculty, and the following professors were elected: Professor of anatomy, Dr. H. A. Ingalls; professor of practice of medicine, Dr. D. F. Fyle; professor of ophthalmology, Dr. T. A. Christen; professor of diseases of women, Dr. Edwin S. Ricketts; general professor of medicine, Dr. Henry W. Dettman.

Exchange of Registration Between Indiana and Illinois.—On condition that the State Medical Board of Illinois admit Indiana doctors to practice in that State without special examination, the sole requisite being that they shall have a special certificate showing that they have taken the necessary examination under the Illinois board, the Indiana State Board of Medical Registration and Examination decided recently to admit Illinois physicians to practice in Indiana without special examination.

The American Electro-Therapeutic Association will hold its Twelfth Annual Meeting, at the Kaaterskill House, Catskill Mountains, N. Y., on September 2d, 3d and 4th. The officers are: President, Dr. Fred H. Morse, Melrose, Mass.; secretary, Dr. George E. Bill, Harrisburg, Pa., and treasurer, Dr. R. J. Nunn, Savannah, Ga.

A Monument to Dr. Panzeri.—A monument has been raised on the grounds of the Institute for the Rachitic at Milan in honor of Dr. Pietro Panzeri. It is by the sculptor Luigi Panzeri, and shows a bronze half-length of the celebrated specialist holding a child in his arms. The child's head is hanging down, and it is crying with mouth wide open, while the physician is observing the movement of its legs preparatory to diagnosis. Panzeri was one of those who fought under Garibaldi, so there is a standard with sword and Garibaldian cap, all in bronze, lying on the steps below the pedestal. Dr. Panzeri died last year at the institute, where he had labored for fourteen years.

Requirements for Practice in New Mexico.—At a recent meeting of the Territorial Health Board of New Mexico, a resolution was adopted that physicians applying for license to practice in New Mexico, and who have diplomas from the following medical colleges, will be granted such licenses without examination: University of Pennsylvania, Harvard, Johns Hopkins, University of Missouri and Columbia. All other applicants will be required to pass the examination. Twenty-six applicants were admitted without examination, to practice in the territory, while seven were ordered to present themselves for examination in December.

The Denver and Gross College of Medicine is the name formally adopted for the institution formed by the consolidation of the Denver College of Medicine and the Gross Medical College. The college will be located in the commodious Haish Building at the corner of Fourteenth and Arapahoe streets, Denver, Colorado, heretofore the home of the Denver College of Medicine. The teaching force will embrace the faculty and instructors of each school under the management of a Board of Trustees selected from each of the schools as follows: Dr. E. C. Rivers, president of the Board, Dr. Thomas H. Hawkins, Dr. E. J. A. Rogers, Dr. S. G. Bonney, Dr. C. K. Fleming, Dr. W. A. Jayne, Dr. Robert Levy, Dr. Leonard Freeman and Dr. Henry Sewall.

The Army Medical School.—The appointment of Col. Charles Smart, Assistant Surgeon-General of the Army, as president of the Army Medical School in Washington to succeed General Forwood, will be generally approved of throughout the department. Colonel Smart was born in Scotland, studied medicine there, came to this country before the beginning of actual hostilities in the Civil War, ad served through that war with great credit. Since then he has been prominently identified with the work of the Medical Department of the Army, his Handbook for the Hospital Corps having been approved by the Surgeon general of the army and adopted as a text-book in the school.

The Michigan Medical Society.—The thirty-seventh annual convention of the Michigan Medical Society was held in Port Huron, Mich., on June 26th and 27th. A new constitution was adopted modelled on that proposed for the state association by the American Medical Association. Under this constitution, as our readers are no doubt aware, business affairs of the State Society will be conducted by a House of Delegates composed of representatives from the various county medical societies throughout the State. Membership in the county society also confers membership in the state society, and the requirements for admission have been somewhat broadened so as to make no discrimination between adherers of the different schools of medicine. The following officers were elected for the ensuing year: President, Dr. A. E. Bulson, of Jackson; vice-president, Dr. Jas. C. Wilson, of Flint; secretary, Dr. A. P. Biddle, of Detroit; secretary and treasurer, Dr. Charles E. Hookey, Grand Rapids.

Professional Articles May not be Imported Free of Duty.—Dr. Henry E. Koch of Cincinnati after a residence abroad returned to the United States bringing with him certain photographic and microscopic articles, apparatus for which he claimed entry duty free claiming that "the intention of this law (par. 697 of the act of July 24, 1897) seems to be to allow American tourists to bring with them on their return \$100 worth of foreign-purchased articles, with but little regard to the nature thereof." In overruling this protest against the collection of duty the Secretary of the Treasury holds that the "articles of a professional character, as in this instance, and which are not appropriate or usual articles carried by a traveler, are not entitled to the privilege of free entry under the above provision of law, the more so that, under the provisions of paragraph 645 of the tariff act, the free entry of implements, instruments, tools of trade, etc., of persons arriving in the United States is confined to such articles when brought by *immigrants*."

The Cause of Death in the Martinique Eruption.—Lieutenant Jere B. Clayton, Assistant Surgeon, U. S. A., in command of the medical expedition sent on the U. S. S. *Dixie* to relieve the sufferers on the island of Martinique, has transmitted his formal report to the surgeon general of the army. Lieutenant Clayton says that as near as could be ascertained the cause of death was the explosion of an inflammable gas, which was emitted by the mountain. The most plausible explanation of the conditions found, he says, was given by Lieutenant Reilly, who suggested that the gas, as emitted by the mountain, was not inflammable until mixed with a certain quantity of oxygen, which mixture was reached at the time the gas arrived at St. Pierre. It was firmly asserted by all the survivors that every one in St. Pierre was dead three minutes after the explosion took place. The volcano on St. Vincent known as La Soufrière was also visited, and the cause of death there seems to have been suffocation by sulphur dioxide, or some similar gas. It is estimated that about two thousand deaths were caused by the eruption of La Soufrière.

Marine-Hospital Service.—Among the bills passed just at the close of the last session of Congress, was a Senate bill to promote the efficiency of the Marine-Hospital Service and to change its name to the Public Health and Marine-Hospital Service. The bill met with the cordial approval of nearly all the congressmen from the Gulf States, who were in favor of the bill because it extends the jurisdiction and increases the authority of the service during times of epidemics, and also provides for the holding of joint conventions with the state authorities, which will ensure co-operation between the state and federal health departments, and thus obviate the possibility of the inauguration of local shot-gun quarantine. The bill was finally passed under a suspension of the rules.

The Rocky Mountain Industrial Sanatorium has established a Press Auxiliary, the objects of which are: (1) To provide a place where newspaper writers, journalists, authors, artists, etc., who become broken in health, and are threatened or stricken with tuberculosis, may have the best possible chance to recover; (2) to place before the public the fact that consumption is being cured by modern sanatorium methods and treatment. It is proposed to effect these objects by the publication of a monthly magazine. Except the actual handling of the issue after it comes from the press, all the work of preparing and making up the magazine can be done on the sanatorium grounds by the patients sent by the Press Auxiliary to the institution for treatment, and should make them entirely self-supporting.

The magazine will further be the organ of the Rocky Mountain Industrial Sanatorium and will be under the supervision of a board of managers selected by the Press Auxiliary, cooperating with the medical advisory board of the institution. It will be scientific in aim, but since millions are interested in the subject of tuberculosis, it should also be popular in its treatment of questions of hygiene, health, health resorts, climate, sanatoria, and kindred subjects. The headquarters of the Press Auxiliary will be in Denver.

The University of California.—According to the associate press dispatches Dr. Jacques Loeb, professor of physiology and experimental biology in the University of Chicago, has been invited to become Dean of the affiliated faculties of medicine and dentistry of the University of California. It is further stated that Professor Loeb has signified his willingness to accept the position if the affiliated colleges are fitted up with a sea aquarium, so that he may be enabled to prosecute his researches in that direction. Professor Loeb was born in Germany in 1859, and was educated at the Universities of Berlin, Munich, and Strassburg, receiving the degree of M. D. in Strassburg in 1884. He passed his examination as a physician in 1885, and did independent work in physiology, first at the physiological laboratory of the University of Strassburg, and afterward at the University of Berlin and the Agricultural Academy at Berlin. From 1886 to 1888 he was assistant at the physiological laboratory of the University of Harzburg, and from 1888 to 1890 at that of Strassburg. In the Summer of 1888 he made a special

study of the life phenomena of sea animals at Kiel, and in the Winters of 1889 and 1890 he pursued investigations in experimental biology at the biological station at Naples. In 1891 he accepted a position as Associate Professor of Biology at Bryn Mawr College, Pennsylvania, and in 1892 was called to the University of Chicago to be Professor of Physiology and Experimental Biology.

The Health of Chicago.—Following is a statement of mortality for the week ending June 21, 1902; compared with the preceding week; and with the corresponding week of 1901; estimated mid-year 1902 population, 1,820,000:

	June 21 1902	June 14 1902	June 22 1901
Total deaths; all causes.....	450	461	406
Death rate <i>per annum</i> , in 1000. 12.89	13.11	12.04	
By sexes:			
Males.....	272	239	229
Females.....	178	212	177
By ages:			
Under 1 year.....	80	73	61
Between 1 and 5 years.....	44	48	56
Over 60 years.....	68	81	87
Principal Causes of Death:			
Acute intestinal diseases.....	28	29	23
Apoplexy.....	10	10	8
Bright's disease.....	20	41	19
Bronchitis.....	12	13	6
Consumption.....	60	45	35
Cancer.....	23	26	28
Convulsions.....	16	12	6
Diphtheria.....	10	7	12
Heart diseases.....	41	42	28
Nervous diseases.....	24	23	22
Pneumonia.....	44	38	41
Typhoid fever.....	6	3	1
Scarlet fever.....	1	8	4
Suicide.....	8	8	10
Violence (other than suicide). 34	23	27	
Measles.....	6	6	9
Whooping cough.....	7	2	8

The Fourth Scandinavian Medical Congress, for internal medicine, was held in Helsinfor, Finland, from July 4th to July 6th. Papers were to be read On the Infectiousness of Discharged Scarlet Fever Patients by Dr. P. Aaser; On the Splitting up of Neutral Fats in the Stomach by Dr. M. Bjorkston; On some not Unimportant Conditions in Testing for Albumin by Heat and Acid by Dr. R. Ekstrom; On the Deformities of the Thorax in Syringomyelia by Dr. Hagelstam; On the Influence of Morphine on the Secretion of Hydrochloric Acid in the Stomach by Dr. H. Holsti; On Diet in Nephritis by Dr. H. Koster; Polyarthrits Villosa Infectiosa by Dr. Levison; On the Clinical Value of the Examination of the Gastric Juice in Children in the First Year of Life by Dr. A. H. Meyer; On the Sources of Oxalic Acid Formation in the Organism by Dr. E. Rosenquist; On the Frequency of Inequality of the Pupils and its Significance by Dr. O. Schaumann; Demonstration of a Case of Idiopathic Dilatation of the Esophagus without Stenosis by Dr. R. Sievers; The Therapeutic Effects of Tesla Currents by Dr. Stenbeck; Contribution to the Pathology of the Sympathetic by Dr. Vetlesen.

Discussions were to be opened by Professor J. W. Runeberg and Dr. H. Quesnel on the Syphilitic Affections of the Heart, and by Dr. P. F. Holst and Professor Israel-Rosenthal on the Ætiology of Nephritis.

The Medical Council of Ontario at its recent meeting in Toronto elected the following officers: President, Dr. W. J. H. Emery; vice-president, Dr. J. A. Robertson; registrar, Dr. R. A. Pyne; treasurer, Dr. Wilberforce Aikins; auditor, Dr. J. C. Patton.

A telegram of sympathy was cabled to the King and an appreciative reply was received from His Majesty's private secretary. It was decided to sell the building now owned and occupied by the Council and to erect a smaller building to be used exclusively by the Council. Eight medical men now serving with the troops in South Africa were granted their examinations on presentation of certificates of service and payment of the fees. Sir Frederick Borden, Minister of Militia, was registered as a licensed practitioner under the Ontario Council, though the wisdom of this act was questioned by one of the members—not on account of any hostility to Dr. Borden, but because of its irregularity. The following are the examiners appointed for the Council examinations next year: Descriptive anatomy, Dr. H. B. Anderson, Toronto; theory and practice of medicine, Dr. W. G. Anglin, Kingston; midwifery, operative and other than operative, and puerperal diseases, Dr. R. N. Harton, Brockville; physiology and histology, Dr. A. Primrose, Toronto; surgery, operative and other than operative, Dr. J. Olmsted, Hamilton; medical and surgical anatomy, Dr. W. Gunn, Clinton; chemistry, theoretical, practical, and toxicology, Dr. G. Chambers, Toronto; materia medica and pharmacy, Dr. J. W. Schooley, Welland; medical jurisprudence and sanitary science, Dr. Ogden Jones, Toronto; assistant to the examiner in surgery, diseases of women, Dr. R. Ferguson, London; first assistant to the examiners on medicine, diseases of children, Dr. A. Haig, Kingston; second assistant to the examiner on medicine, pathology, therapeutics and bacteriology, Dr. G. H. Field, Toronto; homœopathic examiner, Dr. A. E. Wickens, Hamilton.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and death: reported for the two weeks ending July 5, 1902:

DISEASES.	Week end'g June 28		Week end'g July 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.	30	11	33	11
Scarlet fever.	231	18	220	18
Cerebro-spinal meningitis.	0	2	0	3
Measles.	250	17	217	18
Diphtheria and Croup.	319	40	319	43
Small-pox.	40	10	20	11
Tuberculosis.	276	137	234	135

Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera and plague were reported to the surgeon-general during the week ending July 5, 1902:

Smallpox—United States.

California.	San Francisco.	June 15-22.	2 cases.
Colorado.	Denver.	June 14-21.	3 cases.
Illinois.	Chicago.	June 21-28.	70 cases.
Indiana.	Indianapolis.	June 21-28.	3 cases.
"	Muncie.	June 1-30.	2 cases.
"	Terre Haute.	June 1-30.	2 cases.
Iowa.	Ottumwa.	May 31-June 28.	10 cases.
Kansas.	Wichita.	June 21-28.	1 case.
Kentucky.	Covington.	June 21-28.	4 cases.
"	Lexington.	June 21-28.	1 case.
Louisiana.	Shreveport.	June 14-21.	1 case.
Massachusetts.	Boston.	June 21-28.	8 cases.
"	Cambridge.	June 21-28.	7 cases.
"	Everett.	June 21-28.	2 cases.
"	Lowell.	June 21-28.	1 case.
"	Melrose.	June 21-28.	1 case.
"	Newton.	June 21-28.	2 cases.
"	Sanoville.	June 21-28.	4 cases.
"	Taunton.	June 21-28.	2 cases.
Michigan.	Detroit.	June 21-28.	4 cases.
"	Grand Rapids.	June 7-28.	5 cases.
Missouri.	St. Louis.	June 22-30.	6 cases.
Montana.	Helena.	June 1-30.	1 case.
Nebraska.	Omaha.	June 21-28.	7 cases.
"	South Omaha.	June 23-30.	18 cases.
N. Hampshire.	Nashua.	June 22-30.	11 cases.
New Jersey.	Newark.	June 21-28.	2 cases.
New York.	New York.	June 21-28.	46 cases.
Ohio.	Ashtabula.	June 14-21.	2 cases.
"	Cincinnati.	June 20-27.	1 case.
"	Cleveland.	June 21-28.	17 cases.
"	Dayton.	June 21-28.	3 cases.
"	Toledo.	June 21-28.	3 cases.
Pennsylvania.	Altoona.	June 21-28.	1 case.
"	Johnstown.	June 21-28.	9 cases.
"	McKeesport.	June 21-28.	1 case.
"	Philadelphia.	June 21-28.	15 cases.
"	Pittsburg.	June 21-28.	13 cases.
Tennessee.	Memphis.	June 7-28.	2 cases.
Utah.	Salt Lake City.	June 14-28.	6 cases.
Virginia.	Petersburg.	June 1-26.	2 cases.
Washington.	Tacoma.	June 14-21.	1 case.
Wisconsin.	Green Bay.	June 21-28.	2 cases.
"	Milwaukee.	June 21-28.	3 cases.

Smallpox—Insular.

Philippine Islands.	Manila.	Apr. 26-May 10.	6 cases.
			2 deaths.

Smallpox—Foreign.

Austria.	Prague.	June 7-14.	10 cases.
Canada.	Quebec.	June 7-14.	8 cases.
China.	Hongkong.	May 3-17.	5 cases.
France.	Paris.	June 7-14.	1 death.
Great Britain.	Belfast.	June 7-14.	1 death.
"	Birmingham.	June 7-14.	3 cases.
"	Glasgow.	June 13-20.	2 cases.
"	Liverpool.	June 7-14.	3 cases.
"	London.	June 7-14.	157 cases.
"	New Castle on Tyne.	May 31-June 14.	1 case.
"	Sunderland.	June 7-14.	1 case.
India.	Bombay.	May 27-June 3.	7 deaths.
"	Calcutta.	May 24-June 3.	4 deaths.
"	Karachi.	May 24-June 3.	1 death.
Italy.	Palermo.	June 7-14.	4 cases.
Mexico.	City of Mex.	June 15-22.	1 case.
"	Vera Cruz.	June 14-21.	1 case.
Russia.	Odessa.	June 7-14.	5 cases.
Straits Settlements.	Singapore.	May 3-10.	1 death.

Yellow Fever.

Mexico.	Vera Cruz.	June 14-21.	28 cases.
			12 deaths.

Cholera.

China.	Hongkong.	May 3-17.	71 cases.
India.	Bombay.	May 27-June 3.	1 death.
"	Calcutta.	May 24-June 3.	72 deaths.
"	Karachi.	May 25-June 1.	4 cases.
Straits Settlements.	Singapore.	May 3-10.	99 deaths.

Plague.

China.	Hongkong.	May 3-10.	58 cases.
India.	Bombay.	May 27-June 3.	133 deaths.
"	Calcutta.	May 24-June 3.	132 deaths.
"	Karachi.	May 25-June 1.	72 cases.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending July 5, 1902:

AMADOR, R. A., Contract Surgeon, is granted leave of absence for one month, to take effect about September 1st, with permission to apply for an extension of one month.

DEAN ELMER A., First Lieutenant and Assistant Surgeon, is granted leave of absence for one month, with permission to apply for an extension of two months.

KELLOGG, WILLIAM V., Contract Surgeon, will proceed to Fort Sill, Oklahoma, for duty.

NEWLOVE, GEORGE, Contract Surgeon, will proceed from Philadelphia to Fort Wood, N. Y., for duty, to relieve JULIUS C. LE HARDY, Contract Surgeon, who will proceed to San Francisco for transportation to the Philippine Islands.

STRONG THOMAS J., Contract Surgeon, will report in person to the commanding general, Department of California, for duty.

WAKEMAN, WILLIAM J., Major and Surgeon, is detailed as a member of the examining board convened at the Army Building, New York, vice JOHN S. KULP, Captain and Assistant Surgeon, relieved.

WINNE, CHARLES K., Lieutenant Colonel and Deputy Surgeon General. His retirement from active service, June 30, 1902, by operation of law, is announced.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending July 5, 1902:

WARD, B. R., Passed Assistant Surgeon. Resignation accepted, to take effect June 28th.

GRAVATT, C. U., Medical Director. Detached from duty as President of the Medical Examining Board, Naval Laboratory, New York, and ordered to duty at the Naval Museum of Hygiene, Washington, D. C.

McCLURG, W. A., Medical Inspector. Detached from the *Olympia*, and ordered to the *Kearsarge* as Fleet Surgeon of the North Atlantic Station.

AMES, H. E., Surgeon. Detached from the *Kearsarge*, and ordered to the *Olympia*.

FLEADWELL, F. L., Passed Assistant Surgeon. Detached from the *Olympia*, and ordered to the *Kearsarge*.

ANGENY, G. L., Passed Assistant Surgeon. Detached from the Naval Laboratory, New York, and ordered to the *Lancaster*.

THOMPSON, E., Passed Assistant Surgeon. Detached from duty with the Marine Guard, Charleston, S. C., and ordered to the Naval Laboratory, New York.

JOHNSON—POWER.—In Syracuse, N. Y., on Wednesday, June 25th, Dr. Edward Sullivan Johnson and Miss Mary Frances Power.

SLOAN—NEWMAN.—In Buffalo, on Saturday, July 5th, Dr. George A. Sloan and Dr. Mary E. Newman.

SLOCUM—WARE.—In Cincinnati, on Wednesday, June 25th, Dr. S. E. Slocum and Miss Jeanette Ware.

SQUIRES—SMITH.—In Buffalo, on Saturday, July 5th, Dr. Louis Almon Squires and Miss Irene Smith.

TALBOTT—TABB.—In Kansas City, Missouri, on Wednesday, June 25th, Dr. Hudson Talbott, of St. Louis, and Miss Frances Page Tabb.

THEXTON—BOUGHTON.—In Chicago, on Wednesday, June 25th, Dr. Richard Elmer Thexton and Miss Bertha Boughton.

THOMPSON—BOWLES.—In Janesville, Wisconsin, on Wednesday, June 25th, Dr. Arthur N. Thompson, of Milwaukee, and Miss Amy Bowles.

WOODBURN—GRANT.—In Cincinnati, on Wednesday, June 25th, Dr. Howard Woodburn and Miss Leonna Grant.

Died.

BENNETT.—In Chicago, on Monday, June 30th, Dr. Edward Richardson Bennett, in the forty-second year of his age.

FURLEY.—In Wichita, Kansas, on Sunday, July 6th, Dr. Charles C. Furley, formerly of the United States Army.

GAYNOR.—In Hartford, Connecticut, on Thursday, June 26th, Dr. Louis J. Gaynor.

HIBBARD.—In Kansas City, Missouri, on Wednesday, July 2d, Dr. Harry L. Hibbard, in the thirty-seventh year of his age.

TYLER.—In Denver, on Monday, July 7th, Dr. George E. Tyler.

WARD.—In Newark, N. J., on Sunday, June 6th, Dr. Arthur Ward, in the seventieth year of his age.

WHITMAN.—In Somerville, Massachusetts, on Thursday, June 26th, Dr. Edison F. Whitman, in the seventy-fifth year of his age.

OBITUARY NOTES.

DR. ERNEST POTTER JENKS, who died in this city on June 25th, was born in Boston on May 13, 1866. He was educated at Brown University and graduated from the College of Physicians and Surgeons in the City of New York in 1898. He was connected with the Demilt Dispensary as assistant house surgeon, and had also charge of the heart and lung department since 1901. He was also assistant to Dr. Silver at the Vanderbilt Clinic. Dr. Jenks was a man of fine presence, and a genial personality, which made him a general favorite among his fellow practitioners.

DR. JOSEPH EASTMAN died at his home in Indianapolis on June 5th at the age of sixty years. Dr. Eastman entered the army during the Civil War as a private in the Seventy-seventh New York Volunteer Infantry, and while convalescing at a Washington Hospital from an attack of typhoid fever became a hospital nurse, took up the study of medicine, graduated at the Georgetown Medical College, and was commissioned as assistant surgeon of Volunteers, serving until the close of the war. After the war he graduated from Bellevue Hospital Medical College. He took up his residence in Indiana, and was one of the organizers of the Central College of Physicians and Surgeons at Indianapolis, in which he held a professorship for many years, being at the time of his death professor of diseases of women and abdominal surgery. He was a frequent contributor to medical literature, his contributions on abdominal surgery being particularly valuable.

Births, Marriages, and Deaths.

Married.

BERDAN—RODGERS.—In Toledo, Ohio, on Wednesday, June 25th, Dr. John Berdan and Miss Anna Rodgers.

BURNS—COX.—In Freeport, Illinois, on Tuesday, June 24th, Dr. Robert J. Burns and Miss Mary Cox.

CHILTON—MAGRUDER.—In Spartanburg, S. C., on Wednesday, June 25th, Dr. Charles M. Chilton, of Wayside, Mississippi, and Miss Elizabeth Magruder.

FRISSELL—MONTGOMERY.—In Simsbury, Connecticut, on Wednesday, June 18th, Dr. Louis F. Frissell, of New York, and Miss Annette Wood Montgomery.

GAHAN—MANNIX.—In Medford, Massachusetts, on Monday, June 30th, Dr. Patrick F. Gahan and Miss Elizabeth J. Mannix.

GALLAGHER—YOUNG.—In Boston, on Wednesday, June 18th, Dr. Howard Gallagher, of Lowell, Massachusetts, and Miss Elsie Young.

HALE—McHENRY.—In New York, on Monday, July 8th, Dr. George W. Hale, of Nashville, and Miss Virginia McHenry.

HAMILTON—BRENT.—In Mount Pleasant, D. C., on Friday, June 27th, Dr. Roderick F. Hamilton, United States Army, and Miss Naomi Brent.

HANSARD—MACKEDIE.—In Montreal, on Wednesday, June 25th, Dr. Frederick Lestock Haszard, of Glace Bay, Cape Breton, and Miss Mabel Mackedie.

HERFF—HARRIS.—In St. Louis, on Monday, June 30th, Dr. John Bennett Herff and Miss Florence Harris.

HURLBURT—WHEELER.—In Omro, Wisconsin, on Wednesday, June 25th, Dr. C. H. Hurlburt and Miss Mabel Wheeler, daughter of Dr. P. A. Wheeler.

Pith of Current Literature.

SURGERY AND ANATOMY.

Some Phases of Inflammation of the Appendix. by Sir F. Treves, Bart., (*British Medical Journal*, June 28).—The Cavendish lecture. In view of the operation recently performed by the author upon King Edward, the following exposition of his views upon the subject of appendicitis, is of timely interest. Appendicitis is essentially a variety of peritonitis. Its manifestations, its effects, its possibilities are those only of peritonitis. Whatever may be the antecedent condition, an attack of appendicitis is not in evidence, and, indeed, does not exist, until the peritonæum is implicated.

Extensive inflammation of the appendix, leading to great thickening of its walls, to widespread ulceration of its mucous membrane, and to some degree even of stenosis, may exist without producing symptoms of any kind. This is illustrated by those cases in which attacks of appendicitis appear without a single preliminary abdominal symptom, and also by those forms of recurring appendicitis in which the patient is entirely free from the least consciousness of trouble in the right iliac fossa during the interval between the attacks.

An acute attack of appendicitis may be preceded by occasions on which the patient has minor seizures of pain in the caecal district which are of short duration and irregular in appearance. There may be some tenderness, but there is no rise of temperature and no notable tympanites, and the attack ends in an hour or two. Such a disturbance depends upon changes in the appendix which are short of actual implication of the peritonæum. Such attacks may be so persistent as to lead to the removal of the appendix, and sometimes the organ shows a degree of inflammation and ulceration even beyond that seen in definite acute attacks of the accepted type. "Appendicular colic" is an erroneous term, as the appendix contains no muscular tissue the contraction of which could cause colic. In a third series of examples the patient may have a persistent trouble in the right iliac fossa, lasting for months, and yet not be associated with acknowledged attacks of appendicitis. Such patients are the subjects of unending digestive disturbances, colics, and constipation, with tenderness and pain in the right thigh. The symptoms are due to abiding gross changes in the vermiform process, which have never spread in an abrupt manner to the peritonæum.

The appendix is a portion of the intestinal canal and possesses no exclusive pathology of its own. Like the rest of the bowel, its mucous membrane is subject to catarrh but not to a peculiar catarrh. That catarrh may pass on to ulceration, the ulcer may become perforated, and the usual results of perforation will follow. The peritonitis induced is in no way a peculiar peritonitis. It may lead to rapid septicaemia, to adhesions of various kinds, or it may leave no trace behind. The few peculiarities which can be claimed for the appendix are: (1) It ends in a blind extremity; (2) it favors the formation of concretions; (3) it is liable to gross disturbances of its blood supply from torsion; and (4) its utter destruction leaves no function impaired.

Attention is called to three isolated points in connection with the ætiology of appendicitis: 1. Life in

a tropical or subtropical country has a very marked effect in encouraging appendicitis among Europeans. This may be explained by the fact that intestinal troubles are common in hot countries and the mode of life is notably different from that in more temperate localities. 2. In women the outbreak of an attack of appendicitis is frequently coincident with the menstrual period. This association is far too common to be merely accidental. The appendix and right ovary are often in close contact, have been found to be adherent, and their lymphatics are closely allied. There can be little doubt that the ovary may be infected from the vermiform process, and possibly the appendix from the ovary, although the latter must be rare. In operating upon a woman for appendicitis the right ovary should always be examined. It may be found to be the seat of chronic inflammation, to be adherent, or to be cystic, and so need removal. 3. The most common and the most conspicuous factor in the ætiology of an attack of appendicitis is a loaded cæcum; the lodgement of indigestible or ill-digested food in the cæcum is the most common preliminary to an attack. In other cases the patient has his meals at irregular hours, bolts his food, or rushes back to work at the end of a meal. The engorged cæcum encourages appendiceal troubles by becoming the seat of catarrh, by dragging upon the organ, by blocking its orifice, by interfering with its blood supply, by encouraging torsion of the tube itself, and by developing an inflammation of its walls which may spread either directly or through venous or lymphatic channels to the little process.

McBurney's Point. Tenderness in the right iliac fossa is a very conspicuous symptom of appendicitis of all grades. As McBurney's point is about the centre of this fossa it may be the centre of the tender area. Beyond this the author does not think the sign is of any clinical value. It does not indicate the situation of the diseased appendix, nor, according to the author's investigations, does it even correspond in the subject with the base of the appendix. The right-sided tender spot, which can be found in so many healthy individuals, is represented by the ileo-cæcal valve.

The so-called "phantom appendix," an elongated, vertical tumor sometimes felt in the right iliac fossa, is due to muscular contraction. This contraction is sometimes in the outer edge of the rectus muscle, sometimes in the internal oblique or transversalis muscles.

The author is opposed to indiscriminate immediate operation. Perforation of the appendix is not analogous to perforation of the stomach; most cases of acute appendicitis recover and yet perforation and acute peritonitis are present in the majority of cases. Most cases of appendicitis recover spontaneously, the general mortality not being above 5 per cent. But the mortality of operations during an acute attack is at least 20 per cent., while the removal of the appendix during the quiescent period is attended with a very trivial risk. (Of 1,000 such operations performed by the author, 998 were successful.) Immediate operation is demanded at the earliest possible moment, however, in all ultra-acute cases, such as those of intense septicaemia, or which correspond to perforation of the stomach. The author does not think these ultra-acute cases are difficult of recogni-

tion. Where there is a reasonable suspicion of the existence of pus, operation is demanded. Removal of the appendix is also recommended in chronic appendicitis, in those examples in which there are no actual attacks, but in which there is lasting discomfort in the right iliac fossa with exacerbations of uneasiness.

A Case of Splenic Abscess. By Dr. Giuseppe Riolo (*Riforma medica*, April 24).—The patient, a woman aged 25 years, previous history negative, except that at the age of 18, soon after her marriage she began to feel acute pains in the left side of the abdomen and loin which were diagnosed as acute nephritis. In August, 1901, she was exposed to malarial infection and began to complain of a pain that was transmitted to the left hypochondrium, and that recurred at infrequent intervals. Soon afterwards accesses of chills, fever, and sweating appeared, which were repeated daily for a week and were apparently cured by quinine. On examination, there was found a tumor on the left side under the arch of the ribs, extending downward and forward to within two finger-breadths above the umbilical line. This tumor was of an irregular shape, with not well defined margins, a rather smooth surface, hard and elastic to the touch, and not movable with respiration. On percussion it showed an area of dullness which was continuous with that of the spleen. The left kidney could not be felt on account of the sensitiveness of this tumor; the right did not show anything abnormal. The examination of the urine showed it to be practically normal. The blood showed secondary anemia. Administration of quinine was found to have no effect upon the course of the fever, which was rather of a septic type, and, in fact, the quinine seemed to elevate the temperature. The diagnosis of splenic abscess is a very difficult one to make, and in fifty-seven cases recorded by Moursel only fourteen were properly diagnosed. The state of the patient continued to grow worse, and she showed symptoms of profound septic poisoning. A puncture was made over the tumor and showed the presence of pus. A laparotomy was undertaken, the incision being made parallel to the ribs and the left eleventh and twelfth ribs were resected. About a pint of pus was evacuated, and some pieces of detached splenic substance were removed. The cavity was irrigated with hot water, and packed with gauze. The patient made an excellent recovery.

The author calls particular attention to the fact that, in splenic abscess with malaria, quinine elevates the fever instead of lowering it. He explains this by the fact that quinine contracts the spleen and propels into the general circulation a larger amount of septic material after each dose.

The "Open Method" of Treating Exceptional Cases of Septic Arthritis of the Knee. By W. Whitehead, F. R. C. S. (*British Medical Journal*, June 21st).—The author reports a case of septic arthritis of the knee following an operation for removal of the internal semilunar cartilage. Although all aseptic precautions were observed, symptoms of infection developed within five days. Local pain

and constitutional symptoms manifested themselves, the body temperature rose to 103° F., and the condition of the patient became critical. The details of the second operation, performed the fifteenth day after the removal of the cartilage, were as follows: (1) A transverse incision was made through the skin over the centre of the patella. (2) The patella was sawn across in a line corresponding to the skin section. (3) The joint was freely flexed and thoroughly opened, and the crucial ligament divided. (4) All exudations on the surfaces and in all the cavities of the joint were carefully scraped away with a surgical spoon, and immediately afterward all the surfaces were freely swabbed with lint saturated with turpentine. (5) The whole of the exposed surfaces, and every crevice, was gently packed with iodoform gauze. (6) With the joint well flexed (beyond a right angle), layers of wood wool were so adjusted by bandages that they not only afforded a compact support to the back of the knee, but also acted in firmly retaining the knee in an acutely-flexed position. The result was immediate, all pain disappearing and the temperature falling to normal. After two days the joint-cavity was daily syringed out with an antiseptic solution and packed with iodoform gauze. Granulations began to form at once, and on the fifteenth day the leg was straightened. The articular cartilage disappeared by a process of molecular disintegration.

On Penetrating Incised and Punctured Wounds of the Abdomen.—By Dr. B. K. Finkelstein (*Concluded*).—The author (*Roussky Vrach*, May 18th) concludes his extensive clinical study of wounds of the abdomen with the following general statements. The first thing to be noted is the comparative infrequency of complication of abdominal wounds by wounds of the hollow viscera of that cavity. In 132 cases 70.4 per cent. proved to be merely penetrating wounds of the abdominal wall. Of the remaining cases, 39 in number, there were 13 complicated by wounds of the liver, 6 of the stomach, 3 of the omentum, 1 of the spleen, and in 1 there were a number of organs injured. The author's data therefore fully confirm the law which states that the liability of an abdominal organ to injury is directly in proportion to its size. According to Spiegel, the order of frequency of abdominal organs wounded is: Intestines, liver, stomach, kidneys, spleen, and pancreas. In 53 per cent. of wounds not complicated by injury of viscera, there were prolapses of internal organs through the incision. In the majority of these cases the omentum alone is prolapsed. The length of the external wound in 79 per cent. of cases did not exceed 3 centimetres, in 10 per cent. of cases it was from 3 to 4 centimetres, in 5 per cent. of cases, from 4 to 5 centimetres, and in the remaining cases reached the size of 8 centimetres. The prognosis in simple penetrating wounds is favorable, but in cases complicated with visceral wounds, even without symptoms, when there has been no laparotomy one may expect peritoneal complications as late as the fifth or sixth day, as the adhesions of the visceral wound may be feeble and may give way. Wounds of the diaphragm give rise to diaphragmatic hernias in 25 per cent. of cases, and for this reason demand close attention. Wounds of the left side of the diaphragm should therefore be sutured according to the method of Freyer or that of Rydygier. In

wounds of the liver the left half of the organ is much more frequently (77 per cent.) affected than the right. In 16 per cent. of cases, wounds of the liver give no symptoms whatever, in 84 per cent. they are accompanied by very profuse hemorrhage. In 64 per cent., wounds of the liver are not followed by the discharge of bile when treated by plugging. The prognosis of hepatic wounds is serious, as the mortality is 38 per cent. Tamponing is the best and surest method of arresting hemorrhage in these wounds, but according to most writers, sutures give excellent results, even in deep wounds of any part of the liver. The disadvantages of sutures are that they increase the likelihood of suppuration, and do not always prevent the flow of bile, *i. e.*, not always obviate the necessity for tamponing.

The best method of diagnosis between wounds that penetrate into the viscera and those that go through the wall only, is laparotomy, which has greatly diminished the mortality from abdominal wounds. The general mortality of the uncomplicated cases was 5.3 per cent., for complicated cases 53 per cent.; while the mortality in the 132 cases observed was *in toto* 18.4 per cent.

A Case of Inverted Arrangement of the Intestines and Meckel's Diverticulum.—Dr. M. I. Ros-tovtzeff (*Roussky Archiv. Patologii, etc.*, April 30th) tells of a man, aged forty-eight years, who died of cancer of the intestines, and in whom the autopsy revealed an abnormal arrangement of the intestinal tract. The duodenum passed almost directly to the right from the stomach, but curved slightly around the head of the pancreas. There was no distinct boundary between the duodenum and the jejunum. The jejunum was comparatively fixed to the abdominal wall behind the duodenum, while the latter was quite free, thanks to a mesentery. The jejunum, after dipping behind the duodenum, again became free and occupied the right side of the abdomen, where it passed into the ileum. The ileum made its entrance into the colon on the left side of the abdomen, and the cæcum lay in the left iliac fossa, in an inverted position, so that what is usually its anterior surface was posterior, and what normally is posterior, was anterior. The ascending colon are found on the left side, the descending on the right. There was, in addition, a Meckel's diverticulum one metre above the cæcum near the attachment of the mesentery to the ileum. The case is one of great rarity. The cause of the anomaly was an arrest of development in the third month of foetal life and a failure of the intestines to turn on the axis of the primary mesentery.

Malum Perforans Pedis.—Dr. E. Tomaszewski (*Münchener medicinische Wochenschrift*, May 20, 1902) says that the ætiology of perforating ulcer of the foot probably does not reside in a single factor, but may be the outcome of arteriosclerosis, diabetes mellitus, or a trophic disturbance dependent upon some cerebral, spinal, or peripheral nervous disease. In tabetics, for instance, it sometimes appears as an early symptom.

Perineal Prostatectomy.—M. Rochet (*Gazette hebdomadaire de médecine et de chirurgie*, May 8th) records six successful cases of this operation for hypertrophy of the prostate gland. The ease of the

operation for the removal of either lateral or the middle lobe or parts of them, has surprised him. He has never seen any severe shock following the operation, or uræmia or other grave urinary complications, or sepsis or inflammatory reaction about the wound. The functional results and the influence upon the general condition (fever, digestive disturbances, etc.) have been most gratifying.

PRACTICE OF MEDICINE.

Hour-Glass Stomach.—B. G. A. Moynihan, F. R. C. S. (*Edinburgh Medical Journal*, June), lays stress upon the importance of a sign which he has found of great service in establishing a diagnosis of hour-glass stomach. The abdomen is carefully examined and the stomach resonance percussed. A seidlitz powder in two halves is then administered. On percussion, after about thirty seconds, an enormous increase in the resonance of the upper part of the stomach can be found, while the lower part remains unaltered. If the pyloric pouch can be felt, or be clearly demarcated, the diagnosis is inevitable, for the increase in resonance must be in a distended cardiac segment. If the abdomen is watched for a few minutes, the pyloric pouch may sometimes be seen to fill gradually and to become prominent. In many cases of hour-glass stomach, no single operation will suffice to relieve the symptoms. This is due to the fact that, where a stricture is present in the body of the stomach, a second stricture at the pylorus is also found. The operations that may be practised are: (1) Gastroplasty. (2) Gastro-gastrotomy, or gastro-anastomosis. (3) Gastro-enterostomy. (4) Partial gastrectomy. Pyloroplasty or gastrolysis may also have to be performed in addition to any of the foregoing. The operation selected will necessarily depend upon the conditions found. A reference to the author's list of fourteen cases shows that in twelve the disease was simple: in two, malignant. Of the twelve cases due to simple ulceration, three patients died, one from septicæmia, the result of a large rectal prolapse, which became inflamed and caused bogginess in the whole perinæum, and septic thrombosis of the inferior mesenteric vein, one from pneumonia, and one on the fourteenth day from a second attack of suppression of the urine. Of the two malignant cases one patient died on the fourth day, showing rapid failure and extreme rapidity of the pulse, and one rallied from the operation, though desperately ill, and survived.

Cytology of Pleural Effusions.—M. Jules Courmont and M. F. Arloing (*Province médicale*, May 24th) agree with the conclusions of Widal and Ravaut in the presence of endothelial cells as of diagnostic importance in hydrothorax, and of a lymphocytosis in tuberculous pleuritis. They have had no opportunity of examining the cells from acute non-tuberculous pleuritis, which they believe, however, to be multinuclear.

Dr. G. Lovell Gulland (in the *Scottish Medical and Surgical Journal*, June), asserts that the serum diagnosis of tubercle has been found to be beset with so many technical difficulties, and even in the hands of those who have studied it to be so inconstant in its results, that it is quite valueless for practical purposes, whether it is applied to the serum of the blood or to the pleural exudate. It

is, perhaps, hardly sufficiently realized that the organisms of acute infection, such as the streptococcus and the pneumococcus, are capable of causing serous pleuritis as well as purulent effusions, and that, therefore, it is not proper to say that all effusions in which organisms cannot be found are tuberculous. In tuberculous effusions the picture differs according to whether the effusion is examined during the first three days or later. At first the cells seem to be multiforminuclears, but by the third day these have largely disappeared from the effusion and their place is taken by the lymphocytes, so that the microscopic picture of an established tuberculous pleurisy consists of lymphocytes, red blood corpuscles, a few multiforminuclears in some cases, and sometimes a very few endothelial cells. In effusions due to the pneumococcus and streptococcus there is at all stages a great preponderance of multiforminuclears, unaltered or degenerated as the case may be, and often numerous fresh or degenerated endothelial cells. In oedematous effusions the cells are always few, consisting mainly of endothelial cells often lying in clumps. In malignant effusions cells of the malignant growth will be found in the fluid, often in great numbers.

Acute Infectious Forms of Constitutional Syphilis.—Professor Senator (*Berliner klinische Wochenschrift*, May 19th) says that acute syphilitic fever must be distinguished from measles, scarlet fever, small-pox, varicella, typhus and typhoid fevers, bubonic plague and dengue, as well as acute articular rheumatism. Acute yellow atrophy of the liver and catarrhal jaundice may give rise to a similar clinical picture. The kidneys may become affected by the syphilis, the albuminuria becoming very marked.

Observations on Malaria in Turkestan.—Dr. S. A. Mark, (*Roussky Vrach*, May 18th). In a speech delivered in 1900, Lord Lister stated that the existence of various types of malarial organisms was now universally accepted. The present author does not think that this statement is strictly true, for while the majority of authorities in England, Germany, Italy, and the United States, concede the existence of various types of malarial parasites, Laveran, the father of malarial parasitology, denies the existence of more than one type of plasmodium, and his view is shared by Metchnikoff, Danilevsky, Marchoux, Calmette, Ewing, and others. The question as to the unity or multiplicity of types of malarial micro-organisms is not a purely academic one, but is of practical interest. The distinction between the ordinary types of malarial disease seen in moderate climates, and those seen in the tropics has been recognized for a long time, and the treatment of these two types is not by any means the same. The author studies the parasitology of 161 cases of malaria observed in Turkestan, in order to throw some light on the geographical distribution of various types of malaria. He reviews the data presented by Laveran and his followers in favor of the unity of the malarial parasite. Crescent-shaped organisms, he says, are not present, according to both clinicians, and zoologists, in pure types of cyclic fevers, and they, therefore, constitute a form of organism characteristic of the tropical types of ma-

laria. The statement of Laveran, that crescents may be found in non-malignant cases of malaria, does not by any means prove that these cases are not instances of mixed infection of ordinary and malignant types. The researches of numerous observers, in fact, point to the correctness of the theory which recognizes three types of malarial parasites. Of the 161 malarial patients examined by the author in Turkestan, 101 had "ordinary" malarial parasites—89 had tertian, and 12 had quartan—while in 56, there were the parasites of tropical fever, and in 4, mixed types of plasmodia. The cases of tropical malaria constituted 37.2 per cent. of his cases. The geographical distribution of these cases over the region examined was such as to show that the tropical malarial parasites occur generally in the southern portions of this area. As the result of his researches, the author concludes that there are two distinct groups of malarial parasites, namely, the parasite of the warmer climates, the so-called parasite of tropical, or southern malaria (*febris meridiana*) which requires for its development in the body of anopheles a constant temperature of about 30° C., and the parasites of the more moderate types of malaria, the tertian and quartan, which can develop in the presence of lower mean temperatures, between 25° and 16° C. The parasite of tertian fever occupies the intermediate position. This view as to the types of parasites met with in different clinical types of malaria coincides with the findings of Trousseau who declared that the clinical types varied with the locality. (*To be continued.*)

Segmentary Oedema.—M. Debove (*Presse médicale*, May 28, 1902) records two cases of oedema of one lower extremity in two women. There are no disturbances of circulation, of secretion, of sensation, or mobility, nor is any pachydermia present. In these respects, the condition differs from elephantiasis, filariasis, streptococcus infection, and lymphatic varices. No pelvic condition is present to account for the anomaly. The ailment is not fatal but is incurable. The author prefers the name as given above to "trophic oedema."

Pernicious Anæmias: Their Diagnosis and Treatment.—Dr. George Dock (*American Medicine*, July 5th) leans toward the belief that pernicious anemia is due to excessive and peculiar degeneration of blood-cells, especially in the portal area, with the fetal type of blood formation secondary, perhaps as the result of the incompetence of the ordinary tissue, as Eichorst long ago supposed. The poverty in red blood cells is diagnostic. One should begin the treatment of a case of pernicious anemia with the hope of improvement for at least some time, and be guarded in the expression of a prognosis as to duration. Of iron the author remarks that the fact of there being an excess of iron in the liver cells does not seem to him a good reason for withholding that drug. Mercury bichloride is mentioned as having been frequently used with satisfaction, not only in syphilitic cases, but in others. In the author's opinion it acts much as arsenic, by irritating the blood-forming organs. It can often be combined advantageously with arsenic and iron, as well as with hydrochloric acid, the dose of each being carefully adapted to the case.

Treatment of Gastric Ulcer.—Professor Fleiner (*Münchener medicinische Wochenschrift*, June 3, 1902) advises prolonged rest in bed at the beginning of treatment. The patient should receive nothing by mouth for several days, as the stomach contracts best when empty and contraction promotes healing. The lips and mouth may be kept moist by applications. If there is any meteorism, an ice-bag is to be applied for a few hours. A strict milk diet, small quantities frequently repeated is to be begun after several days, and gradually arrowroot, rice-flour and cream may be added to the milk. If these are well digested, soups and broth may be given, and at the end of the fourth week, meat, chicken, pigeon, and tender lamb may be tried, with eggs and foods prepared from flour. Rare meats are not to be given until the end of the sixth week, and they may be combined with digestible vegetables, spinach, turnips, cauliflower and asparagus tips. Cooked fruit only must be allowed, so as not to bring acid into the stomach. The patient must be instructed to avoid Zwieback, and hard foods, and not to allow pits or stones to enter the stomach, so as not to disturb the new and delicate scar.

OBSTETRICS AND DISEASES OF WOMEN.

Hysterical Breast.—M. Lannois (*Nouvelle Iconographie de la Salpêtrière*, No. 5, p. 402; *Medical Review*, February) reports the case of a woman, forty-seven years of age, of neurotic antecedents and temperament, who suffered from neuralgic pains, globus hystericus, rapid alternation of mental states, polyuria, right hemianæsthesia, exaggerated reflexes of the upper limbs, ovarian hyperæsthesia, and diminished visual fields.

The most curious symptom, however, was great hypertrophy of the breast. While the left breast was relatively small and flaccid the right was voluminous, pear-shaped, and pendulous. The areola was deeply pigmented and much larger than the left. The right nipple was also the larger. The following is the measurements of breasts in centimetres.

	Right.	Left.
Circumference (through the nipple)	22	16
Transverse diameter	7	4
Vertical diameter	8	5½

Pressure on the left breast revealed only two hyperæsthetic areas, but when the right breast was grasped, the patient became excited, ground her teeth, and said she was unnerved. The same symptoms were elicited on superficially pinching the skin of the areola or the nipple. Pinching the skin of the breast itself produced no effect. At the upper part of the breast a hard round mass of the size of a Tangerine orange could be felt. She said that in May, 1900, she had begun to feel a sensation of rolling and smarting in the breast. Simultaneously the breast enlarged considerably and assumed a violet color. The pain increased, she felt a continual burning sensation in the breast, and often had shooting pains in it. Paroxysms of pain coincided with similar pain in the ovarian region, which extended to the whole of the left side. Several surgeons diagnosed carcinoma, and suggested removal of the breast; but M. Ollier opposed this, and applied flannel bandages, which diminished considerably the size of the gland.

The author considers that the hypertrophy was simply an hysterical phenomenon and quotes several similar cases. The diagnosis from carcinoma is important, for excision of the breast has been performed under the mistaken diagnosis of malignant disease, and the painful symptoms have still continued. Spontaneous recovery may occur. Treatment should be psychical and by suggestion.

The Origin of Cystadenomata of the Ovary, with New Data in Favor of the Paraovarian Theory.—Dr. D. D. Popoff (*Roussky Vrach*, May 18th) contributes an interesting study to the question as to the origin of ovarian cysts. He says that cystadenomata of the corpus luteum develop from the surface epithelium of the ovary. In a previous publication, (*Izvestiya Voenno Meditsinskoy Akademii*, Dec., 1901), he was able to present the demonstration of this theory in the shape of an excellent specimen which showed the mode of development of these cysts. The origin of cystadenomata of the ovary has been the subject of considerable research, but as yet is not fully settled. The capacity of the surface epithelium of the ovary to give rise to neoplastic formation has been demonstrated long since by Waldeyer, Nagel, Pfannenstiel, and others, but these observers did not enter into the question as to the rôle of the surface epithelium in the production of cystadenomata of the ovary. The surface epithelium which remains under cover of inflammatory pseudomembranes is enclosed in the underlying tissues, partly passively, partly under the influence of proliferation, after the Graafian follicle has burst. The epithelium proliferated in the cavity prepared for it by the bursting of the follicle, and this proliferation was not only seen in the cells of the yellow body, but also in the ovarian tissue itself, where there were masses of cells irregularly grouped, which communicated with the proliferation in the yellow body by means of processes and canals composed of similar cells. (*To be continued.*)

Foreign Bodies in the Uterus.—Dr. F. A. Hermann (*Münchener medicinische Wochenschrift*, May 13th), in reviewing the literature and reporting two new cases, says that foreign bodies may find their way into the uterus from neighboring organs or from the vagina. He concludes that foreign bodies may remain in the uterus for some time without evoking alarming symptoms. When such substances enter the uterus from other organs, they may also penetrate the uterus, giving rise to serious disturbance of health. Rarely does it happen that an unclean instrument introduced for purposes of abortion and retained in the uterus, gives rise to sepsis. It is difficult to detect foreign bodies with the ordinary methods of examination and the author advises the use of the dull curette for this purpose.

Nasal Dysmenorrhœa.—Dr. F. Linder (*Münchener medicinische Wochenschrift*, June 3, 1902) says that theoretically there is still much to be explained before one can understand the action of co-cainization of the genital tubercles in the nose in reducing or eliminating the pain of dysmenorrhœa as recommended by Fliess. Practically, however, the method is satisfactory in the vast majority of cases, and it is striking how rapidly the remedy sometimes acts and for how many hours it persists.

The Modern View on the Treatment of Face Presentations.—By Dr. S. S. Cholmogoroff (*Journal Akousherstva*, February).—An exhaustive study of the literature of the subject, and of his own records convinced the author that the modern tendency to convert face presentations into vertex presentations is not based on sufficient clinical evidence, and that the results of such conversions are not better, but in some cases worse, than expectant treatment. He favors expectant treatment in face presentations, forceps being used when necessary. In cases in which there is no hope of extracting the child with forceps with chin posterior, it is better to perforate than to attempt to convert the face into a vertex or to turn the face forward with the forceps.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

On Spinal Cocainization. By Dr. Schiassi (*Riforma medica*, April 28th, 29th, and 30th).—The author's conclusions, based upon the review of recent experiences with this method of anaesthesia, are as follows: After having examined a patient thoroughly and having found reasons why general anaesthesia, with either chloroform or ether, should not be employed, and why local anaesthesia, such as the spraying with ethyl chloride, should not be used, a surgeon may safely trust to spinal cocainization, provided the region to be operated upon lies below the umbilicus. The technics involves chiefly the greatest possible precautions, both in the dosage of the drug and the aseptic measures to be taken. One centigramme (one sixth of a grain) in a solution of common salt, heated to 40° C., suffices to evoke an analgesia which corresponds to the requirements of the surgeon. In susceptible persons, however, even one centigramme may produce unpleasant, though slight and not dangerous, symptoms. In such cases it is well to combine with the cocaine some morphine and some nitroglycerin. The postoperative headache of spinal cocainization may be avoided by abstracting before the injection a quantity of cerebrospinal fluid varying from 15 to 30 milligrammes ($\frac{1}{4}$ to $\frac{1}{2}$ grain). The use of isotonic solutions only complicates the technics and renders the dosage more difficult. Spinal cocainization renders great services in medicine, surgery, obstetrics, and gynaecology.

Arsenical Paralysis from the Therapeutic Administration of Arsenic.—Dr. D. N. Kinsman (*Cleveland Medical Journal*, March) reports the case of a girl, aged sixteen years, who, for violent chorea of five months' duration, was put on five-drop doses of Fowler's solution on June 15, 1900, gradually increased until by July 5th she was taking 36 drops daily. Then ten drops of tincture of iron perchloride were added. The arsenic was dropped for six days, owing to a pustular eruption on the skin, but was resumed on July 11th, "one drop every hour." On the 27th vomiting and diarrhoea set in, the diarrhoea lasting four days. The arsenic was stopped on the 27th. Dr. Kinsman saw the patient on that date and found that the chorea had ceased and that both hands and both feet were paralyzed. He has counted up the arsenic taken and finds it to amount to 952 drops in 36 days, an average of 23 drops daily or a little more than a

fifth of a grain. The patient could not supinate the forearm or raise her hand when it was in pronation—the position which the limb naturally assumes. Limited flexion of the fingers was still possible. The extensors of the feet were paralyzed; the flexors still had some power. There were no reflexes. There seemed to be no paralysis above the elbows or knees. She was not examined electrically. The paralysis began at the periphery. The muscles were atrophied; the sphincters intact. All forms of sensations were intact, and there was no tenderness of the nerve-trunks. She was treated with strychnine, electricity, hot baths, and massage for three months. There was no improvement when she left the hospital, and the paralysis continued some months later, which leads him to believe that it will be permanent. Paralysis of the four extremities after acute or chronic arsenical poisoning is not very uncommon. It usually follows the course of a peripheral neuritis beginning at the extremity and traveling inward. The dosage in this case was not extraordinary. In a case of lymphatic leucæmia in a boy aged four years, 45 drops of Fowler's solution were given daily with no bad effects. A woman with pernicious anaemia took 90 drops of the solution daily for four weeks with no bad effects, but improved. Dr. Kinsman asks: Could the acid in the chloride of iron have been synergistic to the arsenic? The point which he thinks should have the most emphasis in all cases when arsenic is being administered is to stop its use when there is irritation of the stomach or diarrhoea. He has found no case reported in which neuritis was not preceded by symptoms of poisoning.

PHYSIOLOGY AND PATHOLOGY.

Abstract of a Report on the Formation of Lymph in the Liver. By F. A. Bainbridge, M. B. (*Brit. Med. Jour.*, June 14th: Scientific Grants Committee of the British Med. Assoc. *Report LXX.*) The injection of bile salts and hæmoglobin does not cause blood-pressure changes similar to those produced by bodies either of the peptone class or of the sugar class; in fact, bile salts differ in many respects from peptone in their mode of action. Consequently they do not belong to either of Heidenhain's classes of lymphagogues. On the other hand, bile salts do increase the metabolism of the liver and also the formation of lymph; this increased metabolism does not merely accompany, but is the actual cause of, the increased flow of lymph. It is further supposed that this suddenly-increased metabolism leads to the setting free in the liver cells of crystalloid metabolites. These enter the surrounding lymph spaces—probably by diffusion—raise the osmotic pressure of the lymph, and attract water from the blood. In this way the increased lymph flow is accounted for.

On the Presence of Tetanic Poison in the Organs of Animals Dead from Tetanus. Dr. Pio Pasquini's (*Riforma medica*, April 25th and 26th) researches on this subject lead him to the following conclusions: Tetanic poisons are found in the nervous systems of animals that died of the disease. This may be demonstrated by extracting these tissues with sodium carbonate, precipitating with alcohol, and injecting a

small quantity of the precipitate into other animals. Tetanic poisons cannot be proved to be present in the blood or juices of any other organs of animals that have recently died of tetanus. In cases in which tetanic symptoms are obtained by the inoculations or organ juices into animals, there are found, save in a few exceptions, the bacilli of anthrax at the site of the injection. No hæmolytic substance whatever can be found in the serum or in the organ juices of these animals.

Degenerative Forms of Pneumococci in Pleuritic Exudates.—Dr. L. Michelis (*Berliner klinische Wochenschrift*, May 19th) found in the examination of exudates in the pleura following pneumonia, short, plump bacilli. All stages of pneumococci were found, from the perfect bacillus to the variety described. The author attributes the change to a bacteriolytic action on the part of the serous fluid in the pleura. The bacilli were not tubercle bacilli.

American Medical Association.

SECTION IN HYGIENE AND SANITARY SCIENCE.

Third Day, Thursday, June 12th.

SYMPOSIUM ON TUBERCULOSIS.

The concluding paper in the symposium on tuberculosis was by DR. HERMAN M. BIGGS, of New York, who gave an account of the sanitary measures that had been adopted there for the prevention of the disease, and also set forth some of the results that had been obtained. No greater problem, he said, confronted the medical profession and boards of health; yet there was none that gave greater promise of good results. So far, only limited and comparatively ineffectual efforts had been made to grapple with the disease; nevertheless the experience they had gained in the last fifteen years was sufficient to convince them that it could be largely prevented at a comparatively small cost. The New York Board of Health began its work in 1888 by distributing circulars containing information as to the steps that should be taken to prevent the spread of the disease. Five years later, the direct, though limited, control of the disease by the board was proposed by the speaker, and measures, partly of a compulsory and partly of a voluntary character, were adopted. In 1897, another step was taken, a section being added to the sanitary code declaring tuberculosis to be an infectious and communicable disease, and requiring the notification of every person affected by it. Great harm, he remarked incidentally, had been done by calling tuberculosis a contagious disease; it was communicable, but not contagious. When the ordinances referred to were adopted, they were objected to by the medical societies, which did not properly understand their scope, and determined efforts were made to prevent the board of health from carrying them out. Since then, there had been a great change in the attitude of the profession to the board, and more hearty cooperation was shown in the efforts to control the disease. The ordinances, it

was true, had not been strictly enforced. Many cases had not been reported, and physicians had not been prosecuted for failing to report them. Still, a steady increase had taken place in the number of reports received. In 1894 the number of cases registered was 4,263; in 1897 it was 9,572; in 1901 it was 17,588, including 4,000 duplicates. Altogether nearly 90,000 cases had been reported since 1894. From these statistics maps had been prepared showing the districts in which the disease prevailed, and inspectors were sent to inspect the sanitary conditions prevalent in the affected districts with a view to their improvement. Though it was impossible to deal with such a vast problem satisfactorily without a law making notification compulsory, the board had been so far successful that about 80 per cent. of all deaths from tuberculosis in Manhattan and the Bronx were now found to have been reported. In the outlying boroughs the results were less satisfactory. Considerable good had also been done by the ordinance against spitting in public places. What was now required was the establishment of hospitals for advanced cases, sanatoria a little way out of the city for incipient cases, the more rigid inspection of workshops, and the enforcement of sanitary measures, not only in them, but also in all public places of resort and in public conveyances. Sure progress was being made, and, with the cordial support of the medical profession, which was now accorded by the best element in it, they might anticipate the almost complete eradication of the disease. The speaker then submitted tables of figures, from which it appeared that, notwithstanding the increase of population from 1,300,000 to 2,100,000, the number of deaths from consumption in Manhattan and the Bronx was now a little less than it was before the board commenced its work for checking the disease, the deaths per thousand having been reduced by nearly fifty per cent.

Dr. S. A. Knopf said that Dr. Biggs had not stated one-tenth part of the good results which had flowed from his work, which had had a marked influence abroad as well as all over the American continent. One result in particular called for mention, the stimulus that had been given to the movement for tenement house reform, as a consequence of which there no longer existed in New York those tenements without light and air, which used to be such breeding places for tuberculosis and other diseases. Dr. P. M. Carrington, of Fort Stanton, N. M., said that if, besides prohibiting spitting in public places, the health authorities were to provide proper receptacles for the sputa they would do much to avoid the collection of contagious material. Dr. J. W. Guest, of Louisville, reported the steps that had been taken in that city to check the spread of tuberculosis, especially the enforcement of the pure food laws. Dr. B. W. Stearns, of Binghamton, N. Y., while acknowledging that the statistics quoted by Dr. Biggs were encouraging, said that a number of patients removed to Sullivan County and died there who should really be included in the mortality returns of New York. The Chairman, Dr. Reynolds, of Chicago, said that the question of whether tuberculosis

should be a reportable disease had agitated officers of health in this country and abroad for a long time. The profession in Chicago up to the present time had not felt justified in making it reportable, nor had he, as commissioner of health, thought that they should do so. The chief objection urged against reporting it was that it classed it with contagious diseases, which was unjust to tuberculous patients who might live for twenty years or more, following useful occupations and mingling with their fellows in a way that they might not be able to do if put on the register of the board of health. If the profession and the public could be brought to understand the distinction drawn by Dr. Biggs between contagious and merely communicable diseases, it was possible that there might be such a change in sentiment as to make notification unobjectionable; but circumstances differed in different communities, and therefore it was necessary to leave each city to decide for itself. Great good had resulted all over the country from the pioneer work done in New York, but it was exceptionally situated because of the congestion existing in the tenement house districts. Another objection to making the disease reportable was that there was not much use doing so unless it was followed up by the carrying out of sanitary measures for which in many places there were no funds. In Chicago, they found good results follow the publication in the lay press of a weekly bulletin relating to the public health. Dr. Biggs, in closing the discussion, said they must get away from the idea that diseases which were put on the reportable list were necessarily contagious. In New York they had passed a resolution in favor of making malarial fever reportable, and there were a number of other diseases, such as pneumonia, which ought also to be added to the category, in order that they might learn more about the causes of epidemics and, as far as possible, remove them. He believed the time would come when all infectious diseases—all diseases which were produced by micro-organisms—would be reportable. A suggestion made by Dr. Knopf as to the advisability of establishing dispensaries was one with which he heartily agreed, and a proposition having in view the establishment of such institutions was under the consideration of the board of health. As to sputum, it was not so objectionable on the open street, where it was exposed to the sun and got mixed with the dust, as it was on the pavement, where it was liable to be gathered up by women's skirts and conveyed into the houses. At the same time, better arrangements were desirable for the convenience of people who were under the necessity of expectorating when out of doors or in public places. In regard to disinfection, he regretted to say that the board had not the facilities for doing all they would like or doing it with the requisite promptness. He did not think the mortality statistics were seriously affected by the number of patients who went to live in Sullivan County, as many others who were suffering from tuberculosis drifted into the city before the end came, and careful inquiries had led to the conclusion that the figures practically balanced each other. The board had under consideration the publication of a weekly bulletin in which matters pertaining to the public health could be discussed. In conclusion, Dr. Biggs paid a compliment to Dr. Knopf for the admirable work

he had done in connection with tenement house reform and for his writings on tuberculosis and the means that should be taken for its prevention.

Some Facts About Small-pox and Vaccination.—Dr. HEMAN SPALDING, of Chicago, pointed out various sources of error in the records of the vaccinal status of cases, and showed the necessity of uniformity and definiteness of characterization in reports. A large number of those who were returned as having been attacked with small-pox after being vaccinated were persons who were not vaccinated until actually exposed to the disease, or whose history of having been vaccinated was not to be relied upon. The more the subject was investigated, and the greater the accuracy of the statistics on which they based their conclusions, the more clear did it become that vaccination was a certain preventive of small-pox.

Laboratory Inspection of Vaccines.—By Dr. ADOLPH GEHRMANN, of Chicago. Read by title.

SYMPOSIUM ON PNEUMONIA AND INFLUENZA.

Pneumonia: Its Increasing Prevalence and Fatality, with Suggestions for Individual and Communal Prophylaxis. By Dr. EDWARD F. WELLS, of Chicago.—The conclusions arrived at were: (1) That the fatality of pneumonia has increased but little if any during the past eighty years. (2) That the prevalence of pneumonia has steadily increased during the past fifty years, and that during the past twenty years this increase has been very great. (3) That for individual prophylaxis the nasal, pharyngeal, and oral cavities should be kept as free as possible from accumulations of mucus, and when it has been demonstrated that such secretions contain the pneumococcus, such efforts should be especially directed and maintained. In addition care should be taken not to become chilled when overtired. The individual should, as far as practicable, keep out of range of the extruded pneumococcus-laden secretions of infected persons. The sputum and other secretions of the respiratory surface of pneumococcal patients should be destroyed before it has time to become dry. Such persons should cough and sneeze into a moistened cloth. (4) That for communal prophylaxis the information and advice above given should be kept before physicians with the request that, if they can consistently do so, they should give it as their instruction to their patients. (5) That there may be some comparatively simple means by which pneumonia may be prevented, but that the fundamental information upon which prophylactic rules may be formulated is not yet at hand. Therefore it should be the province and duty of public health officers to seek assiduously for such knowledge, and as a preliminary step in this direction pneumonia should be placed upon the list of notifiable diseases, the environment of pneumococcal patients be carefully noted, and the results analyzed.

Epidemicity and Increasing Fatality of Pneumonia.—Dr. JAMES J. WALSH, of New York, showed that in cities the pneumonia death rate increased while the general death rate decreased. Tuberculosis was less infectious, hence the necessity for prophylaxis against pneumonia in crowded centres was more urgent. The possibilities of the san-

itary limitation of the disease were discussed by the author.

Dr. N. S. Davis, Jun., of Chicago, said he was particularly interested in the conclusion, arrived at by Dr. Wells, which seemed perfectly justifiable, that the mortality from the disease was not increasing. The impression in the profession had been rather the other way. The subject was one of extreme importance, and one which they should talk about, both among themselves and among laymen, with a view to securing the adoption of better prophylactic measures. He agreed with Dr. Walsh that much could be done by improved sanitary measures to decrease the mortality from pneumonia as well as from other diseases. Street cars, in particular, called for attention in this connection. Badly ventilated, very foul, and over-crowded, as they frequently were, they were a prolific source of the spread of all kinds of infection. *Dr. George M. Kober*, of Washington, said that the conclusion he had come to from the statistics at his disposal was that the mortality from pneumonia was positively increasing, which was all the more surprising in view of the fact that there had been a decrease in the death-rate from all other infectious diseases. In order to prevent the spread of the infection, general as well as individual prophylactic measures were called for. A question worth considering was whether or not the increasing consumption of alcohol might not be a predisposing factor in causing the disease to be more prevalent now than it was formerly. It was a common experience that an old toper, when attacked by pneumonia, was an extremely unpromising subject for treatment and usually succumbed. *Dr. A. Robin*, of Newark, Del., called attention to the connection between grippe and pneumonia. *Dr. H. M. Bracken*, of Minneapolis, said a curious fact was that pneumonia seemed to be increasing in country districts as well as in the cities, so there must be other causes at work besides the germ-laden condition of the air. Possibly the fact that the population as a whole was growing older might have something to do with it. *Dr. Wells*, in closing the discussion, said he had been particularly careful in the compilation of his statistics to distinguish between pneumonia and diseases resembling it. Even at the beginning of last century, however, a diagnosis of pneumonia was pretty easily made, and therefore he thought his figures were fairly accurate. The prevalence of influenza might account for the great increase in pneumonia that had taken place during the last ten years, but the increase had been going on gradually for a much longer period. The *Chairman* remarked that about 1890 there appeared to be a very startling rise. Dr. Wells said that this was undoubtedly a fact.

Influenza and the Nervous System.—*Dr. SMITH ELY JELLIFFE*, of New York, showed the increasing importance of the influenza bacillus in human pathology, pointing out the organs that become involved and the type of reactions that it induced. Discussing the action of the bacillus on the nervous system, he showed that the psychoses of influenza were mainly of a depressive character, and consequently led to suicides. Considering how infectious and far reaching in its effects the disease was, he contended that greater precautions should be taken to prevent the spread of the infection.

A Further Study of the Influenza Bacillus.—*Dr. F. ELDRIDGE WYNEKOOP*, of Chicago, discussed the action of the *Bacillus influenzae* upon the mucous membrane, dealing in detail with infections of nasal, laryngeal, and pharyngeal mucous surfaces. He also spoke of infection of the conjunctiva—"pink eye"—and of the difference between the *Bacillus influenzae* and the Koch-Weeks bacillus.

Veneral Diseases.—A committee, consisting of *Dr. H. D. Holton*, of Vermont, chairman, *Dr. George M. Kober*, of Washington, and *Dr. W. H. Sanders*, of Alabama, was appointed to cooperate with a committee from the Section on Cutaneous Medicine and Surgery in urging on the House of Delegates the importance of holding a national meeting under the auspices of the American Medical Association with a view to the inauguration of a propaganda throughout the country for the prophylaxis of venereal diseases.

New Officers.—On the recommendation of the nominating committee, the following officers were elected for the ensuing year: President, *Dr. H. M. Bracken*, of Minneapolis; secretary, *Dr. G. T. Swartz*, of Rhode Island; member of the House of Delegates, *Dr. Arthur R. Reynolds*, of Chicago.

SECTION IN PRACTICE OF MEDICINE.

Third Day, Thursday, June 12th.

The Salicylates in Acute Rheumatism.—*Dr. JAMES J. WALSH*, of New York, said that it was generally conceded that the salicylates constituted the most satisfactory remedy for acute rheumatism, though they were no longer considered a specific for rheumatism, in the sense that quinine is a specific for malaria. The salicylates did not affect secondary infectious complications of joint structures due to pus cocci, influenza bacillus, or other infections, or to the arthritis due to the gonococci. Rheumatic cases uninfluenced by the salicylates should be suspected to be dependent on some other etiology than that of simple acute rheumatism. In regard to the dosage of the salicylates, he said that they were ineffective unless employed in large doses, from 90 to 120 grains *per diem*. Many patients could not stand this amount of the drug; certain nervous individuals developed neurotic symptoms that might proceed to delirium. Again, some stomachs would not tolerate salicylates; a disturbance of the digestion further added to the impoverished condition of the system. The salicylates were distinctly irritants to the kidneys and should not be given in cases of nephritis. It would react to increase the anæmia and make heart complications more serious; in certain cases there was a development of salicylic dyspnoea, and if breathing became very rapid it must lead to the substitution of some other remedy. The form of salicylates to be used was a matter of clinical observation that each physician must decide for himself; but the criticisms were sufficiently numerous and authoritative to make it clear beyond a doubt that the subject was well worthy of consideration. With regard to the time at which the salicylates should be administered, that there was some variance of opinion, but as the

temperature of rheumatic patients was higher in the afternoon and evening, and they were almost sure to be more uncomfortable and to present more symptoms of the affection at this time, it might be better to complete the administration of the daily dose before four o'clock in the afternoon. In heart complications it seemed advisable that alkalies should always be used with the salicylates, sufficient alkali being used to render the urine alkaline. They were not employed with any thought of the presence in the blood, either of uric acid or lactic acid, but entirely on clinical grounds. Salicylates undoubtedly relieved the pain, lessened the fever, diminished the restlessness, and made the patient very comfortable; but whether the remedy affected the rheumatic process itself was doubtful. Hyperpyrexia was undoubtedly much less frequent in acute rheumatism than before the introduction of the salicylates. The salicylates were not specifics for rheumatism, and cognate coal-tar products, notably antipyrine, had been extensively substituted in Germany. Like the salicylates, antipyrine must be used in large doses. From 60 to 90 grains *per diem* were employed for three, four, or more days, until the painful symptoms of rheumatic conditions subsided. No bad results had been noticed from these large doses unless there was an idiosyncrasy in the patient. Phenacetin in similar doses had been employed with good results. Either of these drugs might prove effective when the salicylates failed.

The Influence of Ozonation Upon the Blood.

—Dr. G. LENOX CURTIS, of New York, said that the importance in diagnosis of a thorough knowledge of the blood was not sufficiently appreciated. Unmistakable indications of disease were often recognized in specimens of fresh blood, of which photographs could be made. These should be attempted only within a few seconds after the fluid had been drawn, as even a brief exposure of the specimen to the air promoted failure. The American method afforded knowledge of obscure cases and enabled the physician to institute treatment before ordinary symptoms were clearly established. Individuals who possessed pure blood were immune to disease. Examinations of the blood of immune nurses showed that in all cases the fluid was practically normal. The cells of pure blood were robust, noticeably free and vigorous in appearance. In a diseased state the individual cells ceased to be independent and adhered to one another. Degeneration occurred with the formation of new products; changes pathognomonic of certain diseases appeared in the blood. A knowledge of these facilitated early and accurate diagnosis of obscure conditions. The author submitted the proposition that good health was perpetual when normal conditions of blood, drink, and air-supply were conserved. When the microscope revealed the presence of morbid detritus, *i. e.*, an abnormal state of the blood, the fluid must be restored by oxidation. Ozone, the "life-giving" principle of oxygen, could be produced by means of a high-tension electrical machine, and forced into and through the body to such an extent as to destroy the *materies morbi* in the blood and other tissues. The machine for generating the current had been fully described in a former paper (*New York Medical Journal*, January 18, and February 1, 1902). It was essentially a system of coils which multiplied the

voltage, the current being taken directly from the street main, to which the machine was connected by an ordinary plug. The capacity of the apparatus was from 500,000 to 1,000,000 volts, at from one-sixth of an ampère to one ampère, according to the intensity desired. A Geissler vacuum-tube and an ozone generator were attached to the machine. A fine spray of electric fluid passed off from the generator, producing ozone, colored light, and heat. No shock was experienced by the patient. The machine was used in connection with a cabinet fitted with a glass reclining-slab, above and below which were clusters of incandescent lights. Reflectors were so arranged as to subject every portion of the patient's body to the effects of light-rays. The treatment consisted of a twenty- to thirty-minutes' period in the cabinet, during which the patient inhaled nascent ozone, while his body was exposed to the heat and light rays. At the same time, the extremely high-tension current was passed through the body. This procedure brought on profuse perspiration, after which a shower and massage of the diseased area with the electrode completed the *séance*.

In the author's opinion, this was essentially a process of oxygenating the blood, destroying pathogenic organisms, and eliminating the products of retrograde metabolism, through the combined influences of electricity, heat, light, and ozone. His conclusions were that resolution was thereby hastened, the number of red blood-cells and the percentage of hæmoglobin were increased, the leucocytes diminished in number, and pathogenic bacteria destroyed. In a large percentage of cases, most of which were of long standing, satisfactory results had been obtained in a month. Histories of a number of cases were appended, and apparently bore out the writer's claims.

A Summary of Recent Investigations into the Causes and the Treatment of Diabetes.

—Dr. ALFRED C. CROFTAN called attention to the fact that glycosuria was always preceded by hyperglycæmia, and that hyperglycæmia might be due either to decreased glycolysis or to increased glycogenesis. The blood and the lymph possessed the power of destroying the sugar they contained, *in vitro*, the lymph possessing greater powers in this respect than the blood. Dr. Croftan repeated many of the older experiments in regard to the presence of a glycolytic (sugar-destroying) ferment in the blood, with the view of corroborating or refuting some of the opposing views, and of amplifying the general results obtained by later investigators. He determined by a large series of experiments that the glycolytic power of the blood was actually due to the presence of an unorganized chemical ferment-like body that was soluble in water, and was normally present, not in the red blood corpuscles or the serum, but in the leucocytes. He also showed that disintegration of leucocytes must precede the liberation of this ferment, and that this peculiarity was similar to the liberation of the fibrin ferment in coagulation. By another series of experiments he verified the old postulate of Lépine that extirpation of the pancreas reduced the glycolytic power of the blood.

While it was impossible to say whether the glycolytic ferment was manufactured by the leu-

cocytes themselves, by the tissues at large, or by the pancreas, the preponderance of experimental evidence seemed to point toward the pancreas. Dr. Croftan verified the assertion that none of the ordinary pancreatic ferments in themselves possessed any sugar-destroying property when placed in contact with sugar-solutions. He found, however, that trypsin, when placed into a solution of hæmoglobin containing sugar (or glycogen, or starch), very rapidly decolorized the hæmoglobin solution, and at the same time destroyed some of the sugar. Trypsin, placed in a hæmoglobin solution alone, converted it into products that were different from the products obtained from hæmoglobin if sugar was present. From this he deduced the fact that, in the presence of free hæmoglobin, trypsin did actually possess some sugar-destroying power. As trypsin was almost universally present in the tissues of the body and in the leucocytes, as hæmoglobin was liberated, whenever in the body red blood corpuscles were destroyed, and as glycogen and dextrose were also universally present in the body, a trinity of conditions was hereby given that favored the theory of general intracellular glycolysis by the action of trypsin.

Dr. Croftan then briefly reviewed his recent work on the power of suprarenal extract to produce glycosuria. In this instance the cause of the hyperglycæmia and glycosuria seemed to be excessive glycogenesis, in the sense that the suprarenal glands contained a diastatic ferment, that was, a ferment that could convert glycogen into sugar. Dr. Croftan advanced the view that injection of a diastatic ferment would necessarily lead to the conversion of much of the glycogen contained in the muscles and the liver into sugar, and that this would lead to a flooding of the blood with sugar and to glycosuria. This view was strengthened by recent experiments, which showed that, in dogs that are starved, that was, in whom the liver and the muscles contained no glycogen, glycosuria did not follow the injection of suprarenal extract, whereas glycosuria did appear as soon as they were fed on fat. (Blum.)

Finally, Dr. Croftan reported a few therapeutic experiments based on the results obtained from his experiments with the glycolytic ferment. He argued that injection of the glycolytic ferment in cases of pancreatic diabetes should lead to an increased destruction of blood-sugar, and consequently to a reduction in the amount of sugar excreted. In order to test this postulate he removed the pancreas from dogs. As soon as glycosuria appeared he infused the lymph of a dog whose pancreas had not been removed, into the veins of the depancreatized animal, with the result that the excretion of sugar was greatly reduced. He also attempted the transfusion of blood from a normal dog into a depancreatized animal with a similar, though not so striking, result. The introduction of trypsin itself was followed by disastrous results (thrombosis), so that it was for the present abandoned. No therapeutic indications were furnished, so far, by the work on suprarenal diabetes.

Appendicitis from a Physician's Standpoint.—Dr. JAMES TYSON, of Philadelphia, divided the cases which came under his observation into three

classes: First, cases so evident and decided that no one questioned the propriety of operation. These cases were characterized by the cardinal symptoms of sudden and severe pain, great tenderness in the right iliac region, rigidity of the rectus muscle, with or without tumor, and with moderate fever—these symptoms being permanent and uninterrupted until relieved by operation. Second, cases in which the symptoms continued permanent, although with diminished severity and subject to exacerbation, to which the term chronic appendicitis was also applied. Third, cases in which the symptoms abated and disappeared, in a few to remain altogether absent, but recurring in many, often with growing severity, until permanently relieved by operation or the victim was carried off by a final and fatal attack. The first class of cases he disposed of as requiring no further consideration. The second included chronic appendicitis with exacerbations, as to which there was usually no uncertainty in diagnosis and which should give rise to no doubt as to treatment. He regretted that there were still a few physicians who preferred to jeopardize the lives of their patients by deferring operations which should be done without delay. On the third category he dwelt at greater length. They included the cases in which a seeming attack of appendicitis was, for the time, apparently recovered from. He announced the proposition that in all cases of undoubted appendicitis laparotomy should be done and the appendix removed if the services of a competent surgeon could be secured. He based this conclusion on experience which went to show that the diagnosis in many cases whereon operation was done with the finding of a normal appendix had not been well founded, and secondly, that reproach had been brought upon the operation by incompetent surgeons whose inexperience in diagnosis led to operations uncalled for and whose technics was for the same reason defective. He emphasized his position by reporting cases which illustrated and sustained this proposition.

Election of Officers.—Officers were elected for the ensuing years as follows: Chairman, Dr. W. S. Thayer, of Baltimore; secretary, Dr. J. B. McIlroy, of Mississippi; delegates for one year, Dr. J. M. Anders, of Philadelphia, and for two years Dr. C. G. Stockton, of Buffalo.

Letters to the Editor.

GASTROPTOSIA THE CAUSE OF SYMPTOMS ERRONEOUSLY ATTRIBUTED TO NEPHROPTOSIA.

NEW YORK, June 23, 1902.

To the Editor of the *New York Medical Journal*.

SIR: Under the above heading there appeared in your issue of June 21, 1902, an article by Dr. Achilles Rose in which I am misrepresented and wrongly quoted to such a degree that I must ask for a little of your space in reply.

Dr. Rose writes, on page 1082: "One cannot speak of floating kidney and nephropexy without naming Dr. Edebohls, because he has inseparably

associated his name with this condition, which he considers absolutely pathological in every case, invariably requiring nephropexy. Bazet quotes Edebohls as maintaining that nephropexy should be performed in every case where the normal relations of the kidney have been disturbed. But Edebohls and his apostles find a movable kidney in almost every woman that presents herself for examination. He and his followers have perfected the method of examination for movable kidney to such a fine point that indeed hardly any woman can escape being accused of having a movable or two movable kidneys if she happens to go to these virtuosos."

These assertions of Dr. Rose are, as far as I am concerned, cut from whole cloth. I challenge Dr. Rose to point out where I have stated or indicated that I find a movable kidney in almost every woman that presents herself for examination, or that I consider a movable kidney absolutely pathological in every case, invariably requiring nephropexy.

Some of the statements that, from time to time, I have made ant the subject are: "I have taken the trouble to look over the histories of the last 500 women examined by me, and among them I find 90 recorded as possessing, among other things, a movable kidney." (Edebohls. Movable Kidney. *American Journal of the Medical Sciences*, March and April, 1893.)

"The writer's statistics show that twenty per cent. of all women have movable kidney or kidneys; that four per cent. of all women have *symptom-producing* movable kidney or kidneys; . . ." (Edebohls. Chronic Appendicitis the Chief Symptom and Most Important Complication of Movable Right Kidney. *Post-graduate*, February, 1899.)

"He (the surgeon) must not, of course, perform nephropexy when the movable kidney or kidneys produce no symptoms, as is the case in about eighty per cent. of all women having movable kidneys." (Edebohls. The Relations of Movable Kidney and Appendicitis to Each Other and to the Practice of Modern Gynæcology. *Medical Record*, March 11, 1899.)

I am not aware that I have anywhere published anything not in consonance with the above statements.

In conclusion, I may add that this is not the first time that I have been wantonly misquoted by Dr. Rose. (*Vide* Edebohls. Questions of Priority in the Surgical Treatment of Chronic Bright's Disease. *Medical Record*, April 26, 1902.) Such repeated carelessness, if not worse, on the part of Dr. Rose must tend to cause distrust and suspicion of all other statements contained in his writings.

G. M. EDEBOHLS, M. D.

Book Notices.

Transactions of the American Ophthalmological Society. Thirty-seventh Annual Meeting, held in New London, Connecticut, 1901.

These *Transactions* contain, as usual, a large number of papers, many of a high order of merit, but mainly intended for and interesting to specialists in ophthalmology. The society made an excellent departure in 1900 in the appointment of a committee to collate the supplementary histories of the cases which had been recorded in the *Transactions*

prior to that year, and its report, now published, is very valuable to the members who possess the previous numbers. The intention is that a similar report shall henceforth be made every ten years.

Perhaps the most generally interesting article in this year's *Transactions* is the report of a committee appointed in 1899 to investigate the question of standards and the best methods of making examinations for the acuteness of vision, color sense, and hearing of railway employees. This report presents the recommendations adopted at the International Medical Congress held in London in 1881, the recommendations of the Royal Society to the British Board of Trade in 1892, the regulations which govern the examination of railway employees in Holland, the regulations adopted by the Pennsylvania and by the New York, New Haven and Hartford Railroads in this country, the report of a committee to the Ophthalmological Section of the American Medical Association in 1901, and, finally, the committee's own conclusions and recommendations. These cannot be given in full, but the first sentence of the conclusions follows: "Your committee feel that no attempt should be made to compel the adoption of any standards or methods of examination by means of legislation; they believe the best results will be obtained by showing the operating officers of our railroads how their service can be improved by adopting methods of examination which will be reliable, and by maintaining standards which will be high but not impracticable, for those entering the service, and will be the minimum of safety for old employees on re-examination."

The Practical Medicine Series of Year Books.

Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Post-graduate Medical School, Chicago. Volume III. The Eye, Ear, Nose, and Throat. December, 1901. Chicago: The Year Book Publishers. Pp. 5 to 346. (Price, \$1.50.)

This volume is one of a new series intended to furnish in abstract an account of the recent additions to our knowledge of medicine and surgery. Two purposes are served by a work of this nature—the more obvious one is to present briefly to the reader an account of what the medical world is doing along certain lines; the other, perhaps the more important, is to guide an investigator to original articles on the subject he is studying. Everyone who has had frequent occasion to consult the literature on any given medical subject has wished for some guide through the literary wilderness which could tell him where to look for that of which he was in search. Such guides have appeared to some extent during recent years, and this seems to be a good one.

In this book are presented the results of a collation of the various articles on the subjects of the eye, ear, throat, and nose which have been published in the medical journals of all civilized countries during a period of more than eighteen months, of an elimination of worthless articles, of a condensation of each one of the remainder so as to present in a few words the idea of the writer as correctly and clearly as possible, and, finally, of a formation of

them into groups under appropriate headings so that a reference to a desired subject may easily be made. The labor involved in each step of this process is enormous, but it has been skilfully performed and has furnished us a valuable book for reference.

BOOKS, ETC., RECEIVED.

Text-book of Physiological and Pathological Chemistry. By G. Bunge, Professor of Physiological Chemistry at Bâle. Second English Edition. Translated from the Fourth German Edition by Florence Starling, and Edited by Ernest H. Starling, M. D., F. R. S., Professor of Physiology in University College, London. Philadelphia: P. Blakiston's Son and Company, 1902. Pp. xi-470. (Price, \$3.)

Clinical Lectures on Neurasthenia. By Thomas D. Savill, M. D., Physician to the West-End Hospital for Diseases of the Nervous System, London, etc. Second Edition. New York: William Wood & Company, 1902. (Price, \$1.50.) Pp. xv-171.

A Manual of Otolology. By Gorham Bacon, A. B., M. D., Professor of Otolology in Cornell University Medical College, New York, etc. With an Introductory Chapter by Clarence John Blake, M. D., Professor of Otolology in Harvard University. Third Edition, Revised and Enlarged. With 120 illustrations and 7 plates. New York and Philadelphia: Lea Brothers & Company, 1902. Pp. 3 to 445. (Price, \$2.25.)

The Roller Bandage. By William Barton Hopkins, M. D., Surgeon to the Pennsylvania Hospital and to the Orthopaedic Hospital and Infirmary for Nervous Diseases. With Illustrations. Fifth Edition, Revised. Philadelphia: J. B. Lippincott Company, 1902. Pp. xvi-9 to 162. (Price, \$1.50.)

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-graduate Medical School. Volume VI. General Medicine. Edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago. With the Collaboration of S. C. Stanton, M. D., May, 1902. Chicago: The Year Book Publishers. Pp. 3 to 271. (Price, \$1.50.)

Photographic Atlas of the Diseases of the Skin. A Series of Eighty Plates, comprising more than One Hundred Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A. M., M. D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York, etc. Part XII. Philadelphia and London: J. B. Lippincott Company, 1902. Pp. 155 to 168.

A Manual of Toxicology. A Concise Presentation of the Principal Facts relating to Poisons, with Detailed Directions for the Treatment of Poisoning. Also a Table of Doses of the Principal and many New Remedies. By Albert H. Brundage, A. M., M. D., Ph.D., Professor of Toxicology, Physiology, and Hygiene in the Brooklyn College of Pharmacy, etc. Brooklyn: The Henry Harrison Company, 1901. Pp. viii-9 to 354.

Les dilatation de l'estomac. Par Maurice Soupault, Mèdecin des hôpitaux de Paris. Avec figures dans le texte. Paris: J. B. Ballière et fils, 1902. Pp. 95.

Lehrbuch der klinischen Untersuchungs-Methoden für Studierende und praktische Ärzte. Von Professor Dr. H. Sahli, Director der medicinischen Universitätsklinik in Bern. Dritte Ue gearbeitete und Ergänzten Auflage. Mit 276 Theilweise Farbigten Holzschnitten im Texte und 4 Lithographierten Tafeln. Leipzig und Wien: Franz Deuticke, 1902. Pp. xxx-954.

Miscellany.

The Voluntary Notification of Phthisis.—According to the *British Medical Journal* for May 3rd at a recent meeting of the Birkenhead Medical Society Dr. A. C. Ransome, in a short paper on this subject, urged that as phthisis was an infectious disease, voluntary notification should be adopted. If this were done, the houses of poor consumptive patients might be put into a more sanitary condition

by the health authorities, and so the conditions under which these patients had to live would be improved. Voluntary notification, he said, had been adopted in Liverpool and Manchester with good results.

A Sympathetic Tribute to the Medical Profession.—The *Indian Medical Record* for March 26th quotes from the *Westminster Gazette* (London) the following appreciative verses on the essential unity of the profession, whether exercised by a prosperous and celebrated physician, or by an obscure, struggling general practitioner, notwithstanding the pathos of inequality:

Into the mud of existence, into the gutters of life,
Somehow or other—who bothers, my brother?—

I've drifted, dragging a wife;
Somehow or other, what matter how?—bread's to be earned this way—

Punk and imposter, with cut-throat and coster, pull
at my bell all day;

Fine to be framed in the splendor and gilding of
Cavendish Square,

Booming reliance on medical science with glittering
carriage and pair,

Rolling thro' glory and guineas up to a riband and star,

Famous physician, a perfect patrician—specialist!
god in the car.

O! he wins in an hour what I wring in a year,
For my man is a docker and his is a peer;

He fishes in waters all lilies and sweet,
I grub in the puddles that slop at my feet;

And the East is the East, and the West is the West,
But "phossy jaw" aches like a cold in the chest,

So we fight the same mystery, Sin and Disease,
And the difference is only a matter of fees!

Look you, for me is the struggle, down in the filth
and the fog,

Pinned here a fixture with pill-box and mixture, to
doctor a rough, or his dog,

Pinned here a fixture, glad, too, of that! how should
we live, dear girl?—

Thank God, the weaver and sempstress get fever,
suffer like bishop and earl!

Down on my knees at the pallet of squalor and horror
and sin,

Over foul bodies, knowing God's rod is keeping the
gasping life in,

Earning my slippery coppers, gnawing the meat
from the bone,

Living in clover! but, ah, when it's over, dear heart,
can you battle alone?

For there's nothing to save in the alleys and slums,
Tho' we lick at the platter and grope for the crumbs,

O! it's always a famine, and always a drouth,
And it's living each day from the hand to the mouth,

And it's living all blunted with Hunger and Cold
And Labour left starving because it is old—

O! my wife's in the kitchen, I answer the door,
And we're "living," somehow, "on the pains of the

poor"!

—HAROLD BEGGIE.

The Possibility of Bringing Sight to the Blind.—According to the Paris correspondent of the *Lancet* for May 3rd, at a recent meeting of the Paris

Academy of Medicine, M. Javal demonstrated the fact that radium, the metal discovered by M. Curie, possessed the quality of continuously emitting rays of a kind similar to kathodal, or Röntgen, rays. M. Giesel has found out that compounds of radium produce a perception of light in the eye even when a screen is interposed between the eye and the radium compound. The screen may be of metal and the whole of the visual field appears full of light. The same sensation of light is felt if a glass tube containing a few centigrammes of radium chloride is pressed against the temple. M. Javal and M. Curie have made some experiments with radium in blind persons. If the retina is healthy they experience a sensation of light exactly comparable to that felt by a "sighted" person. In a patient who was completely blind owing to infantile purulent ophthalmia which had made the corneæ quite opaque the light emitted by the radium was distinctly seen. If, then, this patient could have his corneæ made transparent he would have good vision.

A Clergyman on Christian Science.—The Rev. Andrew F. Underhill* has produced a most admirable little brochure on this wearisome inanity, which, however, as he says in his preface, "is a thing we can no longer ignore. It is a force that must be seriously reckoned with. To shut our eyes to its evil consequences is no longer possible." To the wavering it may prove of service; to those in whom the disease is fully developed, it will, like all other remedies, prove unavailing. Them nothing can reach—*Quem deus vult perdere prius dementat*.

The little work, which is attractively got up, consists of a preface and six chapters, or sections: Introductory; Is Christian Science Christian?; Is Christian Science Scientific?; Systematic Knowledge versus Speculation; Results—Ethical and Moral; Results—Physical and Hygienic.

The following passage gives a good example of the author's grasp: "To conceive that all perceptions and objective phenomena are the creations and products of mind, is to assume that consciousness and idealization are states existing prior in time to the objective phenomena supposed to surround us. If mind in the world and the human being is the all, then it must have within it ready made the ideal conceptions of each of the so-called material forms of Nature from the beginning. Mind, then, within itself, must be the perfect embodiment of all facts and all possibilities of the universe. It precedes all things that seem; and from it all things are projected. It apprehends them subjectively before it creates them objectively.

"But is this true? The facts we are able to glean show us that the very reverse is the case. Ideas do not appear in our consciousness until extraneous things have produced upon us sensations, which in their turn give rise to the intellectual conceptions of the objects that produce them. No human mind can conceive of a flame, for instance, until the sensation of light from without has been produced upon it. Nor can any conception of darkness dwell in our consciousness until the outward senses have experienced the actual absence of light.

"The growth of perception in infants will very soon show how the development of the mind takes place through sensations from without—that the intellectual faculties are not the force from which all things have their being, but that they are the product of growth, produced to a large extent by the environment in which God has set them. In children a day or more old the mind can hardly be said to have dawned. These beings cannot think, they simply feel, and in a dim way receive sensations. Their motions do not even have the power of co-ordination. The instinct for food, which is ever present in the very lowest forms of life, is the only marked development.

"It is only as the experiences the infant has been subjected to accumulate, and the sensations it has received have been recorded in memory, that the apprehension even of its own identity, the realization of self, at length ensues. It may well be remembered that very young children but seldom, in the beginning, refer to themselves as 'I,' even though they see the example set to them by their parents. They usually speak of themselves in the third person, that is—objectively; as, for example, 'Baby wants this,' or 'Tommy sees that.'

"The conscious subjective mind is a late development resulting from the feelings aroused by impulses from without. The mind can conceive no abstract ideas until many concrete actualities have made their impression upon it. For instance, the concept of space cannot be imagined without reference to some actual unit of measurement, as a foot, a yard, a mile. A child's mind has no abstract notion of color in the beginning. It is only when the sensations of many colors have been felt, and the differences in these sensations have gradually been perceived, that the intellectual conception of the different shades as ideas is at last attained. It is well known that a child must have lived a number of months before it can distinguish the most diverse shades.

"This process of impression and sensation, with the establishment of the intellectual images these feelings give rise to, and the emotions of pleasure or pain that ensue, followed by a determination to perform some act in accordance with the pleasure or the pain produces the development of the mind. There are four constituents: Perception or sensation; intellect, or the creation of the mind-image suggested by the sensation; emotion, or the reflex feeling occasioned by the image; and will, or the resolve to act. As Dr. Hammond puts the illustration: 'A person walking in the street sees a man on the opposite side of the way—this is perception; he recognizes him as a friend—intellect; he feels joy at the encounter—emotion; he determines to go across the road and speak to him—will.'

"If the Christian Science position were true, the whole sequence of mind development as we actually know it would be absolutely reversed, which is contrary to the facts—and therefore absurd."

The foregoing extract will serve to show the philosophical spirit in which the monograph is written. It is clear and forcible, free from acerbity, and obviously the work of one who has made a thoughtful study of a subject with which he is competent, both by natural ability and by philosophical training, to deal.

* *Valid Objections to So-called Christian Science*. New York, E. S. Gorham, 1902.

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SUBCUTANEOUS DIVISION OF THE TENDO ACHILLIS FOR THE RELIEF OF EQUINUS FOLLOWING INFANTILE PARALYSIS.

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The cases here reported have been studied with the distinct object in view of determining whether or not the increased length of the tendo Achillis consequent upon its subcutaneous division for the relief of equinus had any effect in modifying the function of the calf muscles.

The cases are those in which the deformity was caused by infantile paralysis, and include all such that have been operated upon at the New York Orthopædic Hospital which it has been possible to see. Of such there were seventeen patients, representing eighteen cases, in Case II both feet having been affected.

In all the cases sufficient time has elapsed since the operation to justify the consideration of the result as final. The shortest length of time that has elapsed was in Case XII, which was three years, while in the other cases the time varies up to eight years.

In each case a photograph of the foot was taken and, with the exception of two, is shown in the accompanying cuts; also, when it could be secured, a photograph of the plaster cast made of the foot before the operation was performed.

The operation in each instance was that of subcutaneous division of the tendo Achillis, with, in some instances, division of the plantar fascia also and immediate over-correction of the deformity. The foot was placed in a fixed dressing at an angle of 90° to the leg and, with the patient confined to bed, was kept so from four to six weeks. Subsequently they have been under constant supervision and have worn some form of protective apparatus. Reference here made to the calf muscles includes only the soleus and gastrocnemius.

CASE I.—Mary M., aged ten, right foot. Condition previous to operation: Paralysis of the ante-

rior tibial with the foot in a position of marked equinovaglus. Calf somewhat weakened. Operation November 12, 1894. Subcutaneous division of the tendo Achillis. Present condition: Though the tendo Achillis is of fair size and form, its increased length has allowed retraction of the muscles sufficient to modify seriously their action, as is evidenced by the fact that the heel cannot be raised from the floor when standing on the foot. Nor is there any appreciable force exerted by it in extending the foot beyond 90° , though its force is felt to 90° . Fig. 1 is from a photograph of the foot as it now appears. The cast made before the operation could not be found. There is $\frac{3}{4}$ of an inch shortening of the limb.



FIG. 1. Case I. Photograph of the foot eight years after the operation.

CASE II.—Fannie F., aged fifteen, right foot. Condition previous to operation: Anterior group of muscles paralyzed and the calf impaired, though fairly strong; no power in peroneals; with foot in

a position of equinus at an angle of 110° . Some varus and internal rotation, walking on outer edge of foot. Operation November 4, 1895. Subcutaneous division of the tendo Achillis and plantar fascia. Present condition: There is some displacement of the os calcis downward, and the increased length of the tendon, though it is well formed and of fair size; and the action of the calf, though retracted, is felt to 100° . Fig. 2 is from a photograph of the foot as it now appears. No cast could be found made before the operation.



FIG. 2.—Case II. Photograph of the foot seven years after the operation.

Left foot. Condition previous to operation: No paralysis of any individual muscle, but some weakening of all the anterior muscles, with the foot in a position of equinus at an angle of 100° . Operation, November 4, 1895. Subcutaneous division of the tendo Achillis. Present condition: The os calcis is displaced downward, with such retraction of the calf and elongation of the tendon that the function of the muscles is completely lost; its force cannot be felt extending the foot at any point. Tendon thin and weak. See Fig. 3, from a photograph of the foot.

CASE III.—Harry S., aged ten, left foot. Condition previous to operation: Complete paralysis of

all anterior muscles. The foot in a position of marked equinus. The calf group was somewhat weakened, but there was fair power in long flexors; none in peroneals or posterior tibial; thigh muscles seriously involved. Operation, May 27, 1896. Subcutaneous division of the tendo Achillis. Present



FIG. 3.—Case II. Photograph of the foot seven years after the operation.

condition: The tendo Achillis is small, and its length is so exaggerated that the effect of the slight power in the calf is felt only when the foot is in extreme flexion at an angle less than 80° . The action of the muscle is of no value in performing its normal function. Fig. 4 is from a photograph of the foot taken recently. A cast of the foot before operation could not be found.

CAES IV.—Ella L., aged thirteen, left foot. Condition previous to operation: All of the anterior group of muscles weakened, though none completely paralyzed; calf not affected. Foot in a position of marked equinus at 135° . See Fig. 5, from a photograph of a plaster cast of the foot before opera-



FIG. 4.—Case III. Photograph of the foot six years after the operation.



FIG. 5.—Case IV. Photograph of the cast made before the operation.

tion. Operation, November 30, 1896. Subcutaneous division of the tendo Achillis. Present condition: Marked displacement of os calcis downward. Tendo Achillis thin and so elongated that there is marked retraction of the calf and its power to raise the os calcis is completely lost. Force of calf cannot be felt beyond 80° . See Fig. 6, from a photograph of the foot. There is one inch shortening of the limb.



FIG. 6.—Case IV. Photograph of the foot six years after the operation.

CASE V.—Jacob R., aged ten, left foot. Condition previous to operation: Complete paralysis of anterior tibial and weakened common extensors; very slight, if any, affection of the calf. Foot in a position of marked equinovagis. See Fig. 7, from a photograph of cast. Foot at 130° . Operation November 30, 1896. Subcutaneous division of the tendo Achillis. Present condition: The tendo Achillis is much smaller than normal and its length so exaggerated that the power of the muscles is almost completely lost. The muscle is much retracted, and such power as it still retains can only be felt when the foot is held at an angle of 75° flexion to the leg. Unable to raise heel from floor when standing. There is one inch shortening of the limb. See picture of foot in its present condition, Fig. 8, from a photograph.

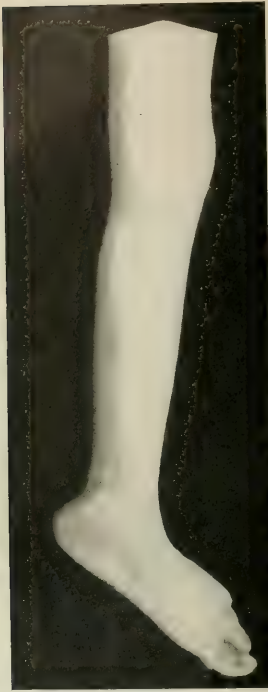


FIG. 7. Case V. Photograph of the cast made before the operation



FIG. 8.—Case V. Photograph of the foot six years after the operation.

CASE VI.—Emma W., aged twelve, right foot. Condition previous to operation: Complete paralysis of peroneals and serious weakening of the anterior group with the foot in a position of marked equinovarus. Calf unaffected. Fig. 9, from a photograph of cast, shows the foot at an angle of 120° . Operation May 4, 1896. Subcutaneous division of the tendo Achillis and plantar fascia. Present condition: Exaggerated length of the tendon is such that there is complete loss of the function of the calf in so far as being of any value in performing its normal function is concerned; its force can only be felt when the foot is in extreme flexion beyond an angle of 80° to the leg. The muscle is much retracted and atrophied, the tendon is small and not well formed. See Fig. 10, from a photograph of the foot taken recently.

CASE VII.—Antonio H., aged fourteen, left foot. Condition previous to operation: Weakness of entire anterior group of muscles, though no absolute paralysis. Calf unaffected. Foot in a position of marked equinus at an angle of 135° to leg. Operation May 4, 1896. Subcutaneous division of tendo Achillis. Present condition: Os calcis displaced downward. Calf much retracted and atrophied. Tendo Achillis much elongated and thin, with the function of the calf completely lost. No effect of their contraction can be felt except with the foot in extreme flexion, beyond 80° . See Fig. 11, from a photograph of the foot.



FIG. 9. Case VI. Photograph of the cast made before the operation.

CASE VIII.—Hugo T., aged ten, right foot. Condition previous to operation: Complete paralysis of anterior tibial and weakening of common extensors, calf not affected. Foot in a position of marked equinovagis, at an angle of 130° to leg. See Fig. 12, from a photograph of cast. Operation, March 3, 1897. Subcutaneous division of the tendo Achillis. Present condition: Almost complete loss of the function of the calf, caused by exaggerated length of tendo Achillis. Tendo small and flat. With foot in extreme dorsal flexion beyond 80° , and the os calcis displaced downward to the greatest degree, there can be felt a slight effect of the calf, but it is not sufficient to be of any value in performing its normal function. There is one inch shortening of the limb. Fig. 13 is from a photograph of the foot.

CASE IX.—Robert B., aged nine. Left foot. Condition previous to operation: Marked weakness of the anterior leg group with the foot in a position of marked equinus; calf, peroneals, long flexors, and posterior tibial not affected. See Fig. 14, from photograph of cast, which shows the foot at an angle of 145° . Operation December 22, 1898. Subcutaneous division of the tendo Achillis. Present condition: Marked retraction of the calf, exaggerated length of tendo Achillis, with very slight power of the muscle to raise the os calcis in extend-



FIG. 10.—Case VI. Photograph of the foot six years after the operation.



FIG. 11. Case VII. Photograph of the foot six years after the operation.

ing the foot. Force felt to 90° , but not beyond. Unable to raise the heel from the floor when standing. The tendon is of fair size and shape. The action of the long flexors and peroneals furnishes some power to extend foot. See Fig. 15, from a photograph.

CASE X.—Carrie L., aged eleven, left foot. Condition previous to operation: Paralysis of anterior leg group, with foot in position of marked equinus. Operation April 25, 1898. Subcutaneous division of the tendo Achillis. Present condition: Calf retracted and atrophied. Tendo Achillis elongated and small. Power of muscle seriously modified; its force is not felt when the foot is beyond 85° in extension. Unable to raise the heel from the floor when standing. There is one inch shortening of the limb. See Fig. 16, from a photograph of the foot. The cast made before operation could not be found.

CASE XI.—Le Roy M., aged fourteen. Right foot. Condition previous to operation: Anterior group weakened, with foot in a position of marked equinus at an angle of 130° to leg. Anterior group of the other foot slightly involved, but the foot flexed to 90° . See Fig. 17, from a photograph of cast. Operation February 15, 1899. Subcutaneous division of the tendo Achillis and plantar fascia. Present condition: Tendo Achillis well formed and of fair size, though its length is sufficient to modify the action of the calf to the extent of making it impossible to raise the heel from the floor when



FIG. 12. CASE VIII. Photograph of the cast made before the operation.

standing. There is distinct power, however, and the action of the muscles is not entirely lost; it can be felt in extending the foot to 100° . There is $\frac{3}{4}$ of an inch shortening of the leg. Unfortunately, no photograph of the foot was taken.

CASE XII.—Edith P., aged eight. Left foot. Condition previous to operation: Weakness of entire anterior leg group, but no distinct paralysis, calf not affected. Foot in a position of equinus at 120° . Operation June 8, 1899. Subcutaneous division of tendo Achillis. Present condition: Some retraction of calf, but it has sufficient power to raise the os calcis against slight force, though the heel cannot be raised from the floor when standing on the foot. Tendon well formed, though its length is such as to modify the action of the muscle; its force is not felt beyond an angle of 95° . There is $\frac{3}{4}$ of an inch shortening of the limb. See Fig. 18, from a photograph of the foot. The cast made before the operation could not be found.

CASE XIII.—Lizzie S., aged nine. Right foot. Condition previous to operation: Complete paralysis of anterior tibial and weakness of common extensors. Foot in a position of marked equinovarus at an angle of 135° to the leg. See Fig. 19, from a photograph of a cast. Operation April 25, 1898. Subcutaneous division of tendo Achillis. Present condition: Os calcis displaced downward to a marked degree. Tendo Achillis long and thin. Action of calf in raising the heel completely lost. The force of the muscle cannot be felt except when the

foot is flexed extremely (beyond 80°). See Fig. 20, from a photograph of the foot.

CASE XIV.—Nellie L., aged twelve. Left foot. Condition previous to operation: Paralysis of anterior leg group with foot in the greatest possible degree of equinus, being almost in line with the tibia, with slight varus. See Fig. 21, from a photograph of the foot. Posterior tibial, long flexors and peroneals, fairly strong. Operation February 2, 1897. Subcutaneous division of the tendo Achillis and plantar fascia. Present condition: Action of the calf modified by the exaggerated length of the tendon to the degree of its being effective only when the foot is flexed beyond 90° .

The tendon smaller than normal. Unable to raise the heel from the floor when standing. There is a $2\frac{1}{4}$ inches shortening of the limb. See Fig. 22, from a photograph of the foot.

CASE XV.—Nora W., aged nine. Right leg. Condition previous to operation: No power in quadriceps, slight in hamstrings. Complete paralysis of anterior leg group with fair power in calf. Foot in a position of equinovarus at an angle of 135° to the leg. See Fig. 23, from a photograph of cast.



FIG. 13. CASE VIII. Photograph of the foot five years after the operation.

Operation April 12, 1899. Subcutaneous division of the tendo Achillis and plantar fascia. Present condition: Tendo Achillis much elongated and small, with complete loss of the function of the calf. There cannot be detected and contractile power in the calf, nor does it respond to electrical stimulation. See Fig. 24, from a photograph of the foot.

CASE XVI.—Anastasia C., aged fourteen. Left foot. Condition previous to operation: Paralysis of anterior leg group with the foot in a position of marked equinovarus. See Fig. 25, from a photograph of cast showing deformity. Operation November 30, 1898. Subcutaneous division of tendo Achillis and plantar fascia. Present condition: Function of calf seriously modified; its effect cannot be felt when the foot is beyond 80° . Tendon elongated and thin. A photograph of the foot was not taken.

CASE XVII.—John G., aged ten. Left foot. Condition previous to operation: Paralysis of anterior and posterior tibials. Good power in all other muscles. Foot in a position of equinovalgus. Operation May 4, 1896. Subcutaneous division of the tendo Achillis. Present condition: Foot in a position of marked calcaneus; no action of the calf can be felt after the foot reaches 80° in extension. Tendon elongated and small, muscle retracted. See Fig. 26, from a photograph of the foot.

It may be said that in the normal gait the calf muscle is effective in extending the foot from an angle of 85° to the leg in flexion; to 110° in extension; though it is true that a practically normal

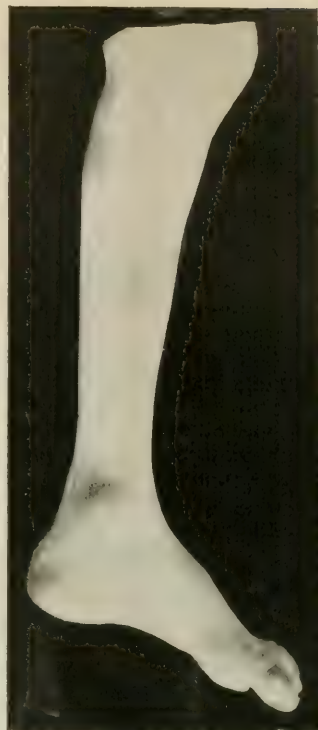


FIG. 15.—Case IX. Photograph of the foot three and a half years after the operation.

gait is possible when the extension is from 90° , as is seen in many cases where flexion is limited to that degree. In studying these cases, however, I have considered the angle of 80° in flexion and 110° in extension as marking the arc through which the force of the calf is needed in walking. Of course, in the normal calf its force may be felt beyond these points.

In eleven cases, namely, Cases II (left foot), III, IV, V, VI, VII, VIII, XIII, XV, XVI, and XVII, no force was felt in the calf after the foot reached 80° in extension. In four cases, Cases I, IX, X, and XIV, the force of the muscle could be felt to 90° , but not beyond that point. And in three, Cases II (right foot), XI, and XII, the force of the muscle could be felt beyond 90° ; in Case XII, however, only to 95° , and in the remaining two cases to 110° .

Condition of the tendon as to shape, size, and length.—In all of the eleven cases above referred to the length of the tendon was exaggerated; it was much smaller than normal and its shape flattened. In the next four cases the tendon was not normal in size, though it was larger than in those



FIG. 14.—Case IX. Photograph of the cast made before the operation.

just mentioned, and its length less exaggerated, while in the remaining three cases it more closely resembled the normal tendon. As may be seen by the accompanying figure from photographs, the well defined lines showing the tendo Achillis as it stands out in the normal leg are completely lost in the first fifteen cases, the effect being to give a flattened appearance to the leg at that point, and in the remaining three in appearance the tendon approaches the normal.

Condition of the muscle.—In the eleven cases in which the function of the calf was so seriously modified there was marked retraction of the muscle. In Case XV the muscle did not respond to either electrical current. In the four cases in which the action of the muscle was not felt beyond 90° retraction of the muscles was apparent, and in the remaining three it was slight. This fact may be more clearly appreciated by comparing the cuts from photographs of the foot after operation with those from photographs of the casts made before the operation was performed. In such comparison, note Case IV,

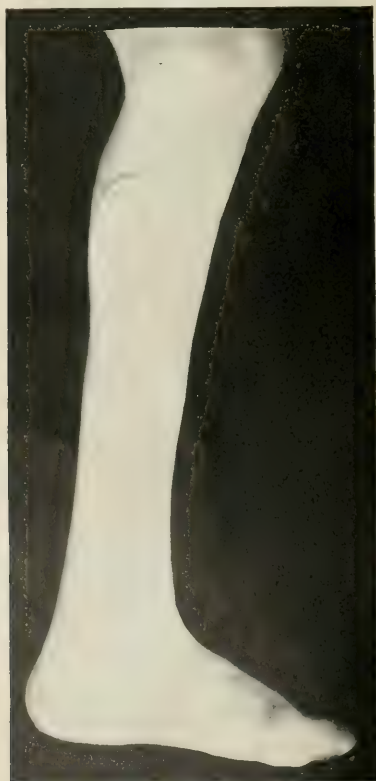


FIG. 16.—Case X. Photograph of the foot four years after the operation.



FIG. 17.—Case XI. Photograph of the cast made before the operation.

Fig. 6, the cast of the foot before operation, while Fig. 7 is from a photograph of the foot as it now appears. Also note Case XII, Fig. 19, from a photograph of the cast of the foot as it now appears, having marked retraction of the calf.

In regard to the appearance of the foot, it is interesting to note that marked calcaneus appears in only one, Case XVII. This does not mean, however, that there was not a displacement of the os calcis, because in most instances it was displaced downward, as could be seen with the foot held at an angle of 90° to the leg, but cavus does not appear in more than one case, Case XVII. The foot in most instances was similar in appearance to the "flail" foot.

The Gait.—It seems hardly necessary to say that the gait in all the cases in which the function of the calf was lost, so far as being of any value in walking, was entirely without elasticity, suggesting the gait of one walking with a wooden, or "flail," foot, with the limp made more conspicuous by the loss of the ability to elevate the heel and thus compensate for the shortening of the limb.



FIG. 18.—Case XII. Photograph of the foot three years after the operation.



FIG. 19. Case XIII. Photograph of the cast made before the operation.

The calf muscle, under absolute normal conditions, is able to contract through the complete arc of its contractile power when its points of attachment are separated to the greatest degree. This is possible only when the antagonizing muscles, the anterior group, are performing their normal function, namely, pulling the foot into dorsal flexion, carrying the os calcis downward.

If from any cause the action of these muscles is impaired it follows necessarily that the widest separation of the attachments of the calf does not take place, and thus its arc of contraction is diminished. If the impairment of their action lasts long enough



FIG. 20. Case XIII. Photograph of the foot four years after the operation.

and is sufficiently great, the calf, in adjusting itself to the changed position of its points of attachment, shortens. The amount of force exerted by the muscle at any given point in the arc of its contractile power may not be diminished, but the arc through which it acts will be shortened. In cases of equinus following paralysis of the anterior muscles of the foot it is loss of power to separate the attachments of the calf and the consequent shortening of the muscle that causes the deformity. And in attempting to determine the causes of the results here seen



FIG. 21.—Case XIV. Photograph of the cast made before the operation.

it is important to recognize this fact, because, when the tendo Achillis is lengthened either by tenotomy or otherwise, still further shortening of the muscle and impairment of its function take place. And while the points of attachment of the calf are separated it is accomplished by changing the normal relation that exists between the length of the tendo Achillis and the muscle. And in increasing the arc of motion at the ankle joint it transfers the points at which the contracting calf in extending the foot is felt, but in no degree does it increase the arc through which the muscle contracts.

It thus appears that by lengthening the tendo Achillis it must be expected that there will be still further shortening of the calf and modification of its function; which fact accounts to some extent for the results here seen. It does not fully account for them, however, because in the eleven cases in which the function of the calf was practically lost there was no such impairment of its function or lengthening of the tendon immediately after the operation as now exists, which is evidence that after the patient

began to walk the tendon gradually elongated, allowing still further shortening of the muscle and modification of its function. It is obvious that such elongation as occurred must have been of the structure filling in the gap between the divided ends of the tendon.

While the experiments of Adams proved that a tendon united after its division, at the same time they demonstrated that the sheath was of vital importance to such union. He says: "The influence of the sheath appears from these experiments to be of primary importance, not only as forming the matrix in which the reparative material is infiltrated in the first stage of the reparative process, but in determining from the beginning its direction and definite form."¹ Therefore, is it not reasonable to suppose that its more or less complete division by tenotomy would

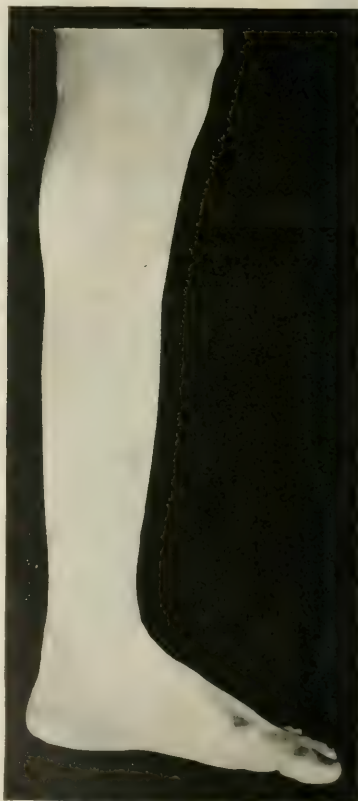


FIG. 22.—Case XIV. Photograph of the foot five years after the operation.

¹ W. Adams. Series of Experiments Illustrating the Reparative Process in Tendons of Rabbits after Division by Subcutaneous and Open Wounds. *Transactions of the Pathological Society of London*, p. 358.



FIG. 23.—Case XV. Photograph of the cast made before the operation.



FIG. 24.—Case XV. Photograph of the foot three years after the operation.

interfere with that process to a greater or less degree, causing the gap between the divided ends of the tendon to be filled with a structure approaching the tendon in many of its characteristics, but failing in the matter of strength?

It may be said that these experiments were not carried far enough to test the question of the ability of the new structure to perform all the functions of the tendon, or whether it would not gradually elongate after the process of repair was complete.

The fact that such serious modification of the calf as appears in these cases does not always occur after division of the tendo Achillis does not weaken this argument, because it is perfectly reasonable to sup-



FIG. 25.—Case XVI. Photograph of the cast made before the operation.

pose that in some cases the sheath is more completely divided and more seriously impaired than in others, and also that the amount of strain to which the new structure is subjected will be greater in some cases than in others, depending upon the condition of the calf muscle, which when not seriously impaired would exert a greater force upon it than when it was so, and thus be more likely to cause its elongation.

What better explanation can be given for the conditions found in some of these cases? Instance Case II, in which both feet were affected? The left calf was seriously impaired by the paralysis, though such power as it has is now felt in extending the foot to 100° . While in the right there was no impairment

of the calf from the paralysis, yet its function is now completely lost and the tendon is much smaller and exaggerated in length. The better condition of this calf in comparison with the left is excellently seen by comparing the photographs of the two in Figs. 2 and 3.

Also in Cases IV, VII, and XIII the condition of the calf muscle was excellent in each, and the length of the tendon is now much exaggerated and the function of the muscle lost.

Thus it would appear that the modification of the function of the calf in these patients was the result



FIG. 20. Case XVII. Photograph of the foot six years after the operation.

of, first, the shortening of the muscle in the production of the deformity; second, the further shortening of the muscle as a result of the lengthening of the tendo Achillis by tenotomy in the correction of the deformity; and, third, the still further shortening of the muscle as a result of the lengthening of the tendon caused by the elongation of the structure forming the bond of union between its divided ends. With what frequency such serious modification of the function of the calf will be seen as a result of the division of the tendo Achillis and the correction of equinus in this class of cases cannot be determined from the study of so small a number. That it does occur, however, and probably with greater frequency than is generally supposed, is clearly evident.

ON THE CONTRACTION OF THE ILIO-PSOAS MUSCLE AS AN AID IN THE DIAGNOSIS OF THE CONTENTS OF THE ILIAC FOSSA.*

By S. J. MELTZER, M. D.,
NEW YORK.

When we desire to establish size, shape, location, sensitiveness, etc., of the abdominal viscera, we employ palpation, *i. e.*, we press our fingers through the more or less thick, resisting abdominal wall to reach the viscera resting on the posterior wall of the abdominal cavity. We all know with what little satisfaction the task is often accomplished. It is obvious that the success of the palpation would be greatly facilitated if by some voluntary muscular contractions of the individual under examination the viscera could be raised to meet the palpating fingers. For the upper part of the abdominal cavity, we have partly such an aid in the voluntary contractions of the diaphragm. Although the inspirations do not exactly raise the organs, they move them toward the palpating fingers, which aid is the more satisfactory since most of the organs we wish to palpate here, like the liver, kidneys, and spleen, are of a solid consistence and offer to the palpating fingers more or less well defined resisting outlines. For the palpation of the viscera within the lower part of the abdominal cavity, the respiratory movements are of no assistance, an assistance which would be here the more appreciated since the consistence, arrangement, and indefiniteness of the outlines of most of these viscera make them less favorable for successful palpation.

For the last few years I have studied systematically the help which palpation of these viscera can possibly derive from the thickening of the ilio-*ps*oas muscle during its contraction. I have gained the conviction that herein lies a method which in many cases can be employed satisfactorily as a diagnostic aid in palpation of the viscera situated in the iliac fossæ.

The ilio-*ps*oas muscle consists, as you know, practically of two muscles. The *iliacus* arises from the upper part of the iliac fossa, anteriorly reaching down to the inferior spine, and posteriorly receiving a few fibres even from the sacrum; it practically covers the entire iliac fossa. The fibres converge as they pass downward and are inserted for the most part into the tendon of the *ps*oas; the outermost fibres, however, pass directly to the femur, in front of and below the small trochanter. The *ps*oas arises from the transverse processes as well as from the bodies of all the lumbar vertebrae. The various bundles of fibres unite to form a thick, elongated

muscle which runs along the brim of the pelvis, overlapping the inner border of the *iliacus* and emerging beneath Poupart's ligament, and is inserted by means of a tendon into the small trochanter of the femur. The contraction of the iliopsoas muscle flexes the thigh, also rotates it slightly laterally, especially when the outer portion of the *iliacus* comes into play. The *iliacus* is a thin and comparatively short muscle, and the thickening which is caused by its contraction is comparatively slight, although the fingers palpitating it in the lateral part of the iliac fossa perceive the thickening very distinctly. It is different, however, with the psoas. This muscle is quite thick and comparatively long, and the increase in its thickness during flexion of the thigh is quite considerable. Furthermore, the elevation of the posterior wall which is caused by the contraction of this muscle is increased by thickening of that part of the *iliacus* which lies beneath the psoas, as both muscles contract simultaneously. During active flexion of the thigh, the palpating fingers perceive an elevation running diagonally in the iliac fossa from the groove between the inferior spine and the iliopectineal eminence to the angle formed by the last rib and the first lumbar vertebra. The elevation is of a prismatic shape, and its sides slope down gradually. Although the psoas muscle borders on the brim of the pelvis, there is always a palpable space left between the top of the elevation and the brim of the pelvis. The elevation becomes the higher the more the active flexion approaches a right angle. The thigh elevation distinctly slopes gradually down toward the origin of the psoas; it is highest near Poupart's ligament and is lowest near the first lumbar vertebra. By strong abduction and adduction of the flexed thigh (and extended leg) the elevation can be made to move within the fossa, following the movements of the limb. The movements of the elevation are partly real, due indeed to the locomotion of the psoas muscle, and partly only apparent and due to the successive participation of the lateral and median fibres in the contraction of the muscle.

Of the viscera which rest upon the iliopsoas muscle, we have to mention briefly the appendix, cæcum, a part of the ascending colon, and the small part of the ileum on the right side, and the sigmoid flexure and part of the descending colon on the left side. The ureters come in intimate contact with the muscles, and so does also the lower part of the kidneys.

This elevation of the psoas during its contraction I have often found to render valuable service in the diagnosis of the contents of the iliac fossa in many ways.

1. It can be used as a landmark. It is often very helpful to know whether a certain painful spot or

a palpable resistance is located on the psoas or on its lateral or its median side. I remember a case in which a prominent surgeon thought that he distinctly felt the appendix running downward. My suggestion that it was the external iliac which he had under his fingers he thought impossible on account of the position of the body under his fingers on the lateral side of the psoas. A slight flexion of the thigh soon demonstrated that the palpated body was on the median side of the muscle.

2. The elevation brings the viscera above it nearer the surface and nearer the palpating fingers. By this aid the outlines of the viscera are often much more distinctly ascertainable than under the usual palpation; furthermore, the usual resistance of the contracting abdominal muscles is often considerably lessened while the thigh is moderately flexed.

3. The outlines of the viscera are more easily palpable when they are moved under the fingers while riding on the elevated back of the psoas than when they are flatly stretched on the even surface of the iliac fossa.

4. By repeatedly increasing and decreasing the flexion of the thigh the viscera move to and from our fingers and sometimes render to palpation an assistance similar to that which it derives from the respiratory movements.

5. When the active flexion approaches a right angle, the viscera can often be felt moving perceptibly headward on the steep slope of the psoas elevation. The movement is absent when the viscus is adherent.

6. By alternate abduction and adduction of the thigh while in a flexed condition the psoas elevation moves from side to side and assists the palpation in many ways.

I shall say a few words as to the method to be employed in flexing the thigh. When a patient is asked to flex the thigh, he will invariably do it with a flexed leg. This I have found inadvisable, above all for the reason that the patient is continually apt to rest his foot imperceptibly on the bed, which of course immediately does away with the psoas elevation. I hardly need to say that the flexion of the thigh must be done actively. I have seen a prominent physician who told me that he, too, employed this method, examining the patient while the thigh was indeed flexed, but the foot was resting on the bed.

Another physician flexed the thigh passively. Both of them were satisfied with the results, but I was convinced that neither of them felt the psoas elevation. From my extensive conversation with physicians and surgeons on this subject, I have become impressed with the fact that extremely few have felt the characteristic elevation of the psoas

during its contraction. The elevation should be looked for in a line drawn from the groove between the inferior spine and the iliopectineal eminence to about McBurney's point. My plan is as follows:

The bed covering is removed from the feet, and the patient is instructed to raise his foot only one inch while the leg is extended. This slight flexion of the thigh is perfectly sufficient to bring out a satisfactory elevation of the psoas, while the abdominal muscles remain relaxed. However, the simple readiness of the patient is often of itself sufficient to bring out an elevation, and the patient therefore has to be cautioned to have his leg at perfect rest before he is asked to raise it. When it is desired to have the patient execute abduction and adduction, a procedure greatly to be recommended, then the leg is to be raised above the level of the other leg. In strong flexion of the thigh, the palpation of the psoas elevation is less easy when the leg is extended, on account of the participation of the abdominal muscles in the strong effort. Strong flexions of the thigh should therefore be executed with the leg not extended, but hanging down in a passively flexed state.

Coming now to the conditions in which the contraction of the iliopsoas is capable of rendering a diagnostic aid, I have to mention in the first place its unquestionable value in deciding whether a certain tumefaction in the iliac fossa belongs to the bone or periosteum or to the viscera lying above the iliopsoas muscle. Any swelling situated above the muscle will obviously become more prominent by the contraction of the latter. On the other hand, the contraction of the muscle makes any swelling situated beneath it less accessible to palpation. The method has been of assistance to me in more than one case of this kind.

Very valuable assistance I have frequently derived from the contraction of the psoas in the palpation of the sigmoid flexure. By the aid of the psoas elevation, I am in most cases capable of distinctly outlining the flexure even in an empty state, and I am no longer so much in the dark as to the nature of a tenderness in this region.

I have often utilized the contraction of the iliopsoas to distinguish appendicitis from circumscribed rheumatic myositis of the abdominal muscles, with which it is sometimes confounded, according to a statement of I. Adler, in his instructive paper on muscular rheumatism (*Medical Record*, March 31, 1900). My procedure is as follows:

After pressing firmly over the tender spot until a distinct pain is elicited, I relax the pressure to such a degree as to leave just a minimum of pain, and then induce the patient to flex the thigh gradually to a strong degree. If the pain is due to a tissue lying between the abdominal wall and the iliopsoas, it

becomes immediately intensified, in fact the patient refuses soon to continue the contraction. When the pain is due to a rheumatic myositis, the contraction of the iliopsoas exerts practically no effect upon it.

From a study of a fair number of cases of appendicitis I am encouraged to state my belief that the contraction of the iliopsoas is capable of rendering useful assistance in the diagnosis of this disease. However, I regret to have to add that, so far, the greatest usefulness of this method has been found to be in chronic and subacute cases. The psoas contraction manifests its usefulness in aiding in the outlining of the tissues under examination, as well as in affecting the tenderness of the diseased spot. As stated above, the first examination should be made while the extended leg is raised only an inch or two. If it happens that the appendix is extended across the psoas elevation, its outlines are usually made out without difficulty. The outlines of the lower end of the cæcum are always quite easy to make out, which facilitates also the locating of the appendix.

Next the increase and decrease of the flexion, as well as the abduction and adduction, should be practised alternately, which facilitates the recognition of the shape, size, mobility, etc., of the tissues under examination. In one case I felt during abduction and adduction, and in another case during increase and decrease of flexion, a peculiar friction of a certain spot on the viscus; which I considered to be the appendix. In the last case the operation revealed that the spot corresponded to a lengthy stricture in the appendix.

The effect upon the pain is very characteristic. At the very first attempt at lifting the leg, the patient remarks: "I can't do it." This happens even when the pressure of the finger is very moderate. When urged to do it, nevertheless, the patient apparently suffers then more pain than can be elicited by any simple pressure. This statement applies only, of course, to a condition in which the painful spot of the appendix is resting just on the top of the psoas elevation. If no tender spot can be discovered on the elevation, I plant my fingers first to the right of the psoas elevation, and induce abduction and adduction. If the appendix is situated externally to the psoas, *i. e.*, between the fingers and the muscle, abduction causes pain, and adduction relieves it. If abduction causes no pain, I next plant my fingers on the median side of the psoas, nearly on the brim of the pelvis, and if the appendix rests on the innermost part of the psoas adduction causes pain and abduction relieves it.

If no pain can be elicited from any of these places, I ascertain the end of the cæcum and proceed to palpate upward point after point successively along the cæcum and the ascending colon,

while the patient is induced to flex his thigh quite strongly at each new point under palpation. By this last method, I was enabled to diagnosticate in one case the location of the appendix behind the ascending colon, which was verified at the operation.

The tenderness of the psoas must be utilized with criticism, as there are individuals whose psoas is sensitive without any diseased appendix. In such individuals, however, the left psoas is also sensitive, and, furthermore, the sensitiveness is present in the entire extent of the muscle, while in appendicitis the tenderness is restricted to a comparatively small spot, which has to be gradually ascertained.

I have made many other observations with regard to appendicitis, as well as concerning the relation of the psoas elevation to the ureter, descended kidney, etc. I shall, however, not burden my statement with many more details. I can spare myself the trouble, the more so, since I may safely expect that my statement will be corrected, modified, and more properly extended by men with opportunities greater than my own for extensive observations of this kind. I trust, however, that the one nucleus of my contribution will not be wiped out, and that is that the contraction of the iliopsoas can be utilized as an aid in the diagnosis of the contents of the iliac fossa.

THE EARLY DIAGNOSIS OF UTERINE CANCER; OPERATIVE LIMITATIONS.*

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The diagnosis of carcinoma of the uterus is the most responsible a physician is called upon to make. "The price of every failure of diagnosis, or for a diagnosis made so late that the cancer has already become unsuited for operation, is a human life." Most operators agree that less than thirty per cent. of the cases coming to the surgeon are amenable to operative treatment. I will limit this paper to a discussion of epithelioma and adenocarcinoma of the uterus.

The uterus is the most frequent site of carcinoma in women; this, I think, is due to the fact that the genital tract is subject to more traumatism, irritation, instrumentation, etc., than any other region of the female economy. Cancer of the uterus is primarily a local infection, and in this stage a cure by operation is possible. Later, no operation can eradicate it. To properly present the subject from a clinical stand-

point, I will treat it under the following heads, with your permission omitting but a reference to the ætiology, which is still unsettled.

1. Its preference as the seat of attack.
2. Its clinical course.
3. Its early and differential diagnosis.
4. The limits for radical operation.
5. Palliative measures in "inoperable" cases.

Cancer of the uterus constitutes one third of all the cases of cancer in women, and ninety-five per cent. of all cases of cancer of the uterus originate from the cervix. The disease is rare before thirty; most common between forty and fifty. (In Cullen's fifty-two cases of squamous cell carcinoma of the cervix, nineteen, or over twenty-seven per cent., occurred between forty and forty-five.) After sixty, cases become less frequent, either because fewer women survive that age or because tissue atrophy is antagonistic to new growths.

Married life and childbirth have a distinct influence on the liability to carcinoma. All authorities are agreed that cervix carcinoma is more common in women who have borne children or who have had instrumental dilatation of the cervix. It is exceedingly rare to find a nulliparous woman suffering from squamous cell carcinoma. Long continued irritation produces an abnormal cell proliferation, an essential to cancerous growths.

(In the uterus, the cell elements normally subsist in unstable equilibrium and are prone to frequent modification and changes.) All evidences point toward the bacteriological origin of cancer, and, while the organism has not been isolated, the inoculability of cancer has been abundantly demonstrated. Carcinoma of the cervix may originate in or under the squamous epithelium of the portio vaginalis or from the cylindrical epithelium of the cervical canal or from the epithelial lining of the cervical glands. The point of origin is of extreme importance, in that it influences the *operative prognosis*. Flat cell epithelioma, or squamous cancer, begins in or under the cells covering the vaginal portion of the cervix and manifests itself as cauliflower excrescences or in polypoid degenerations of the cervical surface. In this form, the infiltration is slower than in adenocarcinoma, and the tendency is to follow the squamous cell formation and to extend down the vaginal walls. (Early spreading upward is rare.) Infiltration is followed by ulceration and necrosis. When the disease extends upward, it involves the parametrium, and later reaches the body of the uterus. Ulceration is a late process, and, unfortunately, the so-called classical symptoms do not occur until this process is more or less advanced.

Carcinoma beginning in the cylindrical epithelium of the cervical canal or within the glandular cells develops as circumscribed nodules in the cervical tis-

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sue, and may involve the whole cervix before breaking down. When it does, the tissue necrosis leaves a sloughing cavity hidden by the external os. When the disease begins near the external os, the cervical lips become involved and appear thickened, infiltrated, and glazed. There is little or no loss of substance, and they rarely bleed; or the cervix is felt to contain hard nodular masses. The disease extends upward in the direction of the body and into the broad ligaments, infecting the lymphatic vessels and glands of the parametrium. Lateral induration, immobilizing the uterus, is an early and common complication. The prognosis, with or without operation, is worse than in cancer in any other location. Infiltration and induration about the nodule are always present before ulceration or necrosis takes place. The extension in this form of cancer is early, before the cervical tissue breaks down, for the lymphatic channels draining the cervix originate in the mucous membrane and muscular coat, then pass along the side of the cervix and become convoluted, and form two or three large trunks which pass outward with the uterine arteries, skirt the sides of the pelvis, and reach the iliac glands near the bifurcation of the common iliac. Cancer of the body is the least frequent site of the disease; it starts in the corporeal mucous membrane and utricular glands, and slowly extends through the uterine walls. To involve the lumbar and inguinal glands, the infection is carried through the lymph channels accompanying the utero-ovarian artery and along lymph ducts in the round ligaments. The progress of cancer in this location is slower and the prognosis better than in any of the others.

The clinical course of uterine cancer is rapid. The infection travels both by continuity and contiguity, but usually follows the lymphatic chains, involving successively the vaginal wall, the broad ligaments, the uterus, the bladder, and the rectum, and extending to the lumbar, sacral, and inguinal glands. Death usually takes place from exhaustion, toxæmia, hæmorrhage, or uræmia in from two to five years.

The disease is so insidious in its onset that its incipency passes unnoticed, and it reaches the stage of the classical symptoms—*hæmorrhage*, *leucorrhœa*, and *pain*, when it is too late to make a radical cure. It must be remembered that these symptoms are the result of *ulceration*, *necrosis*, and *tumor formation* which mark the later stages of cancer. It is because the practitioner has been taught to diagnosticate cancer from these symptoms that women who are beyond the help of the knife present themselves to the surgeon. Have we any earlier evidence of malignant disease? I think we have.

The menstrual history of each patient should be carefully studied during menstrual life. The menses may be more profuse or prolonged. The women

should be interrogated as to menorrhagia, metrorrhagia, spotting, etc. Spotting after coitus or defecation or exertion is significant. Compare every bleeding with what it has been in the same patient.

The menopause has long been a cloak for ignorance or indifference on the part of the attending physician. At this time a woman should not flow, nor should menstruation be prolonged or profuse without cause, nor should a woman who has had amenorrhœa for one or two years come on and flow profusely or scantily without cause. A careful vaginal and rectal examination may solve this problem, and should be made in every case presenting any menstrual vagaries. My appeal is that the practitioner familiarize himself with the uterus of his patient, that he may note any pathological changes.

Repeated blood examination may be of some diagnostic aid in the early stage of uterine cancer. The relative percentage of hæmoglobin is always diminished, though the patient presents no apparent anæmia. The specific gravity of the blood is also reduced, and in most cases there is leucocytosis. Later, when cachexia and emaciation occur, the blood count is confirmatory. The leucorrhœa at first is a mucopurulent discharge; later, serous; then serosanguinous; and finally, seropurulent, acrid, and fætid. The discharge in cancer always loses its mucous consistency.

When it takes on its pathognomonic characteristics, ulceration and necrosis have taken place and the diagnosis is too late.

Patients over thirty-five having irregular bleeding or staining without gross lesion, or having persistent leucorrhœa, should be curetted and the scrapings examined by the microscope. Investigations in this line have been positive.

The Diagnosis of Flat Cell Carcinoma of the Cervix.—The symptoms and physical signs depend upon the stage of the pathological process, and, for clearness, the development of flat cell cancer will be divided into three stages:

It begins as a nodule or ulcer of the cervix, indurated, but without loss of tissue; the cervical lips are thickened, hard, and nodular, with or without ulcer; the cervical tissue bleeds on manipulation; the mucous membrane covering the cervix may show large and small nodules, having a glazed, bluish-white appearance, as though just ready to burst, or an ulcer with a glazed surface presenting delicate finger-like projections which bleed readily. The examining finger is always covered with a little blood.

The second stage is that of moderate disintegration of the cervix; here the cervical landmarks are obscure or obliterated by cauliflower excrescences; the base is hard and nodular; the surrounding tissue is infiltrated; and more or less lymphatic extension into the parametrium may be appreciated.

The third is that of extensive and complete involvement of the cervix, with tissue necrosis, vaginal and parametrial extension. During the first stage, irregular "spotting" on exertion, defecation, or coitus is suggestive; or the menses may be more profuse and prolonged. (This is due to the accompanying endometritis or endocervicitis, and not to the cancerous process.) A serous discharge may occur in the interval between bleedings. It may have a more or less penetrating, offensive odor, irritating, causing itching and scalding, or in rare instances it is non-irritating. But the *mucous characteristic* is always lost. Some patients in this stage look the picture of health, though a blood examination will reveal the changes referred to above. There is usually no pain, while others may have a dull, gnawing pain in the lower abdomen and back. This I believe to be due to the previously existing pelvic condition and to have no significance as an early diagnostic sign of cancer.

The disease in this stage must be distinguished from eversion of the cervical mucous membrane. In eversion the mucosa is bright red; there is no induration, no tendency to bleed.

It must be distinguished also from extension downward of the cervical mucosa, a condition occurring in nulliparæ at the external os. This also is not hard, nor does it tend to bleed. Erosion of the cervix or ulceration indicates a loss of substance, but there is no induration; and a ten per cent. solution of sulphate of copper covers the ulcer with a bluish-white coating, while it starts up bleeding in cancerous ulceration.

The most misleading condition to distinguish from flat cell cancer is a stellate laceration with erosion and pregnancy. The chief point of difference is the absence of infiltration and induration.

Cervical polypus has symptoms of hæmorrhage and discharge, and may give the surgeon the impression that he is dealing with malignant disease. The tumor springs from a point within the canal; the lips of the external os are intact; and, finally, a piece of the polypus may be snapped off and a microscopical examination made. Tuberculous ulceration of the cervix is a rare condition which may present appearances somewhat similar to those of cancer. The ulcer is well defined, having sharply cut and undermined edges, and the surrounding tissue is studded with miliary tubercles.

The second and third stages present the so-called classical symptoms: Hæmorrhages—menstrual and intermenstrual—leucorrhœa—serosanguineopurulent in character, with an offensive odor and pain.

Adenocarcinoma of the Cervix.—When the disease has its origin from the cylindrical epithelium of the cervical canal or in the cervical glands, hard pro-

tuberant nodules may be felt in the cervix or there may be enlargement of the whole cervical segment.

Infiltration may always be appreciated before the nodule breaks down, or if the nodules are *near the internal os*, the portio is *enlarged, firm, bluish, and glazed-looking*. The examining finger is *soiled with blood*. The above-mentioned findings in a patient over thirty-five *are more than suggestive*.

When the disease begins near the external os, the cervical lips are apt to become involved. Digital and ocular examinations may show one or all of the following lesions:

The lips are *thickened, infiltrated, and glazed*.

The os is very small and indented or may not be made out at all. On passing a finger or sound into the ostium, the cervical canal is found to be a dilated, disintegrated cavity, and the cervix tears when seized by a tenaculum. Examinations of the scrapings from the canal or of a section from an *indurated nodule* will make the diagnosis positive. Infection spreads rapidly along the lymphatic chains of the broad ligament, and the cancer may be "inoperable" before any subjective symptom has suggested pelvic disease. The earliest subjective symptom is a sanguineous discharge, so-called spotting, after exertion, coitus, etc. This is due to the endocervicitis, not to any ulcerative changes in the growth, as tissue necrosis is late in cancer from this origin, or there may be a yellowish, offensive, irritating discharge, which may or may not be tinged with blood, or a thin serous discharge *without mucus*. *These symptoms are intermenstrual*.

Occasionally a constant hæmorrhagic discharge is the only evidence of uterine disease. Hæmorrhages from cancer of this origin are more prone to occur after exertion. Menstruation is not influenced by this form of cancer, and Cullen believes "that it has no relation with it whatsoever."

Pain is a variable symptom; a sensation of weight and fulness in the region of the uterus was noted in Kelly's and Cullen's cases. Too much importance should not be attached to the presence or absence of pain, as in my experience it is only suggestive of the previous pelvic disease. However, an unexplained loss of *strength and weight is significant*.

The principal point in the distinction between flat cell cancer of the cervix and adenocarcinoma is as follows: In the squamous cell form, the growth is more appreciable and friable and bleeds more easily, while in adenocarcinoma the tissues are firmer, structural necrosis being a later process.

Pregnancy bears a causal relation to both. Adenocarcinoma of the cervix must be distinguished from the same conditions as stimulate flat cell cancer. The presence of induration and infiltration is the chief distinguishing point.

Adenocarcinoma of the body occurs primarily in

only about two per cent. of the cases of malignant disease of the uterus. It begins in the cylindrical epithelium and utricular glands of the corpus, as a papillary growth of slow development, which, after filling the corpus, tends to invade the adjacent muscular tissues. Lymphatic invasion is a *late complication*.

The disease usually begins after the menopause, between the ages of fifty and sixty. The former belief, that this form of cancer was confined to this period and limited to nulliparous women has been disproved, as many cases of malignant adenoma have been seen in young parous women. However, it is most frequent in the nulliparous.

Any sanguineous discharge after the menopause is suspicious. Usually the earliest symptom attracting the patient's attention is a profuse watery discharge from the genitalia; this may be blood-tinged or sanguineopurulent, and causes irritation, itching, and burning of the genitals. The discharge may be present many months before hæmorrhage occurs. The mucous characteristic of the corporeal leucorrhœa is always absent.

The patient may complain of a sensation of weight in the region of the uterus or refer her discomfort to the lower part of the abdomen and back, with more or less pain running down the thighs.

The development is slow and the neoplasm may fill the cavity and enlarge the uterus to a considerable size without involving the underlying muscle. *The growth is primarily superficial.*

When the disease occurs during the menstrual life of a patient, the menses may be profuse and irregular. After the menopause, the bleeding is intermittent or continuous, depending on the site and disintegration of the neoplasm. Insidious, persistent, and continuous loss of weight and strength, unexplained by other gross lesions, should be suggestive of malignancy.

The discharge may be intermittent from bad uterine drainage, when an attack of womb colic will follow and the flow is reestablished. It will be noted that the pain is less when the drainage is good. Hydrometra and pyometra occasionally occur from the damming back of the secretions. Hæmorrhages less frequently follow exertion, etc., than in adenocarcinoma of the cervix, as the diseased tissues are more protected from injury.

The Physical Signs.—The uterus is usually *symmetrically enlarged* to the size of a six weeks' or three months' pregnancy. A sense of fluctuation may be elicited on vaginoabdominal or rectoabdominal examination. Bimanual manipulation usually expels detritus and soils the fingers with blood. The cervix is frequently patulous. Bleeding may be very profuse on passing a sound into the uterus. Curettage is indicated and a diagnosis from the scrapings is positive.

Every woman should be examined during her menopause, and warned as to the significance of the several symptoms of incipient malignant disease. In a few years, if practitioners would but adopt such a rule, the mortality would be reduced more than half. Before leaving the subject of diagnosis, let me suggest a rectoabdominal examination in each suspected patient.

Senile endometritis and degeneration of a submucous myoma must be distinguished from corporeal cancer. Either condition may be positively excluded by the microscope.

Surgical Limitations.—The curative treatment of uterine cancer by operation depends wholly on its early diagnosis, and this is influenced by the seat of origin. Cancer of the portio is more easily recognized than adenocarcinoma of the cervix, and has therefore a better prognosis. Lymphatic involvement in corporeal cancer is so late that ample opportunity is given to the watchful physician to make the diagnosis before the case is "inoperable."

My own experience, as well as a careful review of the literature, in cervical cancer would make me limit the operation for radical cure to those cases of cervix carcinoma and epithelioma in which the uterus is freely movable and the disease is strictly limited to the uterine tissue, and, upon rectal examination, there can be found no lymphatic chain of glandular involvement of the latter, the parametrium, or the retroperitoneal glands. I believe vaginoabdominal hysterectomy to be the operation of choice.

From the foregoing statement it will be seen that I place the majority of cases in the "inoperable" class.

The longevity and comfort of these patients may be secured by palliative measures directed toward the control of hæmorrhage, arrest of discharge, and relief of pain.

Curettage with a sharp spoon to remove all of the necrotic tissue, followed by thorough cooking with the galvanocautery, makes it possible to secure to our patient a much greater alleviation of her sufferings than by hysterectomy, no matter by whom performed, when parametric infection has taken place.

For those who will not or cannot be subjected to this form of operation, the necrotic material may be removed and a healthy granulating surface substituted by the use of a fifty per cent. solution of chloride of zinc. Bromide of arsenic and morphine in combination with tonics make up the medical treatment. Tampons soaked in a saturated solution of pyocetanin may be applied to the necrotic area, and act as a deodorant, making the woman's life more bearable.

In conclusion, I should like to emphasize the following points:

1. The early diagnosis is possible.
 2. The earliest symptoms differ, depending upon whether the disease begins during menstrual life or after the menopause.
 3. During menstrual life, compare every bleeding with what it has been in the same woman. Be suspicious of intermenstrual spotting and serous discharge.
 4. After the menopause, any serous or sanguinous discharge is significant.
 5. Examine every woman over thirty who may exhibit any menstrual vagary or persistent leucorrhœa.
- Finally. Limit radical operations to those cases in which the disease is confined to the uterine tissues.

THE HISTRIONIC ELEMENT OF MENTAL DISEASE.

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An attempt will be made in the brief limits of this paper to give a clinical description and analysis of the histrionic element, which is a frequent phase in many forms of mental disease. The subject is of real interest and of diagnostic and prognostic importance, and has not received the attention which it merits.

In mental alienation the imagination is fired by disease, powerful passions escape control, morbid impulses impel, and terrific and grotesque delusions prompt outbursts of tragic or comic action, which may exceed in histrionic intensity anything witnessed in ordinary life. Shakespeare, with an insight of genius characteristic of the immortal bard, recognized the histrionic element of mental disease, and introduced insane characters in prominent places in several of his plays.

As a matter of fact, if the rôles positively enacted by lunatics in the tragic doings of mankind were truthfully recorded, they would form no insignificant part of the world's historic drama. It is not necessary, though, to turn to the leaves of history for sensational or theatrical scenes, to Nero fiddling as Rome burned, to epidemic maniacs dancing or flagellating themselves into insensibility, severing parts of their body in sacrificial offering, imitating the noises and actions of animals through lycanthropic delusions, or burning at the stake as self-confessed witches in league with the devil, for these were but prototypes of moral monstrosities, self-mutilations, regicides and startling diabolisms of action found in the insane world at the present time. In very recent days insane imposters in religious, political, and financial ways have played rôles with such force and cunning as to attract large numbers of deluded followers, until incarceration in a lunatic

asylum ended widespread mischief and disturbance of public welfare. The modern performances of theomaniacs in their contagious and disastrous imposition of delusive ideas differ only in degree rather than in kind from tragedies on a large scale during past epidemics of insanity. Space only permits a passing allusion to these broader aspects of the subject since the chief aim is to study the histrionic element as seen in every day practice among the insane.

In the different forms of mental alienation the acting varies much in nature, being involuntary and irresistible in some and deliberately intentional in others. Attention will first be given to the histrionic phases of acute mania. The maniac may within the brief space of a few minutes give a striking display of impassioned acting, of pride and fear and of anger and mirth without special provocation or delusive idea. The pathological irritation of cortical centres liberates explosively a host of emotions, and thus gives with appropriate facial expression and gestures a changing embodiment of human passions with the rapidity of dissolving views of the stereopticon, so swift may be the flight of feelings that those of contrary nature may become superimposed and render paramimic effects of surprising interest. The maniacal patient is sometimes driven by constant vivid hallucinations to forms of emotional acting, and in response to the jeers and taunts of imaginary voices rises to fine heights of declamatory denunciation of persecutors. At other times he is stirred to the depths of his being by terrific delusions and roused by them to homicidal, suicidal, or other tragic deeds, which surpass in histrionic effect the theatrical stage in the same degree that the pathological force of feeling in the real sufferer exceeds the assumed emotion of the ordinary actor. Long experience in hospital wards for the insane leaves graven on the memory scenes of dramatic effect, which would have roused enthusiasm in the audience of a stage play. There is nothing more spectacular than a powerful man, wrought to the pitch of human agony by false sights and sounds and fiendish maniac ideas, fearing immediate destruction of his own life, or hearing perchance the pitiful cries of his wife or children undergoing torture, rising to full height with expanded chest, bated breath, set teeth, clenched fists, flashing eyes, defiant courage, and superhuman strength for the most desperate acts. Such histrionic elements are but culminations of the mental disease inevitable and irresistible, but there are others having every degree of conscious deliberation. The most persistent and intentional forms of acting are seen in reasoning maniacs and paranoiacs with a fixed delusion as the basis of conduct. The insane impostor, antichrist, self-styled prophet, or special agent of the Almighty plays a

part of great dramatic interest, and goes about his mission with lofty and mystic mien and such self-assurance and earnestness as to carry conviction to his deluded converts. The theatre offers nothing more sensational than the sight of a lunatic leading a crowd of sane persons from their sober vocations into all sorts of vagaries of conduct and religious belief. In this connection, did time permit, might be mentioned a host of tragic doings by monomaniacs, self-crucifixion, Abrahamic immolation of children, assassinations of high officials, and disastrous rôles in the social and business world. Similar histrionic elements are occasionally present in the early stage of general paresis and other forms of insanity, and they are more remarkable as a rule in the incipient than in the advanced stages, but the proof that they are integral symptoms of the malady is the fact that they remain even in terminal mental deteriorations. In all large hospitals for the insane are found these chronic patients calling themselves generals, kings, queens, presidents, the Virgin Mary, Jesus Christ, or even the God of all Gods, dressing and acting parts continuously if not prevented. These are the show-cases of asylums sometimes allowed to divert from curable patients the attention of curiosity-seekers given to visiting such places, and they often live and die happy, acting their rôle to the very last.

One of these patients for years posing as the president's wife received with gracious condescension large numbers of visitors with enjoyment to all parties concerned. Another acted as an admiral, wearing brass buttons, a sword, and various decorations, and went his daily round issuing his orders with military promptness and decision. Still another took the rôle of a captain commanding a fort, which he was allowed to build on the upper end of Blackwell's Island. He showed great perseverance and ingenuity in the construction of this fort out of sod and stones, and mounted it with large wooden cannon, and there received for some years hundreds of visitors, and once a year he rendered a bill to the government for the protective services of his fort.

It would be easy to cite from recollection many of these chronic cases playing a great variety of rôles, but the foregoing suffice for illustration among this class of patients. The occasional change from sombre to gay characters in these cases is on the same principle as the compensatory transformation of delusions of persecution into those of grandeur. In recurrent insanity the character enacted in the first instance is not infrequently resumed in the recurrences. Thus, a young man, at intervals of some years, went through three attacks as Jesus Christ with lofty dignity and sanctity of bearing. During the same attack there is seldom more than one complete change in personality, but very exceptionally there may be a variety of impersonations more or

less well sustained. It is noteworthy that whatever has been attained by laborious effort is usually abandoned in mental disease, and hence professional actors show no special tendency to acting when insane. Only two exceptions are recalled: one was a parietic actor who gave feeble rehearsals of rôles formerly effective, and the other was a circus clown, who played continuously to imaginary audiences, cracking his old jokes and laughing immoderately. The histrionic element in some cases of erotomania is very decided. These pathological lovers "out-Herod Herod" in demonstrations of the tender passion, which may relate to persons real or ideal. A well educated man became affected with erotomania at operatic performances in this city, and conceived the notion that a celebrated prima donna was his innamorata, and that on the stage she made her most wonderful vocal efforts looking directly at him. He pursued her with love missives and attempted interviews, and no form of rebuff could shake his ardor or his delusion. He finally forced his way by the doorkeeper of her hotel apartments, where she was receiving some lady callers, and fell on his knees before her in desperate declaration of his love. He was then committed to the writer's care as insane. In hospital the patient continued histrionic performances, talked and wrote about the prima donna, drew pictures of her, stood before them with clasped hands and upturned eyes, and addressed them in passionate appeals, kissing them and singing rapturously to them. This state of things continued some months, when the patient was sent to Europe, and in the meantime he was well behaved and rational on subjects apart from his delusion.

A number of cases of this kind, some of them in women, have come under the writer's care, and all of them had prolonged pathetic acting which could not be repressed by any amount of moral suasion; even women erotomaniacs, in no wise demented, persist in their amorous rôles in spite of the protestations of their chosen victims. In this connection may naturally be mentioned the rôle played by the insanely jealous husband, wife, or lover. Jealousy is one of the most powerful passions, common in men and especially frequent in women, and when it has insane intensity it leads to both comic and tragic performances. The insanely jealous husband, often juvenile, senile, or alcoholic, employs detectives to watch his wife, or seeing proof of perfidy in trifles light as air, he enacts a homicidal or suicidal tragedy. Likewise the pubescent lover is often driven to Othello-like rôles of violence by insane jealousy. The hard-worked husband, probably a moral professional man, is held in the absurd light of a suspected gay Lothario by the insanely jealous wife. She turns private detective, follows him about, watches him as to the women servants, inspects his pockets

and letters and the contents of his waste basket, and a private interview with a lady in his office may provoke her to make to her bosom friends the most scandalous revelations of her suspicions, or she may commit suicide or infanticide. A woman sexual pervert may masquerade in male attire, make love to one of her own sex, and become a homicide through insane jealousy.

The histrionic element in mental disease does not ordinarily take the form of a special passion with a correspondingly distinct rôle, but appears more frequently as disjointed bits of theatrical behavior. For instance, in pubescent insanity the histrionic phases may last for only a few hours or days or may constitute permanent features of the malady. The male pubescent imitates the models of declamation most familiar to him and tries to assume the style of delivery of the stage actor or of the pulpit orator, and there are often much emphatic gesticulation and spectacular posing. One patient was given to stump-speech making and another to the rapid utterance and peculiar intonations of the auctioneer. Women patients sometimes try religious harangue, after the model of the Salvation Army exhorters, attempt operatic and pathetic song, or display their theatrical impulses in the most varied attitudinizing and facial pantomime. Some patients live almost completely in a day-dreaming and fantastic world peopled with their own fancies, and like children at play will for hours together act out entire scenes with imaginary beings. Imitation is such a primordial trait of mind and such a constant factor in all education that in the undoing of the intellect by disease various forms of mimicry are natural symptomatic residua. Patients imitate the peculiarities of others, or they take off the manner of the doctors and nurses, and their keenest imitations are in a sarcastic vein. In some the acting takes the form of mincing gait and extreme affectation of manner and speech. No words can describe the antics, the insane whims and oddities of conduct, or the persistent silliness of action in some of these cases. In olden times there were king's jesters and court fools, and duplicates of these characters are to be found among imbeciles and the chronic insane, who occasionally show all kinds of coarse wit and clownishness. In most large hospitals for the insane there are some of these persons acting the part of buffoon to the diversion of themselves and others, and they often have a mask-like solemnity of countenance in their most comic performances. In other cases there are passive scenic effects like the ecstatic state, fixed beatified looks, or terrified aspect and set agony of features, as in melancholia attonita. There is another form of the histrionic element which, though the outcome of the mental disease, is mingled with conscious intent on the part of the patient to de-

ceive. In these cases the ordinary symptoms and the histrionic elements may be so intimately blended that it is difficult to distinguish between acting and reality, for both psychic and somatic symptoms are simulated.

These rôles of simulation are most common in hysterical, hypochondriacal, and neurasthenic types of insanity. Sensory and motor disturbances, loss of special or general sensation, of power of speech, or locomotion, and a host of mental as well as physical symptoms are not infrequently feigned by these patients to excite sympathy. These malingering rôles may be acted for weeks or months with almost incredible persistency or they may be changed frequently with insane caprice. Nurses often notice the shams enacted, and they report to the physician that the patient is "putting on" or "acting off," and in some instances the patients positively burlesque the mental disease. They feign excitement or other symptoms to prevent transfer from one ward or hospital to another. They persevere in a rôle of dissimulation, deny their delusions, or hide all their symptoms for a time in order to get discharged from hospital, or if at home they dissemble their real symptoms to avoid commitment. The writer has known insane criminals to feign foreign symptoms and even a type of insanity different from their own. It is probably more difficult for the insane to ignore their own delusions than to assume unreal symptoms, and dissimulation accordingly is more rare than simulation. It is well understood that prolonged feigning may lead to insanity, but it is not generally known that the habit of acting a part by the insane may become a real obstacle to their recovery, and that positive measures should be taken to repress the histrionic element in curable cases of mental disease.

The clinical facts and conclusions of this paper are briefly as follows:

The histrionic element in mental disease is the direct outcome at times of irresistible impulses and outbursts of emotions. It results at other times from terrific delusions and hallucinations, which impel the sufferer to tragic acts. It proceeds in some cases from a central and organized false belief, which leads to sensational monomaniacal rôles. Again the theatrical phases develop from morbid love, jealousy, or other overwhelming passion, or from actual changes of personality peculiar to insanity. The histrionic element taking the form of caricatures and mimicry is an aberrant manifestation of the law of imitation, which is so fundamental in all formative mental processes.

As a matter of clinical fact, the histrionic performances are spontaneous and involuntary in some patients, attended by slight deliberation and self-control in others, and in a few cases directed by the

most perverse wilful intent and insane cunning.

The recognition of this histrionic element as an integral part of mental disease throws light on some obscure phases of mental pathology, clears up the puzzling nature of cases seemingly mixed of sham and reality, and also has practical bearing in the prognosis and treatment of mental maladies.

Therapeutical Notes.

A Hypodermic Diuretic for Uræmic Patients.—

Dr. Cassine (*Nord médical*, June 1st) recommends the following in cases of gastric intolerance, where diuretic medication is requisite:

R	Boiled water.....	50 grammes (12½ drachms)
	Sodium chloride.....	1 gramme (15 grains)
	Sodium phosphate....	2 grammes (30 grains)
	Sodium sulphate.....	4 grammes (60 grains)

M.

About 75 minims to be injected morning and evening in the skin of the buttock.

Camphor for Ulcers of the Leg.—According to the *Journal of Tropical Medicine* for June 16th, O. Schulze (*Münchener med. Woch.*, March 19th) says that of all remedies, new and old, camphor gives the best results in ulcers of the leg. His prescriptions are as follows:

R	Triturated camphor.....	½ drachm
	Zinc oxide.....	7½ drachms
	Lard.....	to 6 ounces

M.

or		
R	Triturated camphor.....	½ ounce
	Zinc oxide.....	3 ounces
	Olive oil.....	3 ounces

M.

For Impetigo Contagiosa.—Dr. Martin F. Engman (*Medical Bulletin of Washington University*, April) records the following prescription used in the service of Professor W. A. Hardaway, as "almost a specific when properly used":

R	Precipitated sulphur..	}of each..1 drachm
	Zinc oxide.....	
	Potassium sulphide...)	
	Rosewater.....	3 ounces

M. Sig. Shake and apply as directed.

The crusts should first be removed by a boric acid cream (boric acid, grains 15, to cold cream 1 ounce), by applying the cream often, until they are softened by the grease. Care should be taken not to irritate the skin in the removal of the crusts, as too energetic measures will cause loss of time. When the crusts are removed, the face gently washed with soap and warm water, and then thoroughly dried, the above lotion should be applied. Cotton or a sponge must not be used in the application as the meshes retain too much of the powder; a clean cloth or handkerchief is better. After shaking the bottle a little of the lotion is poured into a saucer and the cloth dipped in it, and then sopped on the lesions by gently tapping it over the place. A few minutes should be thus employed, and the lotion allowed to dry on. This should be repeated several times daily, and if a crust reforms, it should again be gently removed by the

cream and the former process repeated as before. In children or women with delicate skin, when infected with these circinate lesions, the lotion should be diluted one-half with water.

For the Cough of Influenza.—According to the *Quarterly Medical Journal* for May, Capitán (*Progrès médical*, March 22nd) gives the following:

R	Alcohol.....	10 parts
	Chloroform.....	2 "
	Tincture of benzoïn.....	6 "
	Menthol.....	2 "

M.

Sig. Ten drops to be inhaled from a handkerchief.

For the Pains of Tabes Dorsalis.—Hirschkrön (*Gaillard's Medical Journal*, June) states that he has frequently been successful in alleviating the lancinating pains of tabes with the following:

R	Extract of cannabis indica.....	0.50 gramme (7½ grains)
	Salicylic acid.....	5.00 grammes (75 grains)

M. Div. in pulv. 10.

Sig. Two powders daily.

Calabar Bean in Cerebral Congestion.—Romaro (*Arte medica*, June 22nd; *Riforma medica*) considers calabar bean, associated with ergot, useful to modify the cerebral circulation in cases of cephalalgia, vertigo, and other cerebral phenomena dependent on congestion secondary to diffuse atheroma. Here is his formula:

R	Pure ergotine.....	0.10 gramme (1½ grain)
	Extract of Calabar bean....	0.02 gramme (3/10 grain)

M. And make one pill with some bitter extract.

Five, progressing to eight, or ten such pills may be taken daily according to tolerance.

For the Anorexia of Phthisical Subjects.—Debove (*Progrès médical*; *Revista de medicina y cirugía de la Habana*, May 10th) gives the following:

R	Powdered condurango....	(of each 0.50 grammes
	Sodium bicarbonate.....	1 (7½ grains)

M. For one powder.

Sig. One to be taken an hour before each meal.

Or this:

R	Tincture of condurango....	}of each 30 grammes
	Tincture of cinchona.....	
		(7½ drachms)

M.

Three teaspoonfuls daily in water.

For Benign Facial Neuralgia.—According to the *Nord médical* for March 15th, Crocq has had excellent results from the following formula:

R	Sodium phosphate.....	15 grains
	Cherry-laurel water.....	13 drachms

M. From fifteen to forty-five drops to be injected subcutaneously.

For external treatment, Rendu, in certain congestive forms recommends leeches behind the ear. The constant current with the positive pole locally applied is of great efficacy. Sprays of ethyl chloride find their application, but must be used with care as they may determine pigmentary deposition on the face.

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MEDICINE IN ART.

There are some notable works of art that illustrate the history of medicine; for example, there is the well known dramatic picture of Ambroise Paré demonstrating the use of the ligature on the field of battle. Along with more purely didactic contemporaneous representations of disease, the *Nouvelle iconographie de la Salpêtrière* has for some years now regularly presented reproductions of interesting old paintings and drawings bearing upon medicine, and recently Dr. Paul Richer has furnished the material of a sumptuous volume on the subject of medicine in art.¹ It is a large work, comprising more than five hundred and fifty pages of small quarto size.

Many of the pictures given by M. Richer are either more ecclesiastical than medical in their significance or else so grotesque as to be hardly edifying from any point of view, but there are two good delineations of hysterical spasm of the face, and there is an excellent reproduction of Velasquez's striking and highly finished portrait of an idiot. Much space is given to portraying the subjects of demonic possession and their miraculous healing by Our Lord and the saints, also to the closely related conditions of tarantism and ecstasy. Two curious pictures are presented in connection with the subject of urology. One of them depicts the ocular inspection of a portly flask of urine in the fifteenth century, and in the other the traditional skeleton personifying Death takes the part of a rather active assistant in a similar scene.

M. Richer has allowed himself a wide range, from depicting a lovesick maiden to showing a number of sepulchral statues, to say nothing of a jolly party of

monkey barbers and pedicurists. All this, of course, is of little if any direct applicability to the realities of medicine and surgery, but to those who are inclined to devote some time to the steps by which the ancient and the mediæval have reached the status of modern science it can hardly fail to prove of considerable interest.

THE WIRING OF FRACTURED BONES WITHOUT A CUTTING OPERATION.

We find a very suggestive article by Dr. O. Lambret in the *Echo médical du Nord* for June 29th. While he was the chief of clinic in the service of Professor Folet, there was brought in a patient whose thumb had been nearly cut off by a circular saw. The proximal phalanx was severed by a very oblique cut. After the reduction of the fragments, Lambret made a number of turns around them with fine silver wire, and thus held them in normal apposition until consolidation took place. In a subsequent case, one of simple fracture of the same phalanx in a child two years old, he made two short incisions on opposite points of the thumb, and through them encircled the reduced fragments with wire. Although the obliquity of the fracture was quite as great as in the first case, the result was all that could be desired.

As regards the second case, that of the simple fracture, it seems manifest that the incisions could have been dispensed with, wires threaded to needles being made to hug the bone, and thus the entire procedure have been made practically subcutaneous. In the case of so small a member as a little child's thumb, no doubt the increased risk of infection entailed by the incisions would be hardly more than infinitesimal, but a procedure similar to Lambret's might often, it appears to us, be practised in cases of oblique fracture of much larger bones, though of course it would not be prudent to depend upon it altogether for immobilizing the fragments and preventing shortening and other deformity; and in such cases long and deep incisions might be done away with by the employment of suitable curved needles armed with wire proportional in size to that of the bone involved. Repeated turns around the bone with one wire, as seem to have been taken in the instances related, would be wholly unnecessary, too, and objectionable as heightening the difficulty of removing the wire at the proper time. Two wires following opposite sides of the bone, their free ends being twisted together suf-

¹ *L'Art et la médecine*. Par le Dr. Paul Richer, membre de l'Académie de médecine. Paris: Gauthier, Magnier, et Cie.

ficiently tight to answer the purpose, would doubtless be quite as efficient. Such little devices in the management of fractures have in all probability been more than once resorted to without attracting the particular attention of the profession. We may conceive of their having a special value in the case of such a bone as the clavicle.

SMALL-POX AND VACCINATION.

It is very remarkable that a period of extensive prevalence of small-pox in a community, while it gives rise at the time to close attention on the part of the medical profession and almost invariably to a state of panic on the part of a large portion of the people, is invariably succeeded by a long course of apathy as regards the disease in the ranks of the profession and of a renewed and growing willingness among the laity to listen to the pernicious teachings of the antivaccinationists. Nothing but an epidemic seems capable of rousing in the public mind any abiding appreciation of the preventive value of vaccination, and, it must be added, nothing else appears to remind most physicians of their duty to see to it that every child in the families under their care shall be vaccinated at the proper age. Most of us do not wait until there is some definite threatening of serious disease before we get our lives insured; thus we show how much more we think of our pockets than of our health. But, even with all that, few of us would pursue the wise course of insuring in time were it not for the persistent importunity of the insurance solicitors, whereby the men of business demonstrate with how much greater ardor they prosecute their affairs than that with which we physicians acquit ourselves in the practice of preventive medicine—that highest branch of our art which we all exalt in theory, but so many of us neglect in reality.

We have witnessed during the past winter a season of widespread prevalence of small-pox, so mild in its character, as a rule, as to fall short of exciting the usual panic that accompanies an epidemic. Let us not be too sure that there is the ordinary short-lived safety in lapsing for a time into neglect of the only known prophylactic measure. Realizing the danger of prophesying, we nevertheless must express our fear that the coming winter will witness a recrudescence of the epidemic, and that the disease, in the

event of such an occurrence, may be shorn of its recent unaccustomed mildness. Small-pox epidemics that smoulder through the summer not infrequently take on a greatly augmented severity with the advent of cold weather. That may not be exemplified this year, but we believe it prudent to be on the lookout for such a state of things.

CONTAMINATED VEGETABLES IN THE HAVANA MARKET.

The first official sanitary report for Havana issued since the island of Cuba became a republic, by Dr. Charles (Carlos) J. Finlay, chief sanitary officer, dealing with the month of May, shows a small increase of the general mortality over that of the preceding month, due to a heightened number of deaths from intestinal diseases. It is thought that these diseases are largely attributable to the use of contaminated vegetables, such as water cresses, lettuce, and radishes, which are eaten raw, and inspection of the truck gardens cultivated by the Chinese in the outskirts of the city has brought out ample evidence of the disgusting and dangerous methods employed. Dr. Finlay says: "They use liquid fertilizers, essentially consisting of the contents of privies collected in holes dug in the ground and into which dead animals in every stage of decomposition are introduced. This liquid is not used merely to fertilize the soil, but also to sprinkle the leaves and stem of the plants, while the roots are maintained soaking in a pool of the same liquid. * * * Severe measures have been dictated to oblige those truck gardeners to discontinue their disgusting methods, but so far with only temporary success; so that it has now become necessary to warn the public against the use of raw vegetables at the present time." As we have before pointed out, tetanus, as well as diarrhoeal diseases, may be contracted from contaminated vegetables eaten raw, and consideration of this possibility makes it doubly important that the offending truck gardeners should be forced to mend their ways.

A REMARKABLE STATEMENT CONCERNING CONGENITAL BLINDNESS.

A clergyman of New York is said to have made the statement recently, in an article on the poor of the city, published in a secular paper, that children were born blind in New York because for years at a time their mothers had not seen daylight, since they lived in alleged tenements situated under ground. It is hardly necessary to question the validity of the author's inference, for we do not believe he is correct in his premises; there are no women in New York who never see daylight, unless they are blind. However, should we for the sake of argument

be willing to admit the premises of the reverend gentleman, that there are women who never see daylight in New York, it by no means follows that for this reason their children would be born blind. There is a very high percentage of blindness among the children of the poor, but this is not congenital, but is acquired through lack of proper sanitary precautions during and after birth. In fact, a particular form of ophthalmia has been given its specific name of ophthalmia neonatorum on account of its occurrence in the new-born. We have no doubt that many cases of this kind have come under the observation of the critic, as they are quite prevalent in the poorer sections of every large city.

THE TAIN OF COMMERCIALISM.

Somebody once defined dirt as "good matter out of place," or words to that effect. So when we speak of the "taint" of commercialism, we do not mean to cast any aspersion upon the true spirit of commerce, or to imply that *per se* it is a thing unworthy. But it must be in place, or its presence becomes a contamination. There are at least two fields wherein the commercial spirit is distinctly not in place—religion and the healing art. It is true that neither the minister of religion nor the minister of health was excluded from the dictum that "the laborer is worthy of his hire"; but recompense for labor and responsibility is not commercialism. That consists in the lust of acquisition, the desire of accumulation, the pursuit of material success, principles which lead rather to the idealization of "getting ahead" than of that perfect work which foreshadows the nearest approach on earth to the time

"When no one shall work for money, and no one shall work for fame,

But each for the joy of the working."

We are startled into these reflections by learning through the *Lancet* for June 28th of an advertisement in a religious newspaper, by the Benedictine monks of Buckfast Abbey, in Devonshire, England, in which the "Buckfast Abbey Remedies," a tonic, tonic pills, a salve, antibilious pills, and an antipyretic liniment, are vaunted in the language of the nostrum seller, even to the extent of asserting *inter alia* that the salve will cure "cancerous tumors, wounds, carbuncles, tumors," etc. The *Lancet's* remarks thereon are to the point: "We invite the bishop," it says, "to whom we have referred and the heads of the order which seem to be responsible for these paragraphs to inquire carefully whether the terms in which the goods offered are recommended are justified by the nature of the goods themselves. If not, the buyers are deceived and the sale becomes a questionable transaction in which more than dignity and decency are involved." Once more we will repeat

a felicitous aphorism that we quoted recently in another connection: "When religion marries quackery, quackery is the husband, and *one name has to do duty for both.*"

THE LATE DR. WYATT JOHNSTON, OF MONTREAL.

A prominent member of the medical faculty of McGill University writes to us as follows: "I doubt whether we at McGill and in Montreal appreciated him as we ought. Perhaps it was not altogether our fault; a genius with a head perpetually crowded with ideas—with a genius's impatience to see those ideas put into operation without a moment's delay, with his impatience also at the mere process of explaining those ideas and the train of thought that has led up to them—is not always a comfortable colleague. I am happy to think, however, that not only were we getting accustomed to him, but were yearly appreciating the good it did us to have in our midst so far-seeing and progressive a man. If there is one characteristic that I would single out, it was his combination of inventiveness with intuitive recognition of what was the simplest and most practical method of reaching a given end. His modification of the Widal test is but one of many similar sound and simple devices he elaborated; his method of employing an ordinary hard-boiled egg in its cup for the differential diagnosis of the diphtheria bacillus another. But it is the man himself we shall miss, with his delightful inconsequent humor, full as it was of rare surprises. A collection of Johnstoniana would afford some of the brightest and most amusing sayings and doings. It is pathetic to think that the full professorship at McGill for which he had worked, and which he had looked forward to for so many years, came to him but a few weeks before the end."

TYPHOID FEVER AT CAMP THOMAS.

The occurrence of an outbreak of typhoid fever at Camp Thomas, Chickamauga Park, the first since the great epidemic there about four years ago, during the Spanish-American War, calls not only for prompt measures, which it will be sure to receive, but also for exhaustive and painstaking investigation into its origin. We understand that Major Jefferson Keane and Surgeon James Carroll have been dispatched to the camp to investigate and report. A thorough investigation may throw some light on the vexed question as to how long the typhoid germ may continue to infest the soil in an active state without the reinforcement of new contamination. The difficulties, however, of infallibly excluding an outside origin are naturally very great. Still, it is only by letting slip no possible field for inquiry that the great generalizations of medical science can be arrived at.

News Items.

A Dinner to Dr. Solon Marks on the event of his seventy-fifth birthday was given by the physicians of Milwaukee on July 14th. Dr. Walter Kempster acted as toastmaster. A large number of physicians were in attendance.

Typhoid in the Cook County (Ill.) Hospital.—Several cases of typhoid fever have occurred in the Cook County (Ill.) Hospital and strenuous efforts are being made to prevent the spread of the disease by vigorous use of disinfectants.

The Louisiana Plague of Fish.—In Harvey's canal, near New Orleans, an immense quantity of fish, of the species known as buffalo, have died, practically filling about four miles of the canal with decaying fish. The fish have been thrown out and covered with lime and openings cut so as to flush the canal with water from the river.

The Boston Floating Hospital made its first trip for the summer on July 8th. The steamer was filled to its utmost capacity and the day passed without any untoward accident of any sort. A public appeal for assistance has been made by the hospital authorities as the funds are not sufficient to carry on the work.

The State Manufacture of Antitoxine in Massachusetts to be Discontinued.—On account of the failure of the Massachusetts Legislature to provide funds for the continuation of the manufacture of antitoxine by the state Board of Health it is possible that it may be necessary for the Board to discontinue the work. At a recent meeting the president of the Board, Dr. Henry P. Walcott, intimated that he might himself assume the expenses involved in the continuance of the work.

The Washington State Medical Society at its annual meeting held during the last week in June adopted a new constitution along the lines suggested by the American Medical Association. Under the constitution as it now stands no distinction will be made regarding the practitioners of the different schools of medicine, so long as they are duly registered as medical practitioners. It was very distinctly set forth, however, that this would not include such irregular claimants to medical honors as osteopaths. The society now has a membership of about two thousand, and is in a very flourishing condition.

Fraud Detected in a Medical Examination.—While the applicants were undergoing examination before the State Board of Registration of Medicine in the State House of Boston, Mass., on July 8th, one of the examiners discovered that one of the applicants was not the person he represented himself to be, but was a physician who had already passed the board and was licensed. Under the law the impersonator could not be subjected to any punishment, but the applicant whom he impersonated will be debarred from ever practising in the state of Massachusetts.

The Philadelphia Hospital for Contagious Diseases.—The selection of a site for the location for the proposed municipal hospital for contagious

diseases in Philadelphia has developed a very bitter and acrimonious discussion in the newspaper press of that city. The city council passed a measure authorizing the purchase of what is known as the Cannon Ball farm in the southeastern portion of the city for the erection of the hospital. An organized movement has been set on foot among the citizens to secure a veto of this measure by the mayor on the ground that the site selected is wholly unfitted for the purpose being subject to overflow at high tide.

Legal Status of Vaccination.—Justice Gaynor of the Supreme Court of the State of New York has denied the writ of Eward C. Viemeister who asked for a writ of mandamus compelling the school board of the Borough of Queens to permit his son to attend the school. The boy had not been vaccinated and the father refused to permit his vaccination. He was thereupon expelled from the school and the suit was brought to secure his reinstatement. In denying the writ Justice Gaynor said "The state law excluding children from the common schools until they are vaccinated is a health law within the power of the Legislature to pass."

A Vaccinator Held for Vaccinating a Child.—Dr. Edward R. Bedford has been held before the Court of Special Sessions on a technical charge of assault by a police magistrate in Brooklyn, being released on his own recognizance. Willis J. Walsh, a contractor, of No. 397 Hancock street, the father of the girl, who is six years old, was opposed to her being vaccinated by Board of Health officers. He tried to get a certificate from the family physician, who had vaccinated the girl some time before. The certificate had not been received, however, on May 7th, the day set by William McAndrew, the principal of the school, and Dr. Bedford, for the Board of Health, vaccinated the girl. Mr. Walsh then had both Mr. McAndrew and the doctor arrested. On the examination the principal was discharged and the decision in the doctor's case reserved and the doctor eventually held to appear before the Court of Special Sessions.

The Required Course of Study Extended in Illinois.—At a recent meeting of the Board of Medical Examiners of Illinois, a new schedule of minimum requirements for applicants for certificates to practice in the state was adopted. The principal change is the lengthening of the course of study from six months to seven months in each of the courses of four years. Accounting for the time allowed between the courses, this will require a period of forty months between the date of matriculation and of graduation. In addition to extending the length of time required, the course of study laid out will be more exacting than heretofore. A high school diploma will be required for admission to the freshmen classes of medical colleges in good standing, or in lieu of this the student will have to pass a strict examination on the essential high school studies. These rules will not be operative against colleges whose classes open next September, but after January 1 next year the requirements will be strictly enforced.

The Ohio State Hospital for Epileptics.—Dr. A. P. Ohlmacher, formerly connected with the Cleveland College of Physicians and Surgeons, has been appointed superintendent of the Ohio State Hospital for Epileptics at Gallipolis.

Low Death Rates.—The week ending July 5th seems by the mortality reports of the various cities to have been unusual in having a very low death rate. The death rate in Boston for that week was 13.52 per thousand, being the lowest on record. A similar favorable report was made in Baltimore, where the lowest death rate for many years was reported for that week.

Work of the Board of Health in the Philippine Islands.—The monthly report of Major L. M. Maus, of the United States Army, Commissioner of Public Health for the Philippine Islands and the City of Manila, dated, Manila, April 15th, which has recently come to hand, gives the details of the outbreak of cholera in Manila and of steps taken to prevent its further spread. On March 20th the Board of Health was advised by the authorities of San Juan de Dios Hospital that two cases resembling Asiatic cholera had been sent to the hospital for treatment. An immediate investigation was instituted and before night two other cases were reported. The nature of the disease having been clearly established active steps were taken towards preventing a further spread. The following quotation from the report of the Board give the details of the measures adopted for the suppression of cholera:

"The city was divided into twelve districts for purposes of inspection, and over each was placed a medical officer, with a corps of sanitary inspectors varying from 30 to 60. House-to-house inspections were made both day and night, in order to prevent cases from escaping the notice of the Board. This became necessary, in order to detect cases which were invariably hidden by the natives, presumably to prevent being sent to the cholera hospital and detention camp. A request was made of the Division Commander for the detail of medical officers, and from time to time, such as could be spared by the Chief Surgeon were ordered to report to the Commissioner of Public Health. As many as 31, including those already detailed as medical inspectors, were ordered to report for duty with the Board, and were assigned to duties of district medical inspectors, quarantine officers in the bay, rivers and esteros, and in charge of cholera hospitals and detention camps. As many as 6 or 8 were ordered to the provinces, especially for work in pueblos in which the disease had broken out. Each district medical inspector was supplied with a disinfecting pump, disinfectants and a corps of men versed in that special work. Each house in which a case of cholera occurred was thoroughly disinfected after the case and contacts had been removed, and closed for occupancy for five days.

"The following additional measures were taken: 1st—All wells throughout the city were closed, and distilled water distributed for drinking purposes; 2nd—Prohibition of the following fruits

and vegetables, which could be eaten raw: Pine-apples, pears, chicos, watermelons, muskmelons, apples, radishes, lettuce, cabbage, celery, egg-plant, tomatoes, peppers, cucumbers, green onions, turnips, water-cresses and sugar cane, and a strict inspection made of all shops and markets in the city. The following fruits and vegetables were allowed for sale: Oranges, lemons, mangoes, potatoes and other tubers, and dry onions; 3rd—All hotels, boarding-houses, lodging-houses, saloons, etc., were prohibited from using for drinking purposes water that had not been boiled or distilled; well-known mineral waters and aerated waters made of distilled water were allowed; 4th—A rigorous quarantine was placed around the City of Manila, to prevent the escape of those who were infected to neighboring towns on the bay; 5th—All cascos, lorchas, barges, launches and other shipping, were required to move out of the Pasig River and esteros after 5 p. m. and remain in the bay during the night, where they were thoroughly inspected before being allowed to return to their wharves or moorings. This measure became necessary for the reason that a large number of cases of cholera occurred on such shipping without being reported to the Board of Health and were disposed of in a number of cases by being thrown overboard during the night, in order to prevent detection.

"The Mariquina River, from which the city water is obtained, was thoroughly guarded by civil inspectors of the Board of Health and also by a patrol of cavalry. The pueblos of Malabon, San Mateo, Mariquina, are located on this stream above the intake, and hence, in guarding the supply, to prevent infection, the most rigid inspection of these towns was necessary. Later on, at the request of the Board of Health, the Military Commander ordered a battalion of infantry to line the river on both sides from the intake to Malabon, and so far no case of cholera has appeared in that valley.

"A detention camp had been built on the grounds at San Lazaro during the past Winter for the detention of contacts of bubonic plague, but owing to the disappearance of that disease, had not been used. This camp was capable of holding 2,500 people, and was provided with kitchens, water-closets and other conveniences. The cholera hospital was located on the other side of the San Lazaro Hospital, in the campus, and consisted of hospital tents. The cholera hospital was thoroughly equipped with medical officers, nurses, etc., and during its existence there cared for 172 cases in all before it was removed to Santa Mesa, which was done for the reason that the grounds had become more or less infected. The treatment at the hospital consisted of administration of enemata containing 1-1000 per cent. of benzozone, internally in capsules, hypodermics of strychnine, and the application of hot-water bottles and general remedies to meet symptoms as they occurred. Benzozone, a new drug discovered by Professors Freer and Novy, promises excellent results in the treatment of this dreaded disease. As a rule, the dead were cremated, except in a few instances, where they were buried in hermetically sealed caskets in chloride of lime."

The Wisconsin Board of Medical Examiners met at Madison on July 8th and examined sixty-four applicants for registration. Dr. J. R. Currin of Two Rivers was elected president, and Dr. P. A. Forsbeck was elected secretary of the Board.

Guarding Hospitals Against Fire.—As a result of the disastrous fire in St. Luke's Sanitarium, in Chicago, the building department of that city have investigated the conditions existing in the various hospitals and have ordered material alterations in a number of them with a view to ensuring avenues of escape for the patients in case of fire.

To Test the Merits of Different Methods of Street Cleaning.—Dr. Woodbury, street cleaning commissioner of New York, is carrying out a series of experiments intended to determine the merits of different methods of street cleaning. Gelatin plates are exposed in the open air in the several quarters under observation and bacteriological cultures are made of these plates with a view of determining the number and kinds of bacteria present in the air.

The State Board of Medical Examiners of New Jersey held its annual meeting at Newark, on July 5th, and granted licenses to forty applicants out of the forty-eight who had presented themselves on June 18th. One of the applicants was expelled, and seven failed to pass. Twelve midwives were examined for state license, of whom seven were rejected. The following officers were elected: President, Dr. John J. Baumann, Jersey City; secretary, Dr. E. L. B. Godfrey, Camden; treasurer, Dr. A. Uebelacker, Morristown. The next examination will be held in September.

Bequests to Hospitals.—Among the bequests made in the will of the late Mary J. Walker, of this city, \$100,000 is devised to St. Luke's Hospital, and \$25,000 to each of the following named institutions: Home for Incurables, Fordham; Colored Home and Hospital of the City of New York; New York Institution for the Blind; St. Luke's Hospital for Indigent Christian Females, and \$15,000 to the New York Society for the Relief of the Ruptured and Crippled. These with bequests to other charitable institutions amount to the sum of \$525,000.

Proposed Changes in the Uniform of the Medical Corps of the Army.—Important changes are contemplated in the uniform and insignia of the medical corps of the army. The uniform board is considering the advisability of substituting maroon for green in the trimmings of the hospital corps. Green is not regarded as desirable, nor pertaining to the corps, but more to riflemen, and maroon is favored because some shade of red has been adopted by almost every medical corps abroad. It is also proposed to substitute the caduceus for the familiar Geneva cross as the insignia of the medical corps.

The Old Dominion Medical Association has been organized by the colored physicians of the state of Virginia with the following officers:

President, Dr. R. F. Tancil, of Richmond; first vice-president, Dr. L. L. Barber, of Norfolk; second vice-president, Dr. M. W. Pannell, of Staunton; third vice-president, Dr. R. J. Borland, of Roanoke; fourth vice-president, Dr. A. L. Winslow, of Danville; fifth vice-president, Dr. Albert Johnson, of Alexandria; treasurer, Dr. H. G. Wood, of South Boston; secretary, Dr. C. E. Wilder, of Richmond; assistant secretary, Dr. C. P. White, of Richmond.

The Fourteenth International Congress of Medicine will be held in Madrid, Spain, from April 23d to April 30th, 1903. The congress will embrace medicine, pharmacy, dentistry, veterinary surgery, and other branches of medical science as well. The subscription is 30 pesetas, which sum must be paid before the opening of the congress. Those desiring to subscribe as members can obtain further information from Dr. J. H. Huddleston, secretary of the American Committee, 126 West 85th Street, New York City. Communications should be accompanied by short abstracts, which will be printed and distributed among the members of the Congress.

Cholera in the Philippines.—Officers returning from the Philippines express the fear that the mortality will approach the figures attained twenty years ago. Because the natives are ignorant of the simplest rules of hygiene and sanitation the epidemic is bound to increase during the hot weeks to come. In the entire Philippines there were 3,210 cases and 2,322 deaths, according to the last official report, dated May 15th. Surgeon General Forwood said on July 8th: "The cholera in the Philippines is not crippling the efficiency of the army or interfering with it in any way, although there have been cases in Luzon. In every case, so far as we have any report, the soldiers violated the sanitary laws laid down by the officers, drank unsterilized water or ate native food. It is probable no case of cholera has developed in the army where all necessary precautions have been taken. The natives pay no attention to sanitary advice, trusting principally to prayers and exhortations, and neglecting all sanitary measures out of sheer indifference and unbelief in their efficacy. In a few cases of cholera reported among the soldiers recently it was found in every instance those stricken had been drinking the water of the Pasig River without boiling it and had eaten native food."

The Tri-State Medical Association of Western Maryland, Western Pennsylvania and West Virginia will meet in Cumberland, Md., Thursday, July 24th, at half past one in the afternoon. The meeting will be held in the rooms of the Twentieth Century Club and all physicians in that section are invited to attend. The list of papers on the programme include an address by the president, Dr. William F. Barclay, of Pittsburg, on Past, Present and Future of Medicine; and the following communications: The Causation, Symptomatology and Treatment of Extra-Uterine Pregnancy, by Dr. Thos. S. Cullen, of Baltimore; A Case of Facial Erysipelas which developed during an attack of Acute Tonsillitis, by Dr. Charlotte B.

Gardner, of Johnstown, Pa.; Immunity, by Dr. Clement R. Jones, of Pittsburg, Pa.; Notes on Small-pox and Vaccination, by Dr. J. M. Spear, of Cumberland, Md.; Static Electricity as a Therapeutic Agent, by Dr. H. W. Hodgson, of Cumberland, Md.; A case of extensive Brain Laceration without Fracture of the Skull, by Dr. Arthur H. Hawkins, of Cumberland, Md.; Medical Ethics and the Physician from a Business Standpoint, by Dr. G. L. Broadrup, of Cumberland, Md.; Report of an interesting case of Injury to the Head, by Dr. J. C. Cobey, of Frostburg, Md.; Hemorrhage and Perforation occurring as Complications of Typhoid Fever, by Dr. E. B. Claybrook, of Cumberland, Md.; Heart Disease and Digitalis, by Dr. W. O. McLane, of Frostburg, Md.; and on Chloroform Anesthesia, by Dr. E. T. Duke, of Cumberland, Md.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending July 12, 1902:

DISEASES.	Week end'g July 5.		Week end'g July 12.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	33	11	64	13
Scarlet fever.....	226	8	173	10
Cerebro-spinal meningitis.....	0	3	0	9
Measles.....	217	18	230	8
Diphtheria and.....	341	13	28	36
Small-pox.....	26	11	28	0
Tuberculosis.....	234	135	245	160

Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending July 12, 1902:

Smallpox—United States.

California.....	San Francisco.....	June 22-29.....	3 cases.	
	Stockton.....	June 1-30.....	14 cases.	
Georgia.....	Augusta.....	June 1-30.....	1 death	
Indiana.....	Evansville.....	June 28-July 5.....	2 cases.	
Kansas.....	Wichita.....	June 28-July 5.....	2 cases.	
Kentucky.....	Covington.....	June 28-July 5.....	5 cases.	
Nebraska.....	Cumbeiland.....	June 1-30.....	2 cases.	
Massachusetts.....	Boston.....	June 28-July 5.....		
"	Cambridge.....	June 28-July 5.....	6 cases.	2 deaths
"	Melrose.....	June 28-July 5.....		1 death.
"	Somerville.....	June 28-July 5.....	2 cases.	
Michigan.....	Detroit.....	June 28-July 5.....	3 cases.	
Minnesota.....	Minneapolis.....	May 17-July 5.....	17 cases.	
Missouri.....	St. Louis.....	June 30-July 6.....	7 cases.	
Maryland.....	Omaha.....	June 28-July 5.....	3 cases.	
N. Hampshire.....	Nashua.....	June 28-July 5.....	1 case.	
New Jersey.....	Camden.....	June 28-July 5.....	1 case.	
	Elizabeth.....	Mar. 29-July 21.....	24 cases.	3 deaths.
	Hudson County.....			
	Jersey City.....			
"	Included.....	June 22-July 6.....	30 cases.	8 deaths.
"	Newark.....	June 28-July 5.....	10 cases.	5 deaths.
New York.....	New York.....	June 28-July 5.....	26 cases.	11 deaths.
North Carolina.....	Beaufort (vicinity of).....	May 15-July 4.....	9 cases.	
Ohio.....	Cincinnati.....	June 27-July 4.....	7 cases.	
"	Cleveland.....	June 28-July 5.....	27 cases.	6 deaths.
"	Dayton.....	June 28-July 5.....	2 cases.	
"	Youngstown.....	June 21-28.....	1 case.	
Oregon.....	Portland.....	July 1.....	26 cases.	
Pennsylvania.....	Erie.....	June 28-July 5.....	2 cases.	
"	Johnstown.....	June 28-July 5.....	8 cases.	
"	McKeesport.....	June 28-July 5.....	3 cases.	
"	Philadelphia.....	June 28-July 5.....	7 cases.	2 deaths.
"	Pittsburg.....	June 28-July 5.....	14 cases.	2 deaths.
Tennessee.....	Memphis.....	June 28-July 5.....	2 cases.	
Wisconsin.....	Green Bay.....	June 29-July 6.....	2 cases.	
	Milwaukee.....	June 28-July 5.....	4 cases.	

Smallpox—Foreign.

Austria.....	Prague.....	June 14-21.....	3 cases.	
Belgium.....	Antwerp.....	June 7-21.....	3 cases.	3 deaths.
Brazil.....	Pernambuco.....	May 15-31.....		14 deaths.
Canada.....	Winnipeg.....	June 7-28.....	3 cases.	
China.....	Hongkong.....	May 17-24.....	1 case.	
Colombia.....	Panama.....	June 23-30.....	5 cases.	
France.....	Paris.....	June 14-21.....		1 death.
	St. Etienne.....	May 15-31.....	1 case.	
Gt. Britain.....	Birmingham.....	June 14-28.....	13 cases.	
	Liverpool.....	June 14-28.....	4 cases.	1 death.
	London.....	June 14-21.....	107 cases.	24 deaths.
India.....	Bombay.....	June 3-10.....		11 deaths.
	Calcutta.....	May 31-June 7.....		1 death.
	Madras.....	May 31-June 6.....		1 death.
Italy.....	Naples.....	June 7-14.....	6 cases.	
	Palermo.....	June 14-21.....	11 cases.	1 death.
Japan.....	Yokohama.....	May 31-June 7.....	1 case.	
Mexico.....	City of Mexico.....	June 2-9.....	1 case.	1 death.
	Vera Cruz.....	June 21-28.....	1 case.	2 deaths.
Netherlands.....	Rotterdam.....	June 14-21.....	1 case.	
Russia.....	Moscow.....	May 31-June 4.....	34 cases.	9 deaths.
	Odessa.....	June 7-21.....	6 cases.	1 death.
	St. Petersburg.....	June 7-21.....	27 cases.	2 deaths.
Straits Settlements.....	Singapore.....	May 10-17.....		1 death.
Switzerland.....	Geneva.....	May 31-June 14.....	2 cases.	

Yellow Fever.

Brazil.....	Bahia.....	June 7-14.....	2 cases.	
Colombia.....	Panama.....	June 23-30.....	6 cases.	2 deaths.
Mexico.....	Coatzacoalcas.....	June 14-21.....	10 cases.	5 deaths.
"	Vera Cruz.....	June 21-28.....	21 cases.	10 deaths.

Plague.

Brazil.....	Pernambuco.....	May 15-31.....		13 deaths.
China.....	Hongkong.....	May 17-24.....	33 cases.	3 deaths.
"	Macao.....	June 3.....	Present.	
India.....	Bombay.....	June 3-10.....		101 deaths.
	Calcutta.....	May 31-June 7.....		90 deaths.
Turkey.....	Pera.....	July 1.....	Declared.	

Cholera.

China.....	Hongkong.....	May 12-24.....	38 cases.	31 deaths.
India.....	Bombay.....	June 3-10.....		2 deaths.
	Calcutta.....	May 31-June 7.....		2 deaths.
Japan.....	Saga Ken.....	June 16.....	26 cases.	8 deaths.
Straits Settlements.....	Singapore.....	May 10-17.....		92 deaths.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending July 12, 1902:

BORDEN, WILLIAM C., Major and Surgeon, is granted leave of absence for one month and thirteen days, to take effect on or about July 15th.

CROSBY, WILLIAM D., Major and Surgeon, is relieved from duty at Fort McPherson, Georgia, and will report at Camp Thomas for duty.

DRAKE, CHARLES M., Major and Surgeon, United States Volunteers, is granted leave of absence for one month, with permission to apply for an extension of one month.

GRAY, WILLIAM W., Major and Surgeon, is granted leave of absence for one month and fifteen days, to take effect on or about July 15th.

KENDALL, WILLIAM P., Major and Surgeon, is detailed as a member of the board of medical officers for the examination of candidates for admission to the Medical Corps of the Army, vice ALFRED C. GIRARD, Lieutenant Colonel and Deputy Surgeon General, relieved.

TRUBY, ALBERT E., First Lieutenant and Assistant Surgeon, will proceed from Fort Wadsworth, N. Y., to Fort Hancock, N. J., for temporary duty until the arrival of CLYDE S. FORD, First Lieutenant and Assistant Surgeon, when he will return to his proper station.

WOODSON, ROBERT S., Captain and Assistant Surgeon, is granted leave of absence for two months, with permission to apply for an extension of one month.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending July 12, 1902:

ARNOLD, W. F., Surgeon. Detached from the Naval Hospital, Yokohama, Japan, and ordered to the Marine Brigade.

CRAWFORD, G. A., Passed Assistant Surgeon. Detached from the Naval Hospital, Boston, and ordered to re-

port at the New York Navy Yard, for duty with a recruiting party.

DRAKE, N. R., Surgeon. Detached from the *Philadelphia*, and ordered to the Mare Island Navy Yard, California.

FURLONG, F. M., Passed Assistant Surgeon. Detached from the Naval Hospital, Norfolk, Virginia, and ordered to report at the New York Navy Yard for duty with a recruiting party.

GARDNER, J. E., Surgeon. Detached from the Cavite Naval Hospital, Philippine Islands, and ordered to report to the commander-in-chief of the Asiatic Station, for duty.

LOVERING, P. A., Surgeon. Detached from the Mare Island Navy Yard, and ordered to the Asiatic Station for duty at the Cavite Naval Hospital.

PAGE, J. E., Passed Assistant Surgeon. Ordered to report at the New York Navy Yard for duty with a recruiting party.

PLUMMER, R. W., Assistant Surgeon. Ordered to the Naval Hospital, Chelsea, Massachusetts.

SEAMAN, W., Assistant Surgeon. Ordered to the Naval Hospital, Yokohama, for temporary duty, from the Naval Station, Guam.

Marine-Hospital Service:

Official List of the Changes of Station and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service, for the Fourteen Days ending July 10, 1902:

BERRY, T. D., Assistant Surgeon. Granted leave of absence for one month from July 17, 1902, on account of sickness.

CARLTON, C. G., Senior Pharmacist. Upon being relieved by Junior Pharmacist F. SIEDENBURG, to proceed to Chicago and report to the medical officer in command for duty and assignment to quarters.

FOSTER, A. D., Acting Assistant Surgeon. Granted extension of leave of absence for seven days from May 31st.

LUMSDEN, L. L., Assistant Surgeon. Granted five days' extension of leave of absence from July 12th.

PHILLIPS, W. C., Junior Pharmacist. Granted leave of absence for twenty-five days from July 1st.

NYDEGER, J. A., Passed Assistant Surgeon. Granted leave of absence for three days from July 7th.

RANSOM, S. A., Acting Assistant Surgeon. Granted leave of absence for seven days, under paragraph 181 of the Regulations.

RICHARDSON, S. W., Senior Pharmacist. Detailed for special temporary duty at Washington, D. C.

SIEDENBURG, FRANK, Junior Pharmacist. Relieved from duty at Chicago and directed to proceed to New Orleans, and report to the medical officer in command for duty and assignment to quarters, relieving Senior Pharmacist C. G. CARLTON.

STONER, J. B., Passed Assistant Surgeon. To proceed to Berlin, Maryland, as inspector.

SWEETING, C. B., Acting Assistant Surgeon. Granted leave of absence for one month from July 1, 1902, on account of sickness.

WHITE, J. H., Surgeon. To proceed to Baltimore to inspect the quarantine steamer *Neptune*.

WILLIAMS, L. L., Surgeon. Detailed as a member of a Revenue Cutter Service retiring board.

WOODWARD, R. M., Surgeon. Detailed as a member of a Revenue Cutter Service retiring board.

Boards Convened.

Board convened to meet at Washington, June 30, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Surgeon L. L. WILLIAMS, chairman; Surgeon R. M. WOODWARD, recorder.

Board convened to meet at Washington, for the physical examination of applicants for position in the Coast and

Geodetic Survey. Detail for the Board: Surgeon L. L. WILLIAMS, chairman; Surgeon R. M. WOODWARD, recorder.

Board convened to meet at New York, July 10, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Surgeon G. W. STONER, chairman; Passed Assistant Surgeon T. CLARK, recorder.

Board convened to meet at San Francisco, July 14, 1902, for the physical examination of applicants for position of second assistant engineer, Revenue Cutter Service. Detail for the Board: Passed Assistant Surgeon W. G. STIMPSON, chairman; Passed Assistant Surgeon H. S. CUMMING, recorder.

Promotion.

Junior Pharmacist F. A. SOUTHARD promoted to be senior pharmacist from July 1, 1902.

Appointment.

J. C. ELFERS, of Wisconsin, appointed to be acting assistant surgeon for duty at Sheboygan, Wisconsin, June 30, 1902.

Births, Marriages, and Deaths.

Married.

BELL—ALLEN.—In Portland, Michigan, on Wednesday, July 2d, Dr. Robert Bell and Miss Gertrude Allen.

CARR—FOX.—In Beloit, Wisconsin, on Wednesday, June 25th, Dr. J. B. Carr and Miss Julia Fox.

COBURN—BARTLETT.—In Portland, Maine, on Thursday, July 3d, Dr. William B. Coburn and Miss May Bartlett.

COFFEY—TERRY.—In Sacramento, California, on Wednesday, July 9th, Dr. Walter Bernard Coffey, of San Francisco, and Miss Laura E. Terry.

EBENREITER—VOLLRATH.—In Sheboygan, Wisconsin, on Wednesday, June 25th, Dr. A. R. Ebenreiter and Miss Madaline Vollrath.

KINDRED—CRAMER.—In Luzerne, Switzerland, on Thursday, July 10th, Dr. John Joseph Kindred, of the River Crest Sanitarium, Astoria, Long Island, and Miss Ella Welbor Cramer.

STEELE—TRAVIS.—In Kingston, N. Y., on Wednesday, July 9th, Dr. Thomas F. Steele, of New York, and Miss Sadie Travis.

WATT—DEWEY.—In Philadelphia, on Wednesday, June 25th, Dr. Robert Watt and Miss Sallie Dewey.

Died.

ATKINS.—In Coal Creek, Tennessee, on Saturday, July 6th, Dr. Jules Victor Janin, in the forty-sixth of his age.

BATTS.—In Norfolk, Virginia, on Thursday, July 10th, Dr. J. C. Batts.

BELL.—In Roxbury, Massachusetts, on Friday, July 4th, Dr. Robert Bell, in the fifty-seventh year of his age.

CAMPBELL.—In Sebree, Kentucky, on Monday, July 7th, Dr. G. P. Campbell, in the seventy-sixth year of his age.

CURRYER.—In Indianapolis, on Saturday, July 5th, Dr. William F. Curryer, in the fifty-seventh year of his age.

GRANT.—In Petersburg, Kentucky, on Tuesday, July 8th, Dr. E. L. Grant, in the eighty-sixth year of his age.

GREGG.—In Waynesburg, Pennsylvania, on Friday, July 4th, Dr. William H. Gregg, in the forty-sixth year of his age.

JACKSON.—In Columbia, S. C., on Thursday, July 3rd, Dr. Stephen Jackson.

JANIN.—In Natchitoches, Louisiana, on Sunday, July 6th, Jules Victor Janin, in the forty-sixth year of his age.

PALMER.—In St. Louis, on Saturday, July 12th, Dr. J. Brent Palmer, of Louisville, Kentucky.

TILDEN.—In Peekskill, N. Y., on Thursday, July 10th, Dr. John Newell Tilden, in the sixtieth year of his age.

Pith of Current Literature.

PRACTICE OF MEDICINE.

New Method of Vaccination Against Anthrax.

—Dr. G. Sobernheim (*Berliner klinische Wochenschrift*, June 2nd,) has found that it is possible to immunize sheep and cattle against anthrax by the single or combined use of serum and cultures. Immunization by the feeding of anthrax spores was also found practical. The author made 2,700 injections without a death or any serious disturbance of health in the animals. The practical result was that wherever anthrax was prevalent, it was possible to stamp it out at once. None of the immunized animals was taken sick, during a period of nine months' observation, despite the existence of anthrax in the neighborhood. Occasionally, the injections were of curative value. The immunization needs to be practiced but once.

Treatment of Reflex Muscular Atrophies of Articular Origin.

—M. A. Zimmern (*Presse Médicale*, June 11th,) insists that the treatment of these atrophic conditions should never be neglected. Massage is of great benefit when the atrophy has not yet become marked, and may assist in the prevention of its progress. After atrophy has appeared, rhythmic faradaic currents with active, well-directed gymnastics, are of the greatest service.

The Causation and Prevention of Phthisis.

By Dr. B. Bramwell (*Lancet*, July 5th).—In the first of five lectures upon the above-mentioned subject, the author considers the nature and causation of phthisis, the channels through which the tubercle bacillus is introduced into the human subject, and the manner in which the tubercle bacillus is conveyed from one person to another, and from the lower animals to man. The more important points brought out are as follows: All tuberculous affections are due to the introduction into the body of the tubercle bacillus or its spores. Phthisis is always due to the development in the lung of tubercles and the lesions (inflammatory, etc.) which are associated with, and which result from such development and growth of tuberculous lesions. Phthisis may be either a primary or a secondary tuberculous lesion. So far as is known the tubercle bacillus is never generated *de novo* but is always derived from some previous case of tubercle. The tubercle bacillus is given off from the bodies of human beings affected with tubercle, either in the sputum, in the faeces, in the urine, or in the discharges from tuberculous lesions (diseased bones, joints, skin ulcerations, etc.). The expired air from a case of phthisis does not contain the tubercle bacillus. In cases of phthisis the tubercle bacillus is chiefly given off in the sputum. As long as the sputum remains moist the surrounding atmosphere is not impregnated with the tubercle bacilli; but when the sputum dries and becomes pulverized, the germs readily pass into the air, so that the dust derived from the dried sputum of cases of phthisis is the chief means by which the tubercle bacillus is conveyed from persons affected with phthisis to other healthy human beings. Susceptible persons who inhabit the rooms and houses in which dust impregnated with the tubercle bacillus

is allowed to remain and accumulate, run some risk of being infected. Tuberculous disease in the human subject may also be due to the introduction into the body of the tubercle bacillus or its spores derived from the lower animals; in other words, tuberculous disease in the human subject may be due to the introduction into the gastro-intestinal tract of tuberculous milk or tuberculous meat.

Tuberculous milk is a frequent cause of human tuberculosis. Butter made from such milk is also infective. The milk of a tuberculous cow only becomes tuberculous when the milk-producing apparatus (mammary glands, milk ducts, and udders) is itself affected with local tuberculous disease. Infection by such milk is a most important source of tuberculous disease of the mesenteric glands and therefore of generalized tuberculosis; it occurs chiefly in children.

Tuberculous meat is probably also an occasional, but by no means a frequent, cause of tubercle in the human subject. Primary tuberculous disease of the lungs is rarely due to infection by meat or milk. The channels through which the tubercle bacillus or its spores are introduced into the human subject are (1) with the inspired air; (2) with food or drink; or (3) by means of inoculation.

In man inoculation seems very rarely to produce internal tuberculosis. When tubercle is induced in this way it usually remains local.

[In conclusion the author reviews Koch's theory as to the non-identity of human and bovine tuberculosis. His (Koch's) conclusions and the data on which they are founded have not yet been accepted by the medical profession].

The Complications of Vaccination.

By T. C. Fox, M. B. (*British Medical Journal*, July 5).—After speaking of the variations in the development, local reaction, healing and scar formation of vaccination, the author considers the various skin eruptions which complicate vaccination. The rare spontaneous generalized vaccinia eruption and the self-inoculated vaccine pocks are probably the only ones peculiar to vaccination. A generalized eruption can arise from the introduction of the virus through the digestive, circulatory, or respiratory systems, as by a child sucking its vaccination. Such exanthematic vaccinia must be carefully distinguished from the dissemination of supernumerary vesicles due to self-inoculation. Of the eruptions not peculiar to vaccination, there is a group embracing all types, from the erythematous to the bullous and hæmorrhagic. They may be due directly to the absorption of the pure vaccine virus and are then benign, temporary, and of little importance. On the other hand, they may be due to the inoculation of impure lymph, or to the subsequent contamination of the sites of inoculation. Such eruptions occur most frequently on the tenth to twelfth day after vaccination. They may vary from fugitive rose-blotches to the extreme phases of erythema multiforme and bullous erythematosa. A subject may be incubating one of the specific fevers at the time of incubation. Urticaria is common in the adult, but rare in the child. Purpura is very rare. Impure lymph containing staphylococci and streptococci may contaminate the vaccine lesions from the start, and produce grave systemic poisoning, evidenced by generalized rashes or vesicopustular eruptions. Furuncles or abscesses may oc-

cur, or erysipeloid. Tetanus is a complication of very rare occurrence in vaccination.

Inoculation with syphilis, tubercle or leprosy is of the greatest rarity. The author has never seen or heard of a case. The introduction of vaccination with bovine lymph renders the invaccination of syphilis or leprosy impossible, unless the vaccinator himself contaminates the lymph or wound. Tuberculosis is rare in calves, and, further, lymph from a calf is not used until the animal has been killed and proved to be free from tuberculosis.

Two Cases of Diabetes Insipidus Transformed into Diabetes Mellitus. Dr. Luigi D'Amato (*Riforma Medica*, May 13th.) reports two interesting cases in which there was, first, polyuria, and then diabetes mellitus. He reminds us that Bernard has shown experimentally that there are two centres on the floor of the fourth ventricle, which lie close together, the one being the centre for polyuria, the other for glycosuria. It is possible, according to Senator, that one of these centres may be invaded by disease after the other has already been affected, and so a case of polyuria will become one of glycosuria. In these cases there was no doubt as to the diagnosis. The author is not inclined to accept the experiments of Bernard as the explanation of the sequence of morbid phenomena observed, for in many instances glycosuria is observed while a subsequent autopsy indicates no lesion or injury to the centre in the floor of the fourth ventricle. The true cause of diabetes is something that impedes the splitting up of sugar before it reaches the kidney, and Bernard's hypothesis cannot be accepted as explaining why a person should have, at first diabetes insipidus, and then diabetes mellitus. When these patients developed diabetes mellitus, their polyuria disappeared as the sugar increased. The glycosuria was therefore directly a sequel to the polyuria.

The Treatment of Pneumonia.—At a meeting of the Aberdeen Medico-Chirurgical Society, held in March, Professor Finlay (*Scottish Medical and Surgical Journal*, April) in his remarks on a paper by Dr. G. M. Edmond, after tracing the course of changes that had taken place in this subject since his student days, summed up his views in the following propositions:

1. No routine drug treatment is of any practical value.

2. Antipyretic drugs and all depressing lines of treatment are especially to be avoided. This includes nauseating drugs, such as tartar emetic and even digitalis; the latter depresses indirectly, because it causes impairment of appetite and nausea (if not actual vomiting), and so interferes with nutrition, and this again leads to heart failure.

3. A supporting and—in the widest sense—stimulating line of treatment will generally be attended by the best results. Alcohol should not, however, be prescribed in a routine way—when it is clearly required by the state of the pulse (especially), the temperature, and the tongue, it is invaluable, and the quantity given should be in proportion to the intensity of the conditions calling for its use. Patients with unimpaired constitutions, and especially the young, generally need none, and are better without it.

4. For relief of the pain in the side, nothing is so good as leeching.

5. In presence of high temperature, refrigeration to the surface by the icebag locally, or by cold water generally, is desirable; the latter is specially indicated, and should be applied vigorously if delirium is a complication.

6. In the case of vigorous subjects, where cyanosis is present, and there is obvious engorgement of the right heart, general blood-letting may with propriety be practised.

SURGERY AND ANATOMY.

A Case of "Unbending Finger." Dr. Arturo Clari (*Riforma medica*, April 17th) says that unbending finger, (*Ditto a-scatto*, *Schnellender Finger*, *Doigt-à-ressort*) is a very rare affection characterized by a normal aspect of the fingers, but an impossibility of either extending or flexing them freely. The fingers are flexed or extended, as the case may be, only to a certain angle, which always remains the same. After they have reached this angle, if the patient makes a stronger effort or is assisted by others, the joints suddenly snap like the hammers of a revolver with a peculiar noise which may be heard at a distance. As a rule this spring-like condition affects only the first interphalangeal articulation, next in frequency the second, (for the last four fingers). At first glance it appears as though the phenomenon of snapping occurs in the metacarpophalangeal joint, but this is not so, for it occurs when this joint is immobilized. As a rule the patient feels a more or less well marked pain in the metacarpophalangeal joints during the moments of snapping, and sometimes pressure upon the sides of these joints relieves this pain. There are also at these joints in most of these cases nodosities varying in size and shape. The causes of this disease are unknown, but it occurs most frequently in men who do manual labor involving movements of the fingers. The pathology, so far as is known, is an inflammatory condition of the tendon sheaths of the fingers, contracting the lumen of the sheaths, and giving rise to this peculiar difficulty in movement. In the present case an operation, consisting of exposing and excising a portion of the diseased tendon sheaths, was performed, and was followed by cure.

Tuberculous Exostoses.—M. Mailland (*Revue de chirurgie*, June 10th.) remarks that sometimes one sees upon the bones of tuberculous persons small, denticular exostoses which have their origin in the periosteum and the normal and regular structure of which give no evidence of inflammatory or tuberculous character. Sometimes these osteophytes appear upon bones previously the seat of tuberculous disease, but at such a distance from the original focus of disease that they are not confused with the periosteal loss of tissue induced by the cure of the process. In other cases they appear in tuberculous subjects whose skeletal frame has previously been perfectly healthy. The former variety results from the reaction of the periosteum to the irritation in its neighborhood, caused by the osteitic focus, and represents a resistance upon the part of the bone against the in-

vasion of the process through the continuity of the entire bone. The second variety is brought about by a bacillary invasion of such low virulence that its power to destroy tissue has vanished.

The Different Forms of Surgical Anæsthesia.—M. Chaput (*Presse Médicale*, June 11th,) concludes that *local cocainization or inhalation of chloride of ethyl* is the choice for minor operations. The former is indicated, when it is possible to use it, for patients who refuse general anæsthesia and in diathetic conditions. It is applicable to hernias, to superficial laparotomies, and in a great variety of important operations. It is contraindicated in children and in the performance of complicated abdominal operations.

Spiral Cocainization is the method of choice for all operations upon the lower extremities, the anus and rectum, and the genital organs of both sexes. It may be used for hernia operations and superficial laparotomies and in operations upon the thorax and in difficult abdominal operations in which general anæsthesia would be dangerous.

General anæsthesia is the only possible anæsthesia for infants, for emotional persons, and for complicated operations. It is the narcosis of choice in moderate or severe operations in the suprapelvic region in healthy persons. It is contraindicated in the timid and those in bad general condition. *Ether* is the best general anæsthetic, but is contraindicated in the aged, the obese, in those with coughs, in operations about the head and face. It is often poorly taken and is not liked by those who have had it before. *Chloroform* is preferably the exceptional method of choice and is to be selected only for those patients who can not be subjected to other methods. Chloroform, says the author, is the antidote of ether and ether of chloroform.

The Fixation of Movable Kidney By Means of Strong Carbolic Acid; Six Cases. By T. Carwardine, F. R. C. S. (*Lancet*, June 28th).—The plan adopted by the author for nephropexy consists in freely painting the whole surface of the kidney, except the hilum, with the strongest liquid carbolic acid, so that the surface becomes covered with granulation tissue within a few days. The painting is best done after the supporting sutures have been inserted, but before they are tied, by means of a swab containing the liquid not in excess. The author reports six cases in which this method, combined with Senn's gauze suspension, was most successful. In one case he was able to verify the result a year later, for, on cutting through the old scar for the relief of pain therein, the scar tissue was not distinguishable until it was actually cut into, so intimate was the fixation. No disadvantages resulted from the application of strong carbolic acid to the kidney and there was a marked absence of post-operative pyrexia.

The Treatment of Aneurysm with Subcutaneous Injections of Gelatin.—Dr. N. V. Verschinine (*Archiv. Patologii, etc.*, April 30th) gives a comprehensive review of this subject. Dastre and Floresco discovered that gelatin had the property of increasing the coagulability of the blood, and Lanceraux and Paulesco attempted to apply this experimental fact in the treatment of aneurysms. They

injected a one- or two-per-cent. solution of gelatin subcutaneously. Their first successful case was presented to the Academy of Medicine of Paris, in 1897. A number of observers since then have occupied themselves with this method. The author reports five cases of aneurysm which were treated with the Lanceraux-Paulesco method. Four of these patients, who were laborers attending the dispensary, ceased their visits having obtained considerable subjective relief after from five to six injections. The fifth patient was observed for a long time. A solution of gelatin in the strength of from one- to five-per-cent. in normal salt solution, slightly warmed, filtered, and kept in flasks holding 200 cubic centimetres each, was used. The flasks were stoppered with cotton and subjected to fractional sterilization, for three days at fifteen minutes each. The weaker solution was first used, and the strength gradually increased. At first 100 cubic centimetres were injected at one dose, later 200 cubic centimetres, the site chosen being the subcutaneous tissue in the interscapular region. These injections were generally repeated every third day, and the injection was made under aseptic precautions and very slowly, in doses of 10 cubic centimetres at a time, so that the whole amount took about an hour to inject. No untoward symptoms were noted afterward, except a little pain or burning sensation occasionally, and in some cases a slight rise of temperature, about half a degree. The therapeutic results obtained in this case consisted, first, of an improvement in the subjective symptoms, dyspnoea, and pain. In this case it was evident that the improvement in the symptoms was not due to diet and rest, for under these measures but without gelatin, the patient did not do well. Objectively, the case also showed improvement after the injections. The expansile pulsation diminished so that it was scarcely visible, the bruit disappeared, and the aneurysmal sac diminished considerably in size, though a tumor of some size still remained. The shadows of this tumor with the X-rays were denser than those of the heart, and therefore it is probable that the walls of the aneurysm acquired a considerable thickness after the gelatin injections. The patient remained in good condition for two years and a half, when a sudden fright and exertion during a fire gave him a relapse, and a second course of ten injections brought him into his previous good form once more. The author has collected 23 cases of aneurysm treated by the gelatin injection method, and finds that in all there has been improvement which warrants the continued use of this method in inoperable cases. These cases were all instances of sacculated aneurysms, and in all there was an absence of serious complications and accompanying diseases. (*To be concluded.*)

The Diagnosis Between Ureteral Calculus on the Right Side, and Appendicitis.—Dr. Ulisse Gardini (*Gazzetta degli ospedali*, May 25th) reports two cases which convinced him of the justice of Tuffier's remark, that it is very difficult to diagnose ureteral calculus on the right side from appendicular inflammation. The first patient was a young man, aged seventeen years, who had been suffering from time to time with attacks of acute pain in the right iliac region, fever, and other symptoms typical of appendicular inflammation. These phenomena continued for three or four days and then gradually

subsided. On physical examination the boy presented tenderness over McBurney's point, tension, and tympanites. He had had six attacks of this kind at intervals, when, in 1901, an unusually severe attack of the same character came on, during which he complained of intense pain along the ureter, vesical spasm, and tenesmus, with burning along the ureter during urination. The urine contained pus and blood on microscopical examination. On the fourth day there was dribbling of urine almost constantly and then retention, and the pain along the ureter increased. Ureteral catheterization was then decided upon, but on introducing the catheter, a foreign body was encountered in the membranous urethra. An elongated, blackish stone was extracted from the urethra by means of very fine forceps, after which the symptoms disappeared. There is no doubt that the stone had lodged in the ureter, and that the symptoms of appendicular inflammation were due to its presence in the iliac fossa. In the second case the history was similar to that in the first. The author calls attention to the fact that the ureter crosses the region of the pelvis corresponding to the site of the appendix, and that both ureter and appendix are very close to the genito-crural nerve. According to Dieulafoy, the chief differences between the attacks of pain due to appendicular inflammation and those due to calculus in the ureter lie in the mode of onset and duration of the pain. In cases of calculus the attacks come on more suddenly and are of shorter duration. They disappear suddenly, as they appear, and cease when the stone is expelled. The age of the patient is an important differential point, for nephritic colic is more frequent in adults, while appendicular inflammation is more frequent in young persons. In appendicitis fever rises with the rise of the attack, while in renal colic there is almost no fever at the most acute part of the paroxysm. It must be remembered, however, that fever does occur in renal colic, as there may be septic complications, *e. g.*, pyelonephritis, pyelitis, etc. On the other hand, there are mild cases of appendicitis in which fever may be almost absent. The same disturbances on the part of the stomach and intestines may occur in both appendicular inflammation and renal colic, but a great deal of importance should be attributed to the symptoms derived from the urinary apparatus.

OBSTETRICS AND DISEASES OF WOMEN.

Albuminuria During Pregnancy.—Dr. J. Veit (*Berliner klinische Wochenschrift*, June 2nd and June 9th.) has conducted a long series of experiments and concludes that by the introduction of considerable placenta into the peritoneal cavity of rabbits, albuminuria can be evoked. The pigment of the skin of pregnant women contains iron, and only occasionally does their urine show hæmoglobin. The serum of newly born children rarely contains hæmoglobin. These facts he explains by the entrance into the maternal blood of cells from the periphery of the ovum and that, in consequence of this absorption, certain physiological changes take place in the serum of the mother which may suddenly or permanently be converted into pathological changes. The author urges, not only methods for the safe delivery of

the mother, but the study of the changes which pregnancy evokes in the maternal organism.

General Anæsthesia in Obstetrics by Pure Ethyl Chloride.—M. G. Lepage and M. Le Lorier (*Gazette hebdomadaire de médecine et de chirurgie*, May 4th) recommend this anæsthetic to obtund the pain of labor and for the performance of obstetrical operations. The advantages are that the administration is easy and the dose is always the same; anæsthesia is obtained in from thirty to sixty seconds and lasts sufficiently long not to need renewal for about four minutes. The recovery is very rapid and is not accompanied by headache or vomiting. The authors suggest its use for complete or partial forceps operations, for removing an adherent placenta, after delivery, to do a necessary perinæorrhaphy. [In this country, Dr. M. W. Ware has perfected the administration of ethyl chloride anæsthesia.]

Hæmoglobinuria of Pregnancy.—Professor L. Brander (*Münchener medizinische Wochenschrift*, May 20, 1902) records a case of hæmoglobinuria in a pregnant woman. The urine contained urobilin as well, but no renal elements. She was anæmic and slightly jaundiced and the liver and spleen were both enlarged. After birth, the patient was irritable and nervous, still anæmic and suffered from general pruritus. All these symptoms gradually disappeared. In her next pregnancy, a similar state of affairs developed but passed away gradually after the labor. The hæmoglobin of the blood was always high. The author believes that this should be regarded as a distinct entity, and attributes the hæmoglobin in the urine to the metabolic processes of pregnancy, due either to pathological changes which set free the hæmoglobin, or to normal products of the erythrocytes which pass the kidneys on account of diminished resistance.

Triplets.—Dr. A. Hartmann (*Wiener klinische Wochenschrift*, May 29th.) reports a case of a multipara who gave birth to triplets, the two female children occupying one amniotic sac, the one male child being possessed of its own. The children were all born alive.

LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

Treatment of Chronic Suppuration in the Frontal Sinus.—H. Lambert Lack (*Edinburgh Medical Journal*, June), concludes that: (1) In all cases of suspected suppuration in the frontal sinus, intranasal treatment should be tried in the first instance. This consists in (a) securing free access to the lower end of the infundibulum by removing the anterior end of the middle turbinate, part of the uncinate process, and opening up the anterior ethmoidal cells, and at the same time removing any polypi or other obstruction that may be present, followed by simple nasal irrigations for a few weeks; and (b) in favorable circumstances this may be followed by cautious attempts to wash out the sinus through its natural opening, but on no account should an attempt be made forcibly to enter it from the nose. (2) If this method fails, and serious symptoms are present, the frontal sinus should be opened externally, and should be obliterated (a) when it is not very large, for then the cure is certain and the re-

sulting deformity is slight; (*b*) when the posterior wall is carious or perforated; (*c*) when cerebral symptoms are present; and (*d*) even when the sinus is large, if the patient does not object to run the risk of deformity. (3) In all other cases a free opening should be made into the nose, and free drainage maintained until all suppuration has ceased. (4) Operations providing external drainage only are inefficient, and operations allowing of intranasal drainage for a limited time only are both inefficient and dangerous.

Chronic Hypertrophy of the Faucial and Pharyngeal Lymphoid or Adenoid Tissues. By F. Marsh, F. R. C. S. (*Lancet*, June 21st).—Adenoids vary in size from a small localized patch to a mass filling the nasopharynx. Their consistence is at first softer than that of enlarged tonsils, owing to a preponderance of the lymphoid over the fibrous tissue, but at the age of puberty fibrous atrophy more or less takes place and the consistence becomes more dense. This atrophic process is not invariable, however. The following classification of adenoids as to size and shape may be made: (1.) A central form comprising (*a*) the ordinary form concentrically arranged with little or no lateral hypertrophy and (*b*) a central boss or pad, the prominent symptom being impeded nasal respiration. (2.) A lateral form with hypertrophy of the lateral bands most marked and often extending into the fossa of Rosenmüller, deafness being the prominent symptom. (3.) A diffuse form with a general and irregular hypertrophy of all the lymphoid tissues in the nasopharynx and pharynx, seldom attaining any great bulk, the prominent symptom being catarrh. The symptoms of adenoid disease may be arranged in three groups: (1.) Obstructive, caused mechanically by the enlargement wholly or in part occluding the openings into the nares and Eustachian tubes and causing nasal obstruction and deafness, and a muffled or "dead" voice. (2.) Catarrhal, due to the great suitability of the recesses as resting places for the catarrh microbe. With any diminution of tissue resistance, the microbe gets the upper hand. There is a great tendency for these attacks to become chronic and difficult to cure. Toxins generated by the microbes may be absorbed by the lymphatics and cause enlargement and tenderness or suppuration of their associated cervical glands, the parotid set. (3) Reflex symptoms—headache, cough, spasm of the glottis, asthma, etc. Adenoids if neglected often seriously affect the development of the oronasal regions, the thorax, and that of the body generally. In some cases the arrest of development of the posterior nares is more marked on one side, the nasopharynx being generally shallow and small. When nasal stenosis to any marked degree exists, the growth of the superior maxilla is interfered with; the hard palate becomes high and arched, and narrowed in front almost to a point. The mouth is constantly open and the upper lip drawn up. Narrow nostrils with marked depression around the *alæ nasi*, open mouth and overlapping teeth, and drooping lower jaw, combine to make a typical facial appearance. The teeth seem more prone to caries, alveolar abscess, and chronic pyorrhœa. The lungs are never properly expanded, the thorax remains narrow and contracted; the child is pigeon-breasted with a deformed sternum. The general development of the child

is bad; it is stunted in growth and has but little muscle power. Such children sleep poorly, become listless, capricious, irritable, and inattentive. In the majority of cases the history given is that the child has the mouth constantly open, snores at night, frequently catches feverish colds, is then somewhat deaf, complains of earache, and does not "get on" well. Nasal obstruction, from hypertrophic rhinitis, deflection of septum nasi, mucous polyps, or more rarely from a nasopharyngeal polypus, sarcomatous growth or meningocele, forms the common source of errors in diagnosis. Digital examination should *not* be the routine method of examination, as it is very unpleasant and alarming. Children are quite as tolerant of posterior rhinoscopy as adults.

Operation is necessary or advisable for any one of the following conditions: (1) aural symptoms—deaf-mutism, catarrhal or suppurative middle-ear trouble, and temporary deafness from defective middle-ear aeration; (2) distinct nasal obstruction, especially if impeding development; (3) frequent and chronic catarrhal attacks interfering with health and education; (4) cervical adenitis associated with adenoiditis; and (5) reflex conditions, unrelieved by treatment, for which there is no other cause. Incomplete operations are due chiefly to want of method. The author places the patient in the recumbent position, with the head and shoulders slightly raised on a low pillow. The adenoids are removed with a large-sized Gottstein curette, the handle being held firmly in the fist, and the growth cut away with a quick *tour de main*. An examination is then made with the finger, after which the tonsils are quickly removed. The risks of the operation are slight. At the conclusion of the operation the patient should be at once removed to bed, the head and shoulders being raised, and encouraged to sleep. The degree of pain experienced after operation is very variable. When the patient is convalescent, nose breathing exercises should be carried out for a time to hasten the restoration of this function. A remote cause of non-improvement of hearing is the occurrence of adhesions between the Eustachian prominence and posterior wall of the pharynx. True recurrence is very rare.

The Treatment of Nerve Deafness.—Dr. Dundas Grant (*Journal of Laryngology, Rhinology, and Otology*, April) says that the treatment of nerve-deafness depends primarily on the diagnosis of the variety, and emphasizes the necessity of distinguishing between the anæmic and congestive forms. That valuable drug, pilocarpine, has fallen into undeserved disuse through its unfortunate effects in cases for which it was not adapted. He has no hesitation in ranking it as a most beneficial remedy in congestive conditions of the labyrinth, but most deleterious in the anæmic ones. It may be administered hypodermically or by the mouth. The initial dose by the skin is about one-twelfth of a grain. At least double this dose is necessary for internal administration. The precautions to be observed during its administration are, of course, well known. The other general remedies calculated to deplete are also advisable in cases of congestion. In anæmia and conditions of exhaustion our sheet-anchor is strychnine, and, when such doses have

been reached as to produce twitchings or other nervous disturbances, the remedy may be combined with chloral. Iron and chloride of ammonium are also of value, and in neurasthenic conditions arsenic may be added. He has a strong conviction, on experimental evidence, that quinine produces congestion of the labyrinth, and is to be accepted as the physiological corrective of anæmia of that part. In a number of cases of deafness, treated with quinine, the benefit effected what seemed to be well-marked anæmic nerve-seemed to confirm this opinion most strongly.

He has also seen improvement in several cases of "occupation" deafness treated by means of the continuous current. In other instances the results have not been so satisfactory, though, perhaps, with a more judicious selection of cases, they might be better. In neurasthenic nerve-deafness general electrization may find a place, but supporting measures, such as the administration of cod-liver oil, malt extract, and glycerophosphates, have proved of great value. Among other useful remedies are arsenic, strychnine, and valerianate of zinc. The last remedy is very strongly recommended by Dr. Bowles, who combines with it small doses of rhubarb or belladonna.

Syphilitic nerve deafness in the secondary stage is amenable to specific treatment, but tertiary forms are disappointing. Potassium iodide, one drachm every four hours, continued for several weeks, has afforded benefit.

DISEASES OF CHILDREN.

Osmotic Analysis of Urine of Nurslings Differently Fed.—Dr. P. Sommerfeld and Dr. H. Reeder (*Berliner klinische Wochenschrift*, June 2nd and 9th,) conclude from numerous observations that the freezing point of the urine of nurslings is lower than that of adults and varies widely with the form of nutriment. The variations are least in breast-fed infants. The figures bear no relation to the time of day. The osmotic pressure of the food has a decided influence upon the molecular concentration of the urine.

Some Practical Points in the Treatment of Congenital Torticollis. By E. N. Smith, F. R. C. S. (*Lancet*, June 28th).—The practical points brought out by the author are as follows: 1. Division of the contracted sterno-cleido-mastoid muscle is usually required to cure the deformity. The anterior fibres of the trapezius and also deep bands of cervical fascia are also sometimes involved. 2. A retention apparatus is not usually necessary, either before operation, or as a means of retention after the division of a contracted muscle. 3. In operating we have to decide between an open wound and a subcutaneous section. The open wound is desirable in the majority of cases, and certainly it ought to be made when the clavicular attachment of the muscle has to be divided. When the sternal origin alone requires division and the contraction is sufficiently severe to cause the tendon to be raised away from the deeper tissues, then the subcutaneous operation may be performed as a safe procedure. It is impossible to divide the clavicular attachments of the muscle subcutaneously without risk of wounding some im-

portant structure. 4. A vertical incision between the two attachments is useful because it is less likely to leave a noticeable scar than a transverse cut, and further both the clavicular and sternal portions of the muscle can be divided through this one opening. 5. The incision should be about one inch and three quarters in length from the level of the clavicle upwards, and should expose the edge of the clavicular portion of the sterno-mastoid. After dividing the muscle from without downward and ascertaining that no important structure is wounded, the wound is stitched and dressed in the ordinary manner. The head is then placed in a perfectly straight position and fixed by means of sand-bags on each side. No other method of retention is necessary, and after a week or ten days in bed, fairly firm union has usually taken place.

Strangulated Hernia in Infants.—M. E. Estor (*Revue de chirurgie*, June 10th,) says that this is a rare condition in nurslings, its rarity being due to the feeble resistance of the tissues which form the canal occupied by the visceral hernias. Appendicular and cæco-appendicular hernias are the most frequently seen. The symptoms differ slightly, depending upon whether the primary condition was a strangulated epiplocele or a hernial appendicitis. The mortality of kelotomy is slightly lower in the first two years of life than in adult life, and the time for operation can be awaited longer, as the strangulation is usually less severe. Appendicular hernia seems to be a graver condition than that of a strangulated epiplocele, the general condition of the infant, however, playing an important rôle in prognosis.

Treatment of Melæna Neonatorum.—Dr. Max Döllner (*Münchener medizinische Wochenschrift*, May 27, 1902) has found, in a single case, a prompt and efficient remedy in the ingestion of about twenty drops of a two-per-cent. solution of gelatin.

On the Treatment of Incipient Broncho-pneumonia in Infants. By Dr. T. Zaugger (*Lancet*, June 28th).—At the very first onset of pneumonic symptoms (high temperature, diminished resonance, small non-crepitant or crepitant rôles, apathy, increased rates of heart-beat and respiration) the author gives a bath at 86° F. for two minutes, and then slowly reduces the temperature of the bath by adding cold water for from two to three minutes, until a temperature of 76° F. is reached. The body of the patient is rubbed with a sponge or cloth or with the hand, to promote reaction of the skin and reduction of the body heat. The bath water need not, and in cases of feeble children should not, quite cover the body but the water can be sponged upon the chest, the patient lying in the arms of an attendant. If definite pneumonic symptoms are present, the bath may have to be repeated at intervals of from eight to twenty-four hours. If bronchitic symptoms are present, they can be relieved by cold, wet, cross-packs. The results of the tepid bath do not merely rest on the reduction of body heat; it is not merely palliative but curative. The capillaries of the skin are filled with blood, thus temporarily relieving the congestion of internal organs; the action of the heart as well as that of the important nerve centres is stimulated by reflex action, defecation is promoted, and especially diuresis, thus causing the elimination of toxic substances.

PHYSIOLOGY AND PATHOLOGY.

Congenital Anomaly of the Thyreo-hyoid Articulation. By Professor N. A. Batouyeff (*Roussky Vrach*, May 11th).—In this case there were cartilaginous processes growing upwards from the middle of the upper margin of the thyroid cartilage on either side. Similar processes projected from the greater cornua of the hyoid bone, meeting those from the thyroid. Between the two pairs of processes there were regularly developed joints with synovial membranes. The greater part of the cartilages of the larynx was ossified. The anomaly presented is of practical importance, though rare, as it may be mistaken for a pathological condition. It is also interesting embryologically, as it represents an anomaly of development on the part of the branchial arches.

Embryological Aspects and Ætiology of Carcinoma. By J. Beard, D. Sc. (*Lancet*, June 21st).—The author formulates the hypothesis that cancer is derived from vagrant primary germ cells, which, instead of forming a more or less complete embryo or embryoma, skip this and give rise to a larva or phorozoön of indefinite, unrestricted powers of growth.

Toe Phenomenon.—Dr. Hugo Levi (*Münchener medicinische Wochenschrift*, May 27, 1902) says that this reflex, known as Babinski's sign, may occur rarely in persons perfectly healthy or not suffering, at least, from nervous disorder. In the majority of instances, its presence signifies disease of the pyramidal tract, yet it may be absent in cases of pyramidal disease, or when present at first, it may subsequently disappear although the disease continues.

Malarial and Filarial Diseases in Barbadoes, West Indies.—G. C. Low, M. B. (*British Medical Journal*, June 14th) says that indigenous malarial fever does not exist in Barbadoes; this is due to the fact that no mosquitoes of the genus anopheles are to be found in the island. The author made a careful search of the two swamps in the island, but although larvæ of a species of culex and those of dragon-flies were always in abundance, no anopheles larvæ were ever found. This goes to prove that without mosquitoes of the genus anopheles no malarial fever can exist. In marked contrast to the absence of malaria is the large amount of filarial disease in Barbadoes. This is not to be wondered at when one considers the extraordinary abundance of the common domestic mosquito of those parts, *Culex fatigans*, which acts as an efficient host for the spread of the disease. Out of 600 blood examinations only *Filaria nocturna* was found, *Filaria Demarquaii* never being met with. Out of 100 mosquitoes dissected, 23 were found to be infected with *Filaria nocturna*.

American Medical Association.

SECTION IN SURGERY AND ANATOMY.

Second Day, Wednesday, June 11th.

Gall-Stones in the Common Duct.—Dr. MARTIN B. TINKER, of Baltimore, (as the result of a care-

ful study of 27 cases, in all of which recovery had taken place) showed how far the surgical treatment of this condition was in advance of the medical. While they had practically settled upon their own technics at the Johns Hopkins, various forms of operation were still endorsed by many leading surgeons, among which cholecystenterostomy was prominent. It was, however, only a makeshift, but might find a place as a temporary procedure in profoundly cholæmic cases. Dislodgement of the calculus by manual effort was also a matter of questionable value, and he agreed with Mayo that its practice should be very limited. Crushing the stone or needing it had never been practised at the Johns Hopkins, because they felt that of all these older technics this was the poorest. It was necessary, both for the comfort of the operator and for the security of ultimate success, to adopt a technics which enabled one to be sure of the patency of the biliary passages. This was particularly important, inasmuch as their records showed that, of 27 cases, there were single stones in only 6. Rapid cholecystotomy might occasionally be necessary as a preliminary in certain cases. The operation of election was, as a rule, choledochotomy followed by suture and drainage of the biliary passages through the gall bladder. He emphasized most particularly the need of educating the family physician in the statistics of gall-stone surgery, then more cases would come to early operation.

Surgery of the Gall Bladder and Bile Duct.—Dr. A. H. FERGUSON, of Chicago, said that the anatomical consideration of this region was of the utmost importance. After studying it for a long time, he had concluded that the chief variation to be looked for was in the arterial supply. The cystic duct was the smallest, then the hepatic, then the common duct, the smallest point of which was at Vater's ampulla. This probably accounted for the paroxysmal character of the pain. Another important anatomical detail was the spiral arrangement of the mucous membrane of the cystic duct. This was so complex as to prevent the passage of a probe, and thus led occasionally to the mistaken diagnosis of obstruction, but, inasmuch as it admitted the passage of water or air, it was convenient to inflate the duodenum by a small bellows, thus certainly establishing without injury the patency of the duct. The author showed many beautiful drawings and an ingenious return-flow catheter with a sharpened bulbous extremity, for irrigating the gall bladder. There were many displacements in this region which were of great ætiological interest. Chief among them was the dragging down of the gall bladder by adhesions. This led to inspissation of the bile and the consequent formation of stones. As to signs and symptoms, he had in every case seen marked and characteristic gastrointestinal disturbance. Pain was also significant. The pyrexia accompanying about 50 per cent. of all cases was still an enigma. In establishing cholecystotomy, the bladder should always be made fast in the upper angle of the wound; otherwise a permanent fistula was liable to be developed. He praised hepatotomy, the operation of Davis; it drained the bile from the liver tissues direct, and its execution had brought up the interesting question of how to relieve post-operative biliary suppression.

Dr. Mayo, of Rochester, Minn., said that to obtain a free view of the operation area he had found a free separation of the gall bladder from the liver the best method. The parts could then readily be brought into view when that viscus fell back into the abdominal cavity. In removing the stone, which he did by choledochotomy, he placed a suture on each side of it and used it like a darning ball in a stocking. After this operation, he always inserted a catgut drain. It was rare that these patients died of peritonitis. If they succumbed, it was from a cessation of all hepatic functions.

Dr. Davis, of Birmingham, Ala., had found the suture very difficult of application, and had had no evil results from leaving the wound to close after the establishment of free drainage. Hepatotomy had first been done by him in the dire emergency of a biliary abscess, in which the patient was almost dead from cholemia.

Dr. Moore, of Minneapolis, said that much stress should be laid on the presence of local tenderness and on the nature of the pain, which was always abrupt and often occurred during the night.

Dr. Rauschoff, of Cincinnati, said that he had twice done the transduodenal operation, but because of the danger of sepsis it could never become the operation of choice.

Dr. Abbe, of New York, said that suturing the duct was undoubtedly outside the pale of the average surgeon's capability. He himself used to try to do it. Now, he left the opening to the care of the law of stenosis, which would close any such aperture without fail. Drainage must be maintained from this point to the surface for at least a week. In cholecystotomy he had found it just as serviceable, and much more to the patient's comfort, to suture the bladder through a little tube which was brought to the surface while the viscus fell back into the cavity.

Dr. Weir, of New York, said that he also was not skilful enough to sew up the duct, and therefore let it drain. In the absence of accurate knowledge as to whether the stools were clay-colored or not, he would recommend dropping a small pellet of methylene blue into the gall bladder, just before the termination of the operation. This coloring matter could be searched for later on.

Dr. Marcy, of Boston, urged the need of improving our diagnostic efforts in gall bladder and duct obstruction.

Dr. Tinker, in closing was unable to understand why the members took such general exception to the technics of sewing the duct. It was not a difficult procedure, and, in the recognized presence of bacteria within the lumen of the gut, it seemed a valuable and a precautionary step. As the operation was rarely of the emergency type, he could see no reason why the cases should not be referred to a man who was capable of practising what some of the gentlemen had been pleased to call ideal surgery.

Dr. Ferguson did not agree with the speaker who said it made no difference in what portion of the wound the gall bladder was sutured. Low fixation should be drained rather than removed, inasmuch as Nature's duct emptied the bladder better than any

artificial drain. He had not sutured the common duct, and believed it was unnecessary; for, if there were infectious germs present, there could be no union. He spoke of the fulminating type, upon which immediate operation should be done.

The Surgical Aspects of Acute Pancreatitis and Fat Necrosis.—*Dr. W. J. Mayo*, of Rochester, said that the surgical study of inflammatory diseases of the pancreas might be considered the result of the inquiry into the causation of some of the complications of gall-stone disease. While biliary calculi were the most potent factors in the aetiology of pancreatitis, it might arise from the involvement of contiguous organs, or from intrinsic causes. Pancreatitis was divided into acute, sub-acute, and the chronic. The first was generally seen only at autopsy, but mild cases probably occurred and recovered without our knowledge. The symptoms were indescribably vague, although patient observation had elicited some which might prove to be characteristic. Fat necrosis was inseparably connected with this form. This was usually limited to the upper abdominal region, but the epicardial fat, and even the bone marrow, might be involved. While the cause was as yet unknown, it having been ascribed to the absorption of glycerin or to the union of the fatty acids with the calcium of the body, its appearance was characteristic. Pancreatitis, calculus, and carcinoma were the most difficult conditions to distinguish. Drainage in the operative form was essential and might be established equally well through the duodenum or the transverse colon.

Dr. Munro, of Boston, said that as there was no laboratory test upon which to lean, the diagnosis of the acute form must be made upon clinical data, which were all too vague. There were but very few cases of the acute form which could rightly come to operation.

Dr. Mayo, in closing, said that most cases of chronic pancreatitis were mistaken for malignant growth. The acute form often went on to resolution.

Appendicitis, a Critical Review of 416 Cases Operated on During 1901.—*Dr. John B. Deaver* and *Dr. George G. Ross*, of Philadelphia, presented this paper. *Dr. Deaver* said that out of the total number, 279 cases were acute. The mortality in this type was 15 per cent. In favor of the early operation, he said that it was rare that the surgeon was given an opportunity to do his best work in appendicitis. When the operation should be done should always be determined by the surgeon. Even the ignorant laity were calling for early operation, yet the general practitioner could not be roused to a sense of his responsibilities. The waiting treatment was absolutely pernicious. Ice bags were as bad as opium, for they masked symptoms and did no good. The frightful uncertainty which hovered over every case of appendicitis would no longer exist when we awoke and took out the appendix before it had become an agent to be feared. Then there would be no more fistulae, no more perforated appendices, no more adhesions, no more invalids, no more deaths.

Appendicitis; a Brief Report of the Author's Nine Fatal Cases.—*Dr. Parker Syms*, of New

York, said that five patients had died of gangrenous appendicitis, which had ruptured into the cavity because of the absence of adhesions. Three were of the ordinary perforative type with incomplete adhesions, and one was a circumscribed abscess. In all there had been previous symptoms, and every death was due to a failure to operate at the proper time. He outlined his palliative treatment, and gave the rules which had governed his operative works for many years. An interesting point in the technics of his treatment of abscess cases was his method of removing the pus. He pricked the cavity and absorbed the contents drop by drop on marine sponges. In those patients in whom a general peritonitis of virulent type had developed no treatment could avail, and the mortality was probably 100 per cent.

Dr. La Place, of Philadelphia, said that the early diagnosis was of paramount importance. It depended on a number of factors, prominent among which were, first, the location of the appendix—a very variable factor. Secondly, upon the variation in the degree and the position of the pain. Thirdly, and most important, the infection was not uniform. For many years it had been assumed that foreign bodies were at times the cause of the trouble. They were now, however, definitely proved to have no special relation to the disease. Pasteur showed many years ago that organisms varied constantly in their virulence in direct response to their environment, and these facts explained the endless varieties of appendicitis. No one as yet knew what caused the changed environment, but from analogy, it was fair to suppose that such a change took place, and was the leading factor in producing the protean symptoms so much dreaded by all. Something caused a swelling of the mucous membrane at the opening and drainage ceased. The toxins produced by the inclosed germs were as corrosive as strong mineral acids, and it was this which produced the gangrenous type. The colon bacillus generally gave rise to the less virulent forms of appendicitis. The obliterating variety was the result of a chronic low form of irritation which destroyed the mucous membrane and eventually caused adhesions which obliterated the lumen. The abortive treatment, so long, earnestly, and ably advocated by Deaver, was without doubt the treatment of the future. Every case should be operated on as soon as seen.

Dr. Weir, of New York, spoke first of the appendix, for which he had found a use. In carrying out the ingenious surgical treatment of performing right inguinal colostomy in a case of ulcerative colitis, which refused stubbornly to yield to other forms of treatment, the normal appendix popped into view so suggestively that he could not dissuade himself from the notion of attaching it to the abdominal surface, leaving it for twenty-four hours, chopping off its head, introducing a small tube, and squirting his methylene blue through this little channel. This "marsupialization" of the worthless little organ worked admirably, and when he returned to New York he intended to plunge a caudery into its lumen—the colitis being cured—obliterate the mucous membrane, close the fistula and incidentally destroy the appendix. He had finally come to agree with Deaver, and the rule he now

gave his students was to operate so soon as the diagnosis was made. There was less danger from the surgeon than from the disease.

Dr. Abbe, of New York, said that he had brought some 50 specimens of appendices which he had prepared by distention, fixation, and section. Without exception, they showed a well defined stricture. Concretions, which were never enteroliths, were present in 10 per cent. of the cases. They had nothing whatever to do with the cause of the disease, and were simply composed of epithelial debris, which had exfoliated from the appendix. The first attack of clinically recognized appendicitis really marked the final chapter of appendicular disease.

Dr. Gibbons, of Scranton, said that, even to this day, conditions which ought to be clinically separated from appendicitis were still confused, particularly with the chronic forms. Nervous dyspepsia, irregular forms of diarrhea, and pains in various abdominal regions were too frequently overlooked or misinterpreted. Every time the abdomen was opened, the appendix should be removed, whether diseased or not.

Dr. Ochsner, of Chicago, presented a series of cases based on a number similar to *Dr. Deaver's*, and said that in his acute cases his mortality was less than 4 per cent. How could it be explained that the mortality of the master of this work should be three times as great as his? The mortality increased rapidly up to the ninetieth hour, then began to decrease. He believed that the difference between his statistics and Deaver's was to be traced to his method of treatment, which comprised absolute absence of food and cathartics and gastric lavage. In other words, he removed every possible cause of intestinal activity.

Dr. Murphy, of Chicago, said that the question of when to operate in appendicitis was apparently, after many years, answered. The views of many eminent men agreed quite closely that operation should certainly be within the first thirty-six hours. We were now so far advanced in diagnostic power that a certain diagnosis could pretty positively be established.

Dr. Mayo, of Rochester, advocated the earliest possible operation, and said that after introducing *Dr. Ochsner's* treatment into his service his mortality dropped from 14 to 4 per cent.

Dr. Deaver, in closing the discussion, said that he felt more than rewarded for the final success of his struggles so long continued to establish the value of early operation. There was a large class of cases, those which came into the hospital late, either with their bellies full of pus, or with abscesses of the size of a child's head in the right flank, whom no amount of patent feeding or washing could save.

SECTION IN MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Second Day, Wednesday, June 11th.

The U. S. Pharmacopoeia of 1900: Its Importance to Practitioners. By *Dr. JOSEPH P. REMINGTON*, of Philadelphia.—Read by title.

The Goat in Ancient and Modern Medicine and

Therapy. By Dr. FRANK W. JAY, of Chicago.—Read by title.

The Relative Toxicity of Brucine and Strychnine. By Dr. LEON L. SOLOMON, of Louisville, Ky.—Read by title.

The Mydriatic Drugs: Their Chemistry and Active Principles: the Tropeins.—Dr. ALBERT B. LYONS, of Detroit, drew attention to the mixtures which could be made from the same plant, and the different properties that might belong to it. The difference obtaining between the drug of commerce and the pure drug and the misleading of physicians consequent thereon were referred to the results obtained from henbane, for example, which in different climates and different soils varied greatly. The plants of the several genera, atropa, datura, hyoscyamus, mandragora, scopolia and duboisia, all belonging to the natural order solanaceae, and containing certain alkaloids closely related chemically, and characterized by their power to dilate the pupil of the eye, were touched upon. Chemists were not yet fully agreed upon the nomenclature of certain drugs, but these alkaloids were called tropeins, among the most important being hyoscyamine and atropine (isomeric) and hyoscine and atrosine (also isomeric). The author advocated a proper standard, and the use of the polariscope was indicated, but, owing to the very small quantities used, the instrument would have to be a very delicate one, to make the necessary distinctions. The obstacles in the way of chemical assay were great, and there was a wide field open for investigation, both scientific and commercial. Their field of investigation was the scientific, which offered them a glorious opportunity.

The Physiological Action of the Mydriatic Alkaloids.—Dr. HORATIO C. WOOD, JR., of Philadelphia, said that the similarity in certain drugs, was in some instances so great that it was impossible under ordinary circumstances to detect the difference. He showed (diagram) the effect of atropine in dilating the pupil of the eye, and asserted that dilatation might be obtained by atropine upon the pupil after removal from the body. The different effects of atropine on the brain, spinal cord, and the blood circulation, were also shown. Referring to hyoscine and scopolamine, which many considered as identical, the author believed that they were two distinct drugs, although identical in their physical effects. After reference to his own researches, Dr. Wood declared that there was much need for further careful study.

The Mydriatic Drugs and Their Active Principles: The Ophthalmologic Relations. By Dr. CHARLES A. OLIVER, of Philadelphia.—The concluding pages of this paper, referring mainly to the action of cocaine, eucaïne and other drugs, especially on the eye, were read. The dangers of improper and undue application were pointed out, and the means of counteracting harmful and injurious localized results indicated.

In the discussion on the preceding papers Dr. Baer said that he did not know of any class of drugs which had been used so indiscriminately and had produced such bad effects as the mydriatics, and he cited several instances. Dr. Robinson found that there were often ophthalmologic contaminations

caused by the careless use of cocaine. The solution might be improperly prepared; boric acid was not always admissible as a vehicle, and he found 45 per cent. alcohol the best vehicle; this could be diluted as required. He had kept a solution for seven months and found no trace of decomposition. In closing, Dr. Lyons said that it was always hard to identify drugs. Dr. Wood emphasized what Dr. Lyons had said, and quoted cases to show that physicians could not know at all times what they were giving to their patients, owing to the difficulty in getting exactly the drug they asked for.

Mr. Caswell A. Mayo, of New York, delegate from the American Pharmaceutical Association, said that while he was personally gratified with the honor of speaking for the American Pharmaceutical Association, as pharmacy had a message to medicine, he wished that it might have been conveyed by some one with the scientific attainments of a Charles Rice, the force of a C. A. L. Reed, and the oratorical ability of a Marion Sims. That message was that progress was being made in pharmacy as well as in medicine; that this progress in pharmacy contributed materially to the progress of medicine, and that the interests of the two callings were so closely related that whatever benefited pharmacy must necessarily benefit medicine. New fields of usefulness were opening up for both pharmacist and the physician. It was not alone in the manufacturing laboratory, in the production of new compounds, and the invention of new and improved methods of administering drugs, that pharmacy was making progress. The developments in medicine which had given us pathologists, laryngologists, otologists, and even proctologists, in lieu of general physicians, had also given us the clinical chemist, who, relieving the physician of the necessity of making his own chemical examinations, lay before him all the data necessary for the establishment of a chemical diagnosis, if one might use such a term. In this field there was opportunity for good work on the part of the pharmacist and one in which there was a rapidly spreading interest. In the educational advancement which had produced the clinical chemist in pharmacy, the American Pharmaceutical Association had been a potent factor. Organized just fifty years ago, it had incessantly and insistently fought for the betterment of pharmacy in every direction, and the speaker deemed it a happy omen, both for medicine and for pharmacy, that the two bodies which stood for the highest ideals in both callings should in this section be brought into such intimate relations. They felt that the recognition accorded to pharmacy in the invitation to send delegates to this section was a step in the right direction; that this recognition had already been productive of good in the ranks of pharmacy in stimulating higher ideals, and that they might be able to be of much service to medicine through the intimate association made possible by this representation. Dr. Wood and Dr. Laird had confessed to a need for a more thorough knowledge of the mydriatic drugs in their pharmaceutical aspects as a means of enabling the pharmacologist to study intelligently their action. This need it was the province of pharmacy to supply, and such papers as that presented to the section by Dr. Lyons, of the American Pharmaceutical Association, might

be of real service to medicine in clearing up hitherto unsolved problems. They trusted that the members of the American Medical Association would continue to extend this courtesy to the pharmacists, and they felt confident that there would never be any cause on the part of the members of the medical association to regret the step, but that they would come to look upon pharmacy as an honorable specialty in medicine, rather than as a separate and alien calling. In closing, Mr. Mayo thanked the section for the courtesy extended to the delegates from the American Pharmaceutical Association.

The Cardiac Stimulants.—Dr. JOSEPH M. PATTON, of Chicago, said that the question with regard to cardiac stimulants was when and how they should be given. The principles which governed digitalis applied to the rest of the group. There was a dispute as to when its use was indicated, and various symptoms, such as insufficiency of the heart valves, irregular action of the heart, etc. were given. In acute degeneration of the heart, digitalis was contraindicated. There was a difficulty, some said an impossibility, in recognizing changes. Authorities were quoted in support of the statement that when the heart had been affected by the use of alcohol or tobacco, much good might be obtained from the drug, but it should always be administered with regard to the conditions present. After referring to the differences in dosage, and pointing out that digitalis was safe and efficient in vascular trouble, the speaker recited a number of contra-indications including pallor, faintness, and dizziness. Personally he had never observed any cumulative effect from digitalis. It might be caused by improper medication. Jacobi was quoted as to the effect of digitalis upon children. It did not lose its effect by continued doses. Strophanthus was not to be depended on in marked muscular failure; it had a tendency to produce gastric disturbance. Other cardiac stimulants briefly referred to were sparteine, caffeine, and strychnine; the last was considered the most useful heart stimulant next to digitalis. Large doses could be given in cases of shock.

Dr. Beates, of Pennsylvania, in discussing the paper, said that the principles to guide them as to whether a stimulant or a sedative was to be used were one and the same.

Dr. Robinson favored the use of camphor, from injections of which he had obtained marvellous results. He had also found the suprarenal extract an excellent temporary stimulant, but evanescent in its results.

Dr. Heinrich Stern, of New York, advocated the use of adonidine.

Dr. Wood said that, in a case of endocarditis, the use of digitalis would not add to the danger. It was absolutely necessary to keep up the heart's activity. He thought it futile to use suprarenal extract in heart cases, as its good impression lasted but for a short time.

Dr. Cohen had used digitaline ever since he had read the original paper on the subject, but much larger doses were given now. He also advocated the use of musk and camphor. He did not agree with Dr. Wood regarding suprarenal capsule. He had seen some very remarkable results through its being held in the mouth. Dropping it into the con-

junctiva had also produced remarkable effects in heart trouble.

Dr. W. F. Thompson thought that rest and attention to possible idiosyncrasies of the patient would do more than drugs.

The Cardiac Sedatives.—Dr. L. FAUGERES BISHOP, of New York, said that cardiac depressants were among the most difficult drugs to use, and were worthy of the closest attention. At the present day, these drugs were but little considered, as newer and safer drugs had for many uses replaced them. The author then proceeded to review their physiological action, as he considered them still valuable in some cases. In suitable cases, cardiac depressants were most striking in their physiological activity, and in their power of relieving symptoms. Their administration was a matter requiring unusual skill. They were too often given in so small a dose that no effect whatever was produced. In this class of drugs, more than in any others, the dosage should be small, frequent, and guided wholly by physiological effect. After enumerating some sedatives, the speaker said that they were not satisfactory, and that other means, such as rest in bed, suitable diet, and general treatment should be made use of.

Dr. Beates said that those patients who had syncope from the use of aconite rarely recovered; he showed how it depressed the heart. In cases treated with veratrum viride the results were different.

Dr. Robinson could not agree with the reader of the paper as to the action of veratrum viride, and thought it the safer drug.

Dr. Cohen found that there was a difference of ideas as to the use of terms. He could not conceive of aconite as a cardiac sedative; he regarded it as a cardiac depressant, which was a different matter. Adrenalin he had found of excellent service in contracting the arteries, a necessary thing in heart cases at times.

Blood-letting and Blistering in the Treatment of Pneumonia.—Dr. JAMES TYSON, of Philadelphia, named two periods in the treatment of croupous pneumonia in which blood-letting might be of service: First, in the early stage for the relief of pain and dyspnea, and, second, in the advanced stage where there was engorgement of the right heart, also associated with intense dyspnea, cyanosis, and general venous stasis. For the first stage he recommended especially bloodletting by wet cupping, although venesection at the arm was also efficient. The other measures for the relief of pain, such as poultices, counterirritation, and even full doses of morphine hypodermically, were comparatively valueless for this purpose. It was especially in cases of pneumonia associated with pleurisy—pleuropneumonia—that this measure was of signal service. The second period in which blood-letting was useful was in an advanced stage where there was engorgement of the right heart, which was unable to relieve itself of its burden because the lung was already engorged with blood which it could not get rid of. This condition was indicated by intense dyspnea, frequent, shallow breathing, and cyanosis. The bloodletting required was venesection, and it was especially when associated with the subcutaneous injection of normal salt solution and with oxygen inhalations that its best results followed. He

was certain that he had seen life saved by the prudent use of venesection under the circumstances. As to blistering, he thought it serviceable for the most part only in delayed resolution.

Pneumonia: Its Drug Treatment.—Dr. A. A. STEVENS, of Philadelphia, said that complications often caused death. The treatment must be directed to the infection itself. Nature, as a rule, helped herself. He had no faith in the serum which had been produced; it had not been sufficiently tried. There was at present no treatment but the symptomatic. He drew attention to the use and efficiency of alcohol in certain stages, and the special value of camphor, used hypodermically. Ammonium carbonate was useful as an expectorant.

The discussion which followed was general and interesting, it being generally agreed that, so far, the serum had proved useless, being in this respect quite different from antitoxine in diphtheria.

Dr. Robinson was of the opinion that they never would find a serum to produce like results, as they had more than one germ to deal with in pneumonia.

Dr. Patton thought that they might yet derive some benefit from the serum.

Wintergreen Oil in Constitutional States. By Dr. GUSTAV FÜTTERER, of Chicago.—Read by title.

Inter-organic Treatment of the Pneumonic Lung.—Dr. W. BYRON COAKLEY, of Chicago, showed that this was a non-depressing method of promoting and controlling a high leucocytosis, and proved that infusion and bleeding were indispensable therapeutic factors in this disease.

Letters to the Editor.

PENETRATING GUNSHOT WOUNDS.

WALLER, Texas, June 10, 1902.

To the Editor of the New York Medical Journal:

Sir: I have just read with much pleasure Professor Paul F. Eve's article on Gunshot Wounds of the Stomach. Some six or eight years ago I wrote on a case of gunshot wound of the pericardium in a young man who was shot while out hunting. I had no hospital with its aseptic and antiseptic facilities, but a simple abode or hut. The shot (No. 8) entered about two inches below the left nipple, ranging straight to the left scapula, where they were located. An incision was made and the shot were allowed to fall out, most of them doing so without any trouble. Living, as I was, away from any of the required facilities, I made the best I could out of the situation, taught as I had been at school in New Orleans that cleanliness was next to godliness. I went to work in using antiseptics all the way through, using drainage and keeping the wound open. Pus was cleared away by using peroxide of hydrogen. I succeeded in keeping my patient alive twelve months. He finally died of pneumonia. The wound, however had healed until both openings were not much larger than a small lead pencil. Professor Eve's article embodies my very idea in gunshot wounds.

Another case was that of a Bohemian lad, about thirteen years old, shot with a 22 target rifle. The ball entered the abdomen on the right side, 3½

inches below the liver (shot sideways). The ball ranged to the left and imbedded itself in the femoral sheath. The peculiarity in this case was that there were no inconveniences whatever. The boy could handle himself as if not shot. He did not vomit, and the bleeding was very small in amount. My treatment was very simple, simply cleansing the wound with a bichloride solution, 1 to 2,000, and keeping the bowels open. His kidneys acted without trouble. I left the ball *in situ* and left the case to Nature. In a week's time he was at school as though nothing had happened to him. In conclusion, I believe in Nature's work combined with antiseptics and proper regimen, etc. There is a good deal to learn in treating wounds, especially where one is placed without the possibility of recourse to hospitals, etc.

J. P. CARRINGTON, M. D.

CORNING, N. Y., June 11, 1902.

To the Editor of the New York Medical Journal:

Sir: Looking over the *New York Medical Journal* of June 7th, I was interested in the case of gunshot wound of the stomach reported by Paul F. Eve, M. D., of Nashville, Tenn., because of an experience I once had thrust upon me, with results I least expected. Instead of being a gunshot wound of the stomach, however, my case was one of gunshot wound of the intestine. The unfortunate was a youth, twelve years old, who had a strong desire to possess himself of a revolver, one that was bright and shiny like that of his chum across the way. His capital was limited, but his desire was unyielding; he hoarded up his pennies for some time, but the amount required, according to his way of thinking, seemed to come to him altogether too slowly. With a philosophical turn of mind, he finally concluded that a cheaper article would answer all purposes, and having in mind one owned by another warlike young friend, which was old and rusty, hard to work, and not exactly an ornament either, he dropped his higher aspirations and by barter and trade soon became the possessor of the aforesaid relic. What this prize lacked in beauty it made up in age; antiquity seemed to have been the most pronounced feature of the machine, although it once was designated as a .32 self-acting, central-fire, long-range revolver.

On the 30th of December, 1899, young B., having procured several rounds of cartridges, repaired to the wood-shed for target practice. Placing a cartridge in the barrel and closing the snaplock, he took aim and pulled the trigger: but, lo! it didn't go off. He pulled again and harder, but to no effect; "the gun wouldn't shoot." The hammer would not respond to the effort of the finger; it refused to stir. With a determination of mastering the situation, he firmly grasped the muzzle of the revolver with the left hand, throwing the stock over and to the outside of the right thigh; then forcibly pushed backward on the hammer. This position placed the muzzle of the revolver at a distance of about twelve inches from the abdomen and aimed at a point two inches to the left and the same distance below the umbilicus. He pushed again and again, each effort getting the hammer back a little farther. One more push, and he felt he must accomplish the task. One more was made, but to his sorrow, the hammer slipped from his sweaty hand, striking and exploding the cart-

ride in the chamber, and as a consequence there was an emergency call for a surgeon.

Responding to the call, I secured the assistance of Dr. G. W. Lane and hastened to the victim's home. On our arrival there, we found our number augmented by another physician, Dr. Carr, who had also been summoned. Together, we made a cursory examination of the boy, who was found lying in a bed just as he had thrown himself after the accident, both hands supporting or pressed upon the abdomen, the knees acutely bent and the thighs strongly flexed and pressing upon the hands.

His face showed profound shock. The pulse was small and rapid, cold perspiration covered the body, and pain prevented, not only any movement of the body, but a thorough examination of the injury. Our antiseptic preparations and precautions for an immediate laparotomy were only an apology for the real thing, as there was not a sanitary or antiseptic condition within the surroundings; however, we made the best of every opportunity within reach. After an anæsthetic had been given, a probe, passing along the course of the wound, assured us that the ball had entered the abdominal cavity in an upward and left lateral direction. Beginning at the wound, an incision was made, upward and parallel to the middle line, about four inches in length, allowing a deluge of blood to escape from the abdominal cavity. This terrible hæmorrhage was, indeed, not a very encouraging sight in view of our hope of saving the boy; however, we did not hesitate. On towels, wrung out of very hot water, the small intestine was protected as it was withdrawn from the abdominal cavity in search of perforations. Of these there were fourteen, almost the limit, according to some authors, all of which were closed by fine silk sutures after the purse-string fashion. The ball had lodged in the thick muscles of the back, and was not sought for. The cavity was thoroughly flushed with sterile water and the wound closed with deep interrupted sutures. For several days after the operation there was a temperature, ranging from 102° to 104° , with great thirst and frequent vomiting. Gradually these symptoms subsided and on the tenth day we felt that our patient was "out of the woods." Resolution thenceforth was continuous: his bowels were not disturbed until after the first week, nor was he allowed to take anything but liquid nourishment during that time. His recovery was hardly looked for when I began the operation, nor did his condition immediately after warrant hope; however, the unexpected will happen at times, and this was one of those times. The boy is now strong, hale, and hearty, and doing a man's work in one of our glass factories. One thing peculiar in this case was the fact that, although there were fourteen perforations in the small bowel, there was very little if any fecal matter to be found in the abdominal cavity, a condition due, no doubt, to the non-resistance of liquids to the impact of solids; that is, before penetrating the muscular coats of the bowel, the ball had displaced all movable matter in its direct path. Another thing was noticeable, and that explains how, without operation, recovery sometimes takes place after the bowel has been penetrated by a bullet. Each perforation, although ragged, the point of exit being more so than that of entrance, was more or less closed by the ragged edges of the

wound, the muscular coats having given way in different directions and most likely at different periods of time under pressure of the passing ball, thus allowing a lapping of the different coats upon each other with a strong probability of closing the wound.

THOMAS A. McNAMARA, M. D.

Book Notices.

BOOKS, ETC., RECEIVED.

Photographic Atlas of the Diseases of the Skin. A Series of Eighty Plates, comprising more than One Hundred Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox., A. M., M. D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York, etc. Part XIII. Philadelphia and London: J. B. Lippincott Company, 1901. Pp. 169 to 182.

The Physician and his Patient. The Business and Social Relations which should Exist between them. Cincinnati: Jennings & Fye, 1902. Pp. 5 to 48.

Studies from the Institute for Medical Research, Federated Malay States. The Malarial Fevers of British Malaya. By Hamilton Wright, M. D., (McGill), Director of the Institute for Medical Research, Federated Malay States. Singapore: Kelly & Walsh, No. 1. Volume I., August, 1901.

L'Art et la médecine. Par le Dr. Paul Richer, Membre de l'Académie de Médecine. Paris: Gaultier, Magnier et Cie, 1902. Pp. 3 to 562.

Die Malaria der afrikanischen Negerbevölkerung, besonders mit Bezug auf die Immunitätsfrage. Von Dr. Albert Plehn, Kaiserl. Regierungsarzt in Kamerun. Mit 1 lithogr. Tafel. Jena: Gustav Fischer, 1902. Pp. 51.

Einführung in die Farbstoffchemie für Histologen. Von Dr. L. Michaelis, Assistenzarzt an städtischen Krankenhaus Gitschinerstrasse in Berlin. Berlin: S. Karger, 1902. Pp. 156.

Leitfaden der Elektrodiagnostik und Elektrotherapie für Praktiker und Studierende. Von Dr. Toby Cohn, Nervenarzt in Berlin. Mit 6 Tafeln und 39 Abbildungen im Text. Zweite Vermehrte und Verbesserte Auflage. Berlin: S. Karger, 1902. Pp. xii-166.

Die Spezielle Chirurgie in 60 Vorlesungen ein Kurgefasstes Lehrbuch für Ärzte und Studierende. Von Dr. Edmund Leshner, Professor an der Universität in Halle, etc. Fünfte Vermehrte und Verbesserte Auflage. Mit 355 Abbildungen. Jena: Gustav Fischer, 1902. Pp. xix-1110.

Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Volume V. January, 1902.

Miscellany.

An Unusual Type of Small-Pox.—Dr. J. Robertson, medical officer of health for Sheffield (*Quarterly Medical Journal for Yorkshire, etc.*, November, 1901), records the case of a gentleman (unvaccinated), aged 30 years, who was reported to be suffering from small-pox on April 15, 1901. At the time he was reported he had well marked discrete small-pox, with pustules on his face at a distance of from half-an-inch to one inch apart. The distribution over the body was typical of the disease, as was also his subsequent progress. He was able to give an accurate account of the progress of his illness, as he had noted it in his diary. The duration of the periods of invasion and incubation were normal.

From the commencement of the period of incubation until admitted to hospital he had been in contact with a large number of persons, many of whom were unvaccinated. He had ridden in crowded railway carriages and trams, and had attended at

one of our hospitals. No secondary cases traceable to this patient occurred. The source of infection was definitely located at Nottingham, where three cases occurred. The Nottingham cases were the means of spreading the disease to six or seven other towns. So far as the author has been able to ascertain, in each case the disease was mild in type and did not spread. From the fact that so many towns became infected, he thinks the conclusion may be drawn that in these cases the disease also showed the character of being not very infectious. The Nottingham cases appear to have been imported from America. Nearly all the persons who became infected in England came from the State of Utah. The medical officer's Annual Report for the City of Deseret in Utah, shows that during the year 1900, 442 cases occurred in the city with one death. Of the 442 cases 397 were unvaccinated, 34 had been vaccinated more than ten years previously, and in 7 the vaccination had not been successful. The fatality was less than $\frac{1}{4}$ per cent., notwithstanding that most of the persons attacked were unvaccinated. Moreover, on May 11th, Dr. Montizambert, Director-general of Public Health, Ottawa, communicated to the *British Medical Journal* an article on a mild type of small-pox which had been prevalent in the United States during several years, and which appears to be identical with the cases which have recently occurred in this country.

If, says Dr. Robertson, vaccinia is a small-pox virus attenuated by passage through the calf it seems to me that a possible explanation of this type of the disease is that it is intermediate in its character between true, highly infectious small-pox on the one hand, and true, non-infectious vaccinia on the other. In other words, this appears to be a case where an attenuated virus "breeds true" as vaccinia does. The disease, as it occurred in the Sheffield case and in one or two others Dr. Robertson had the opportunity of examining, was certainly very much less infectious and apparently much less virulent. There was no doubt whatever as to the nature of the disease in the Sheffield case or in those occurring in the other towns.

In the United States (the epidemic has been more prevalent in the Western States and Canada) vaccination gives complete protection against the disease. In Sheffield, as in the other large towns, the cases of this type of small-pox had been in what we should consider a highly infectious condition for many days before they were discovered. From a considerable experience in dealing with the English type of the disease Dr. Robertson has no hesitation in saying that this American type is very much less infectious, and that this is one of its most striking features.

Some Cardiac Phenomena Revealed by the Röntgen Rays.—Dr. Albert Abrams, of San Francisco, at the Saratoga meeting of the American Medical Association, said, as the result of his own personal observations, that the rays had been epoch making in exploding accepted statements in physiology. The diaphragm did not flatten with each inspiration but maintained its curve unaltered. The diaphragm was not on the same level on both sides and on the left side the excursions were slightly greater than on the right. The heart

actually descended during inspiration and the descent of the apex beat was not due to the lifting upward of the thoracic cage over the heart. The so-called apex beat was not always the anatomical apex. The disappearance of the apex beat when the breath was held was not caused by a dilated right ventricle pushing the left aside, but by the occupation of the triangular space in front of the heart by lung tissue, which caused the apex to recede from the chest wall. Attitudinal dislocation of the heart was effected physiologically by respiration and position. His observations demonstrated that in the recumbent posture the heart did not approximate the spine sufficiently to obliterate the triangular space behind that organ, hence he felt justified in refuting the theory of Kingscote, that asthmatic seizures occurring at night were due to the compression of the vagi by the heart. In thoracic aneurysm, he availed himself in diagnosis of the Valsalvan and Müllerian experiments. The former, by the aid of the rays, would diminish the outline of an aneurysm, whereas the latter would increase it. The heart was subject to a dislocation which he called the accommodation or dislocation. This was physiological in old age when the low position of the heart was an accommodation phenomenon, to compensate for the increased length of the aorta. In aortitis the heart lay high, as if to get all the support that the diaphragm could give it. Such compensation avoided traction on the aorta. In thoracic aneurysms the heart lay low, as a rule, to compensate for the encroachment of the aneurysm on the respiratory area. Reference was made to experiments showing how a dilated stomach could dislocate the heart. The action of amyl nitrite on inhalation would cause, in a large number of persons, a reduction in the transverse diameter of the heart, a fact which he believed justified the theory that in angina pectoris there was extreme tension of the ventricular walls. Amyl nitrite inhalation would also cause a circumscribed dullness of the manubrium sterni, but other areas of dullness might be demonstrated. This fact, in conjunction with others, warranted him in concluding that asthma was dependent on the inability of the bronchial musculature to expel the residual air incarcerated by the spasm of the circular fibres. The author simulated the action of altitude on the heart by placing over the precordial region a large cup, from which the air was exhausted, and was thus able to induce temporary acute dilatation of the right chambers of the heart. Several new facts were added to the knowledge of the heart reflex which he first discovered in 1896. A notable fact was, that the heart reflex could be discharged by inhalation of irritating vapors, including ether and chloroform. This observation justified the expedient of cocaineizing the nasal mucosa before anaesthesia, for he found that when this was done no reflex could be obtained. Irritation of the gastric mucosa by the gyromele would evoke the reflex, which was practically one of heart inhibition. Reference was made to a new reflex, which he called the *lung reflex of contraction*. This reflex afforded a beautiful demonstration under the rays, and was elicited by strong percussion of the chest by aid of the hammer and pleximeter. This manœuvre caused a dull to replace a resonant percussion tone.

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WHOLE No. 1234.

Special Articles.

EXCISION OF THE KNEE FOR VICIOUS DEFORMITY AND TUBERCULOUS DISEASE IN THE ADULT.

By VIRGIL P. GIBNEY, M. D.,
NEW YORK.

It is not my purpose in this communication to dwell upon the operation of excision as a dernier resort, but as a remedy which may be employed in certain stages of disease where all fixation and protection appliances are regarded as all-sufficient.

I propose to illustrate by the narration of a few selected cases, and to enforce, if possible, the great value of this operation. It is well to insist upon its inefficiency as a means of relief in the growing bones of young children. The literature is already filled with material illustrating the baneful effects of excision in young children. At the Hospital for the Ruptured and Crippled we encounter from year to year distressingly short limbs and hideous deformity at the knee the result of the operation, and when these children reach adult life it is often a question whether amputation is not then to be commended.

The works on surgery usually recommend excision for a badly suppurating knee, but it is still the custom among surgeons to advise against excision in that obscure class of tuberculous knees in adults not attended by suppuration. The general impression prevails among surgeons that prolonged fixation in plaster of Paris or any immobilizing apparatus is conducive to ankylosis, and that an ankylosed knee is just about as good as one that is synostosed. My own experience contradicts this flatly. I am personally familiar with a number of cases where a partial ankylosis or even an ankylosis almost complete has proved very annoying to the patients. A number of falls and sprains have made them excessively timid, and they will become devotedly attached to a posterior splint bound securely by a roller bandage and will insist upon wearing this throughout life. On the other hand, when a good bone union can be secured by operation, they have no fear of disturbing this union, they are relieved of the use of appliances, and they wonder why they were so long opposed to the operation.

The indications are difficult to give in detail; hence it occurs to me that a few cases presented *in extenso*

will help one better to appreciate the indications as they arise.

CASE I.—Mrs. M., thirty-eight years of age, when I first saw her, in October, 1891, gave a history of disease in the left knee extending back into girlhood. She had undergone the usual treatment and had recovered with a knee perfectly straight but not firmly ankylosed. She suffered from any jar or sprain and was obliged to exercise the greatest care in going about, although on a smooth surface she could walk very well. For the past six or seven years the condition just mentioned had existed and had followed a movement under ether which was made to secure motion if possible. She dated her misfortunes from that attempt at passive motion. At the time of my examination, the limb was straight, with practically no shortening, and the patella was in normal position, yet movable over a very small area, but there was but little motion at the joint, and there was thickening at the joint edges. The limb was rather sensitive on the whole. She walked with two crutches, using a leather splint secured by a flannel bandage. The comparative measurements showed the usual atrophy of the thigh and calf. As she was small in stature and lithe, I persuaded her to have a Thomas knee splint with a 4-inch patten on the shoe of right foot, assuring her that this would give sufficient protection to the knee and thus relieve the sensitive condition. She consented, and by the 1st of December was going about with the apparatus supplemented by a skin-fitting plaster-of-Paris bandage. The notes from that time to the 12th of May show much relief and a facility in getting about that was rather astonishing. The plaster of Paris fitted so well that I decided not to remove it, although she was on the point of sailing for Europe. She returned on November 3, 1892, and the plaster of Paris was removed, it having been in place without interruption for eleven months. No excoriations were found; the range of motion was just the same. A new plaster was applied.

She continued under this treatment until March, 1893, when I learned in the latter part of this month that she was not altogether satisfied, that she had been seeking further counsel, and had had excision urged by a distinguished surgeon of this city. The reason she gave was that she found she still had, after eighteen months' absolute protection of the limb and perfect immobilization, a tender limb, that the splint was uncomfortable, and that she would be obliged to wear it for many years to come. She believed that there must be some tuberculous focus in the neighborhood of the joint which was a menace to her life. On the other hand, I found that she had gained in flesh and strength, that she admitted a decided improvement, that she went about wherever she chose, including a long trip over the Continent, and that her suffering was really very little. We

discussed quite freely the pros and cons of the operation, but she and her husband decided in the affirmative. Accordingly, on the 5th of April, 1893, I was present at the operation and saw an exceedingly neat surgical procedure. Prior to the cutting, while she was under an anæsthetic, an attempt was made to move the limb, but only from 3 to 5 degrees of motion could be had. The patella was bound by a union with the intercondylar space, and a bone forceps was required to separate it. The bursa and quadriceps tendon had disappeared; in fact, there was very little vestige of the joint to be seen. When the space between the articular ends was exposed, there was found a small abscess lying between the posterior border of the external condyle and the posterior border of the head of the tibia. This contained half an ounce of thickish pus and encroached on the lower end of the condyle, which was wormeaten. There was no focus found in the lower end of the femur. The upper end of the tibia was removed about an inch from the surface, and the section barely reached this focus just mentioned. On the inner side of the tibia there were two small foci, one breaking down and one not so far advanced. Steel pins were inserted to assist in the synostosis; the convalescence was uneventful. I saw her at a concert on November 24, 1893. She was walking well, but used a cane. On April 2, 1894, a year after the operation, she used no cane at any time. There was about an inch shortening of the limb. There was no deformity except a little recurvation, which was rather an advantage. I saw her within the past three months; she was perfectly well and quite active and has never had occasion to regret her decision regarding the operation.

This case, it will be seen, presents a great many points of interest; the development of the disease in early life, the apparent cure, the attempt at motion years after the cure was supposed to be completed, the instability of the limb following this operation, the finding of two or three little foci in the head of the tibia, and the final relief by excision.

CASE II.—The following case illustrates the influence of a distinctly neurotic element and the presence of pain even after excision. Miss R., eighteen years of age, came under my care on the 5th of January, 1880, for the relief of what seemed to be a chronic synovitis of the knee complicated by a neurosis. She was the picture of health and had always been apparently healthy, but of a decidedly nervous temperament, and her stomach had been a constant source of annoyance. She had had chorea twice, and at the time of her first visit was choreic. Her spinal column was hyperæsthetic, the cervical and lower dorsal being the most tender regions. Her father was reported to be of a highly nervous temperament. There was no history of tuberculosis or rheumatism in either branch of the family. The thigh was an inch smaller than its fellow; there was some puffiness on either side of the ligamentum patellæ, but no effusion; there was a range of motion of about ten degrees; the whole limb was hyperæsthetic, and there was no direct articular, but peri-articular, tenderness. The limbs were equal in length, there was no deformity of the knee, no bone enlargement, no extra heat. Three years prior to

this date, when she was fifteen years of age, the pain had first appeared about the knee. It came without provocation and subsided after a few weeks. In July, 1884, a year later, swelling appeared, attended with reflex spasm. Crutches and a high shoe were employed. Getting no relief, she was treated in 1885 by static electricity; later plasters were employed. She subsequently was treated in Boston by the plaster-of-Paris bandage, and at the time of my examination I removed the bandage, finding a little spasm of the ham-strings. I did not reapply the plaster, but concluded to treat the case from a neurological standpoint. On the 14th of January I found that there was no disposition of the ham-strings to contract, and there was no increase in the size of the knee, but on the outer side of the ligamentum patellæ there was a small cyst-like swelling. An exploration by a hypodermic syringe gave a negative result. I used the Paquelin cautery once or twice a week over the knee and gave atropine, and by the 25th of January it was thought a decided improvement had resulted, but this proved later to be deceptive. During the next eighteen months the knee was treated as hysterical, a distinguished neurologist and a distinguished surgeon having so diagnosed the case, but at the end of this time, deformity having come on and the signs of tuberculous disease becoming more and more pronounced I deemed it best to protect the limb, and put her under the usual treatment for disease of this kind. In the latter part of December, 1887, I fitted her with a Thomas knee brace. It was fully three months before she got accustomed to this, and she had a history from that time to the beginning of 1895 practically without variation. She always complained of pain and seldom admitted that the knee was serviceable, although she got about on the Thomas brace. At one time during this period the limb was a little enlarged and we had a further consultation. A distinguished surgeon of Brooklyn urged excision, believing the disease to be tuberculosis. This advice was declined. The chorea continued from year to year in the spring. The general health was good, and by the end of 1897 she was so far relieved that the brace was discontinued and she had a Campbell brace attached to a shoe, with a small range of motion at the knee. By dint of perseverance we succeeded in getting a little range of motion, say 25° to 30° . Occasionally she would strain the knee and this motion would be diminished. It was thought by the beginning of 1899 that a cure had been accomplished and that what she suffered from was simply the nervous manifestations. There had never been any suppuration, yet the motion did not increase. It was found necessary from time to time to immobilize the limb after sprains and to use the cautery, adhesive plaster, etc.

This case, it will be seen, lasted under my own personal observation over ten years. Finally, in the latter part of 1899, she suggested excision and gave a very cogent reason therefor. I was quite easily convinced of its desirability, and under an anæsthetic, on the 5th of January, I did the operation. The patella was removed and the joint exposed. The articular ends of the femur were apparently perfect. The inner side of the tibia was perfect, but on the outer side it was covered with a tissue

that looked like coagulated blood a little discolored. This was cut away and the cartilage was found very much destroyed. A saw was used to remove the ends of the bone just where the articular borders began. The sawn surface of the femur to the depth of three quarters of an inch contained a small focus of about the size of a peanut; there was no pus, but this cavity was filled with a yellowish fatty tissue distinctly tuberculous in appearance. In the tibia there were three foci similar to the one just described near the inner head, where the disorganization was more complete. The medullary canal was broken down until hard bone was reached, to a depth of two inches. All suspicious material was cut away in the intercondylar space. The bones were secured by kangaroo tendon through periosteal borders. The ligamentum patellæ was sutured to the quadriceps femoris tendon. The subsequent history was uneventful, the temperature never getting above 100° , but the convalescence was exceedingly tedious. It was a long time before she would make any attempt to stand or walk. The pain in the inner head of the tibia continued as before. She left the hospital on the 28th of February, but it was the first of June before she was able to bear her weight on the limb. There seemed to be a loss of power in the hip muscles, and there was a great deal of neuralgia. She had static electricity at the hands of a Brooklyn neurologist. At the end of a month or six weeks the pain was still present, although she was very faithful in her attendance. A radiograph taken in the early part of the present year showed absolute synovitis and no foci in either bone. She was operated upon in the spring of this present year for appendicitis. In June, 1901, I found her able to go about with more facility, yet the limb was in marked internal rotation, and I was obliged to construct an apparatus which would effect outward rotation. The last reports are good, yet the neurotic element is still present.

I do not know that I have ever encountered a more persistent train of symptoms than this patient has presented, and I cannot help but feel that if excision had been performed many years ago these symptoms might have been relieved. As it is, I am not sure that the removal of the foci themselves, with the removal of her appendix vermiformis, will relieve the neuroses from which she has been so long a sufferer.

A single case will suffice to illustrate the value of the operation as a relief of hideous deformity.

CASE III.—On the 24th of March, 1900, Miss W., about forty years of age, teacher in one of the public schools, was referred to me by Dr. McDonald, of this city. She hobbled into my office on an apparatus that was very much like an old-fashioned wooden leg. It took the bent knee into a cup, from this cup large bars passed up to the thigh and hip, and on this appliance she was compelled to get about. I purposely refrain from giving details of her sufferings under such an appliance, and how she bore up under this affliction. She came to see me to get something lighter in the way of apparatus, and I found she had had a rectangular deformity of the knee dating from childhood. She gave the usual

history of the tuberculous knee accompanied by suppuration. My first impression was that a good excision would enable her to go about without appliance, and that with a low cork sole she could walk with very little discomfort. Her physician had reported a little trouble with the apex of her right lung, but it was of long standing. I succeeded in persuading her that an operation should be performed, so, early in April, I did the operation, securing very good position and finding no foci of disease. It was a perfectly clean operation and the healing was unaccompanied by any constitutional disturbance. The wound healed after a single dressing. There was a good deal of nervous disturbance during the healing. She left the hospital on the 21st of June. The union was complete and the limb was protected by a steel appliance extending from the shank of the shoe to the upper part of the thigh. From this date to the end of the year she required the apparatus and made progress without interruption. On the 13th of April she was walking, without support, she walked easily, the limbs were parallel, and there was an inch shortening. From that time to the present she has had no discomfort of any kind and feels that the operation has been one of the greatest boons in the history of her life.

I could add further cases illustrative of certain points, but already the article has been extended beyond the limit intended, and I can close commending most heartily the excision for the relief of various deformities of the knee, especially those requiring cumbersome apparatus for tuberculous disease without any evidences of suppuration.

♦ ♦ ♦
Dreams.—Sir Arthur Mitchell, M. D. (*Scottish Medical and Surgical Journal*, June), in an interesting paper, asserts that there is no such thing as dreamless sleep. He regrets that the fact is not so fully accepted as it ought to be, because it can scarcely fail to have important bearings in various directions. Dreams are, as a rule, very poorly remembered, often indeed never remembered; but, if a person resolves every time he is awakened from sleep to ask himself *immediately* whether he had been dreaming, he will generally, if not always, be aware that he has just passed out of a dream, the details of which he may or may not be able to recall. The brain is thus constantly at work, either in sleep-thinking or in that thinking which goes on when we are awake. It has been alleged that during sleep valuable legal opinions have been written, difficult mathematical problems solved, and poetry and music of a high character composed; all such things the author believes to be fables, and he points out that in dreams there is no coherent thinking designed to a particular end and kept there. The rapid and confused character of *sleep-thinking*, and the absence of the moral sense in dreams is discussed, with a view to show the analogy between dreams and delirium. The author points out that it is not necessary, in order to produce a fatigue of the will, that the mind be engaged in what is spoken of as purely intellectual work. The fatigue of the will, for instance, may be as great, or nearly so, in the case of a compositor setting type.

Original Communications.

SPINAL CORD CONDITIONS IN SEVERE ANÆMIAS.

By ARCHIBALD CHURCH, M. D.,
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The purpose of this sketch is to call attention to a somewhat recently recognized condition of the nervous apparatus, particularly of the spinal cord, noticed or associated with anæmias of severe degree. Nutritional defects due to anæmia showing themselves in syncope, mental disturbance, insomnia, and even hæmorrhages into the brain and retina as well as into the spinal cord, have been well established as clinical possibilities for a long period of time, but degenerative processes secondary to or associated with anæmias have been recognized only in very recent years. One of the first contributions to this subject was made by Nonne, who found degenerative conditions in the cord of ten out of seventeen cases of pernicious anæmia examined histologically, yet only two of these instances had symptoms referable to the cord during life. His observations have been abundantly confirmed.

While at first it was contended that these changes were largely confined to the posterior half of the cord, sparing the gray matter, it was afterward asserted that the gray matter was equally likely to suffer. Examination of a large number of reports will confirm to the unprejudiced investigator that the changes in the cord are in a sense mechanically located. That is, those portions of the cord which are less well supplied with blood are the first to suffer. Owing to the arrangements of the bloodvessels supplying the anterior portions of the cord, especially the anterior horns of gray matter, this portion of a cross section shows comparatively few pathological changes in these cases, while the posterior half of the cord, embracing the sensory and the motor conducting tracts, being less vascular, supplied as it is by a number of small terminal arteries, in the lowered circulatory conditions of the anæmias, undergoes nutritional reduction and consequent retrograde changes. These show themselves in sclerotic conditions. In cases of long duration and extreme degree, the other portion of the cord, including the anterior horns of gray matter, are involved with corresponding functional disturbance and physical signs.

That the anæmia is an active element in the causation of these cord changes is shown by the experiments of Massaro and others who have experimentally in animals induced extreme anæmia of the brain and cord, attended by similar changes. The literature of the subject has been enriched by numerous

contributions in Germany, England, and, notably, this country.

Many believe that in addition to the anæmia a toxic factor furnishes a very active element. The general view of the pernicious anæmias seems to be now in line with the supposition that it constitutes or is based upon a toxic state, and a toxic element which is competent to destroy the blood may also have some influence upon the central nervous system, although it does not seem necessary to invoke this factor in order to explain the changes which are there found.

It is now recognized that these changes occur not only in the classical pernicious anæmias, but in cachectic states of long duration attended by toxic factors. Similar changes, for instance, are encountered in the cachexia of cancer. It is also true that the majority of the individuals in these cases show a predisposition to lowered stability and perhaps a lowered structural strength of the nervous apparatus such as is indicated by a neurotic heredity. Women are affected about three times as frequently as men, a proportion which accords with the incidence of the severe anæmias in relation to sex.

The symptoms of involvement of the cord are very commonly obscure and not infrequently entirely overlooked by the practitioner who is busied particularly with the cachectic state upon which they are engrafted. In other instances they attract attention early in the clinical history and receive major attention, commonly being mistaken for indications of locomotor ataxia, spastic paraplegia or multiple neuritis. As the posterior half of the cord is involved the case may present clinically the indications of locomotor ataxia, but if the lateral portions of the posterior half of the cord including the crossed pyramidal motor tracts, are principally or primarily affected, spasticity and rigidity with weakness may give rise to the supposition that the patient primarily has myelitis or an ataxic paraplegia. In the course of these cases one is likely to encounter fluctuations in the symptoms, so that a case which at one time is spastic with rigidities, cramps in the lower extremities, and increased reflexes, later on may present a flaccid paralytic state with abolished knee jerks and even lost control of the sphincters.

Almost invariably these patients complain in a major degree of disturbance of sensation; they describe numbness and tingling and formication, usually in the lower extremities, sometimes in all four extremities. Very commonly they describe their sensation in terms of pressure, either exerted from without or within. Some say the limbs feel as if swollen to bursting, others that the limbs feel as if compressed or as if bound with tight bandages or ropes. These are analogous to the complaints found in posterolateral sclerosis of whatever origin.

Owing to the paræsthesia, a suspicion of multiple neuritis is very commonly aroused in the medical mind, and the reduction of the reflexes which not uncommonly is present rather tends to confirm that suspicion. It has thus happened that several cases have come under observation in which a diagnosis of multiple neuritis had been made and the condition attributed to lead or alcohol.

Ordinarily the muscles do not waste more than would be explained by the cachectic condition of the patient and the general emaciation. Ordinarily, too, the muscles respond to the electrical stimulus in a normal manner, but in some cases in terminal stages, probably owing to the involvement of the gray matter of the cord in degenerative processes, distinct atrophies are added which may closely correspond to those found in progressive muscular atrophy of the spinal type, and the quantitative reduction of electrical stimulation attends this atrophy.

Owing to the malnutrition of the brain and perhaps in some instances owing to the retrogressive changes in the cellular structure of that organ, disturbances of the mind are commonly encountered. These patients are generally peevish, irritable, and forgetful, but what I look upon as more distinctive is the fact that they are commonly somnolent with a tendency, upon being roused, to exhibit a certain degree of mental confusion, particularly as to their surroundings, and may even at this time for a few minutes or few hours manifest a little delirium of a low, quiet type. Practically it is a continuance of the dream state which they cannot shake off upon being roused, and usually subsides spontaneously or upon further stimulation. When this is well marked, usually there is a loss of perception of time, so that a patient is not reliable in regard to current events.

On the part of the optic nerve, not infrequently retrogressive changes are to be observed constituting greater or less degrees of atrophy. A diminution of vision and the reduction of the visual field, due to the anæmic state, is the rule. Neuralgias are also common.

The duration of the disorder is dependent upon the associated anæmia. One may say that the cases have a tendency to last from one to five years after presenting clinical symptoms of the involvement of the nervous apparatus, and the prognosis is dependent entirely upon the condition of the blood. Most of these patients sooner or later perish miserably. They progressively become more and more helpless, finally are confined to bed, and involvement of the sphincters and bedsores may render them abject sufferers. The paralytic condition has a tendency to encroach in an ascending manner upon the nervous apparatus, so that they present a chronic ascending spinal paralysis. Paræsthesia followed by anæsthesia gradually creeps up the trunk, advances also

along the upper extremities, and finally involves the entire body. The nose, tongue, and lips are sometimes similarly affected, and eventually the patient perishes, commonly from involvement of the respiratory or cardiac apparatus. The pharynx may be involved, so that swallowing becomes difficult, aspiration pneumonia is likely to occur, and death from inanition or suffocation is a possibility.

In treatment of these cases attention is fixed upon the cachectic state or the anæmia. Without attempting to cover the whole field, it may be stated that a great deal may be done even in the most pronounced cases of pernicious anæmia by continuous efforts to render the intestinal canal aseptic and to add to the quantity and if possible the quality of circulating blood. For this purpose intestinal injections of normal salt solution, as often as every two hours in some cases, have been attended by prompt and more or less persistent improvement in the general state, without, however, in my own experience, being followed by any betterment of the blood. I have to remark in this connection that my friend Dr. E. F. Wells has verbally communicated to me the notes of one case in which a patient has apparently recovered under a similar course of management from a well marked pernicious anæmia, indicated by all the classical blood signs, and has remained in a practical state of health for two years. Hæmatogenic drugs and intestinal antiseptics with careful dietetics and general supportive measures must be judiciously employed.

The frequency of these conditions and the tendency to their misapprehension have been enforced upon my attention during the past year by coming in contact with six cases, brief notes of which I append. To these I might from my case books add a dozen more.

CASE I.—Mrs. D., Rock Island, Ill., married, fifty-eight years of age. Has always been an unusually strong woman and particularly free from serious illnesses. She is the mother of a family of grown healthy children. For the past two years she has been in failing health, and recently has had a number of syncopal attacks which led physicians whom she consulted in the East to consider her heart at fault. The weakness grew progressively greater until the time I saw her, September 26, 1901, when she was unable to stand. She complained of numbness in all four extremities, the numbness extending as high as the umbilicus in front. Its upper margin was indefinite, and upon examination the disturbance was found to be a hyperæsthesia. All reflexes in the lower extremities were greatly reduced and the knee jerks were practically abolished. The patient was well nourished, but presented a slight yellow hue which at times was stated to be more intense.

Examination of the blood, made by Dr. Evans, of the Columbus Medical Laboratory, showed hæmoglobin, 45 per cent., red cells 2,648,000, hæmoglobin cellular index, 83, white cells 4,500. There was distinct poikilocytosis, with unusual variation in the size of the red cells and in their reaction to stains,

and nucleated cells were present. Dr. Evans unhesitatingly pronounced the blood to be that of primary anæmia.

From the physical condition and the nervous symptoms, taken in conjunction with the pallor and appearance of the patient a diagnosis of pernicious anæmia was made. She returned home and after fluctuating for better and worse died in January, 1902.

CASE II.—Mrs. W., a married woman of sixty-two, with a grown family of healthy children. No personal or family history of any significance. For the last three years she has been in lowered physical health and was considered hysterical and neurasthenic, receiving one course of rest treatment for alleged neurasthenia. She spent the summer of 1901 in the East, returning to Chicago in November. She had consulted some of the leading physicians in New York. Dr. Dana made a diagnosis of ataxic paraplegia. He had the blood carefully examined and considered the anæmic state, which was markedly present, of a secondary variety, and put the patient on large doses of iron, raw beef, etc.

November 2, 1901, the patient was seen at the request of her physician, Dr. E. J. Doering, and was found vomiting everything taken into the stomach. She presented an appearance of good nutrition, but seemed very feeble and extremely anæmic. The tongue was raw and red and she stated that for years she had had a red tongue. Power in the lower extremities was greatly reduced; she was able to move them at the hips, but not at the knees or below. There was sphincteric incontinence both of bladder and rectum, and also numbness in the lower extremities which amounted to anæsthesia from the knees down, reduced sensation to the groins, and paræsthesia to the lower end of the sternum. The upper extremities were numb from fingers to midarm. All reflexes were increased, and the lower extremities were in a state of spastic rigid extension with a tendency to cross-leg. Ankle clonus and the Babinski reflex were easily elicited.

Examination of the blood made at this time by Dr. Evans, of the Columbus Laboratory, showed hæmoglobin, 57 per cent., red cells 2,416,000, corpuscular index, 117, white cells, 5,800. A few normoblasts were found. The red cells showed some poikilocytosis with irregularity in size. Dr. Evans stated that the case was in all probability pernicious anæmia, or at least a borderland case.

The patient was fed by the rectum and the stomach allowed to recover from the forced feeding. Iron and arsenic in large doses were employed. She made considerable improvement and the blood state improved to some extent, but early in this year she commenced to run down rapidly, and was mentally very vague, often in a delirious or dreamy state with prolonged somnolence, and the case seemed to be terminating fatally. At this time she was put upon rectal injections of normal salt solution every two hours, and oxygen was employed for fifteen minutes every hour. Within forty-eight hours her condition had notably improved, the delirium, somnolence and mental vagaries entirely disappeared, her appetite picked up, she made a marvelous change for the better, but the blood remained practically as before. The betterment continued under less frequent administrations of salt solution, but a bedsores devel-

oped over the sacrum and from it septic absorption resulted in a number of puffs of fever which had a tendency to reduce the patient's strength. The nutrition, however, remained fairly good. Through it all the tendency to paralysis increased; the spasticity disappeared and was followed by complete relaxation of the lower extremities. The upper extremities became slightly spastic and rigid and have so remained. The numbness gradually involved the entire body and at present only the face is exempt. Distinct muscular atrophy has now appeared in legs and hands, with reduced quantitative electrical reactions. The contours are those of a progressive spinal muscular atrophy.

Analysis of the blood made April 30th by Dr. R. H. Harvey shows hæmoglobin reduced to 25 per cent., the red cells number but 600,000, while the color index of the cells is 200. The fibrin network, which has been reduced throughout in this case, is now entirely absent. There is no tendency of the red cells to congregate in rolls, the red cells are often irregular, large and vacuolated. There is extreme poikilocytosis, and a few normoblasts and megablasts are to be observed.

The ascending paralysis finally invaded the throat and respiratory apparatus, and death followed cardiac involvement.

CASE III.—Mr. K., from Hancock, Wis. Seen April 5, 1902, and subsequently placed in Wesley Hospital. He is an unmarried man of twenty-six, and has been entirely free from physical illness and all venereal infection. He was industrious, hard-working, and abstemious. He reports that he was considerably run down in 1901. Since January, 1902, has noticed weakness, pains, and cramps in his legs. Is now greatly constipated. There is some uncertainty in the control of his bladder; a girdle sensation around the lower portion of the belly; staggering when on his feet, especially with closed eyes, as when washing his face; and numbness of the legs extending to the lower portion of the trunk as high as the navel. He was sent to me with a diagnosis of tabes.

Upon examination, I find him well nourished, but very pale and anæmic. There is pronounced constipation with a tendency to prolapse of the rectum when the bowels move. There are anæmic murmurs at the base of the heart, propagated into the neck; the general strength and energy are greatly reduced. He is very uncertain upon his legs, walks with a heavy, staggering, ataxic gait and his lower extremities are very weak. The reflexes are all increased. Partial clonus is obtainable at each ankle and the toe sign of Babinski is present. The upper extremities are free from paræsthesia and motor disability.

Examination of the blood, made by Professor Zeit, shows 60 per cent. of hæmoglobin, with 2,400,000 reds, presenting a color index of 1.24, white cells number 22,000, no nucleated reds are present. In the opinion of Dr. Zeit, it is one of the borderland cases with strong indications toward the pernicious form of anæmia.

The patient is receiving rectal injections of normal salt solution, a pint three times daily; Bland's iron, 20 grains, three times daily; careful feeding. In the short time he has been under observation he has apparently made some general improvement, although the blood changes are immaterial.

CASE IV.—Mr. R., aged forty-five. Family history negative. He is a married man and has two small children. Had a chancre eighteen years ago, but no history of secondaries; has had gonorrhœa many times. His present illness began somewhat suddenly on the evening of January 6th, when he was taken with vomiting followed by diarrhœa. He was made very weak and the weakness persisted, compelling him to remain in bed for three weeks. He then managed to work a week, but the diarrhœa again became pronounced and he was compelled to stop work and has been unable to attend to any business since. For over a year he has noted a peculiar tingling sensation in his legs, extending nearly to the knees, and since his present illness began this has become worse. It is always present and has extended to the body and involves the hands. There is also a band of constriction across the centre of the abdomen about six inches wide. He is dizzy, especially upon arising from a recumbent posture. The appetite has been ordinarily good.

He was admitted to Wesley Hospital on March 7th, on the surgical side, on the supposition that there might be a surgical lesion of the intestinal canal, but later was referred to the medical side, under the care of Dr. Webster, upon whose suggestion I saw him on April 8th. At that time he presented the appearance of a fairly nourished man, but was blanched, with slight yellowish discoloration on the chest and extremities. It was found that he was slightly uncertain upon his feet irrespective of his dizziness, and all his reflexes were reduced. There was ataxia in all four extremities, but there were no eye signs of tabes.

Examination of the blood showed 2,300,000 reds, presenting a color index of 1. There was marked poikilocytosis, with great variation in the size of the red cells. The leucocytes numbered 20,000, hæmoglobin, 60 per cent., decrease in the fibrin network. This was considered an instance of a borderline blood state, pointing toward pernicious anemia. The patient was put upon rectal injections of normal salt solution, Bland's iron, red meat in his diet, and this has been continued since, with general improvement as to his physical feeling and ability, and improvement in the condition of the blood, which is now nearly normal, but slight paræsthesia still remains.

CASE V.—Mr. B., single, bookkeeper, fifty years of age. Was admitted to St. Luke's Hospital, under the care of Dr. Favill, on March 9th. He complained of numbness in his hands and the lower extremities, reaching as high as the waist line. There was a feeling of puffiness or distention in the lower portion of the abdomen and in the region of the bladder, and there was pain in this region. The calves of the legs felt to the patient swollen beyond the capacity of the integument, although they presented no appearance of œdema. There was difficulty in moving the bowels, although the movements were soft and he complained of having intestinal diarrhœas for many years. He began to lose weight about the first of January this year and has lost about 30 pounds. He presented an emaciated, anæmic, cachectic condition with a distinct yellow coloration of the skin. He dates the present illness back to May, 1901, when after a hard day's work he was completely played out and never has been able to

recover any degree of strength. The patient has had a number of minor illnesses, including malaria, pleurisy, and chicken-pox, but denies venereal infection. There is nothing in his family history that is notable in this connection.

When I saw the patient, at the request of Dr. Favill, the above-mentioned points were confirmed and it had also been discovered by the resident house physician that the stools contained the ova of what appeared to be the short variety of tapeworm. All efforts to dislodge the parasite, however, have failed, but the stools are now free from such ova. Reflexes in the lower extremities were absent. The man was uncertain on his legs, but static ataxia was comparatively slight. The numbness had a tendency to fluctuate, rising and falling in the body levels, also extending higher at times in the arms. When seen, it embraced merely the fingers and the legs.

Examination of the blood showed a most marked condition of pernicious anemia, the white cells numbered 7,200, the reds 1,264,000, hæmoglobin, 36 per cent. Poikilocytosis was extremely marked, Microcytes and macrocytes were numerous, nucleated red cells were also present. The condition of the blood varied but little during the remainder of the patient's hospital residence. At times he was better, at times worse, and on the whole his condition was not materially changed. During the administration of anthelmenthics and cathartics the anæmic condition was made worse. He left the hospital unimproved about May 1st.

CASE VI.—Mr. L., a blacksmith of fifty-four, of perfectly good personal and past family history, the father of a healthy grown family, never had any serious illness. When I saw the patient at his home in the northwestern section of Chicago, he presented an appearance of great weakness. He was fairly well nourished, but decidedly pallid and his skin was icteric. It was with great difficulty that he was able to get out of a chair or maintain himself upon his legs. He stated that he had been in failing health since last November, when he had what was supposed to have been the gripe, from which he made a fair recovery, but was not able to do hard work thereafter. About the holidays he experienced a tingling in all four extremities, and the physician he consulted considered that he was suffering from multiple neuritis and attributed it to lead or brass, although he did not work in those metals. He had steadily grown worse.

I found upon examination that the numbness in the extremities reached as high as the waist line, where there was a distinct band of hyperæsthesia, and the numbness instead of being anæsthetic was hyperæsthetic throughout. The "girdle sensation" at the upper level was clearly described by the patient. The upper extremities showed the same tingling or numbness, extending nearly to the elbows. The reflexes were reduced and the knee-jerk was obtained only with very great care and by reinforcement. He complained that the legs felt as if they were in bands or in a vise or wrapped with cords, but his major complaint was his great weakness.

He was transferred to St. Luke's Hospital on March 10, 1902, a tentative diagnosis of pernicious anemia having been made, largely based upon the nervous symptoms. It was found that the hæmo-

globin was 35 per cent., red cells, 1,976,000, showing marked poikilocytosis, irregularity in size, irregularity in staining qualities. The whites numbered 5,400. There were no nucleated reds. The fibrin network was decidedly reduced. This condition of the blood continued during the three weeks he was in the hospital, and during that time he received normal salt solutions by the rectum, iron and red meat, massage, and other general measures.

Owing to the impossibility of giving a favorable prognosis he was removed to his home about April 10, 1902, and died on April 22d.

SOME CLINICAL OBSERVATIONS IN INTESTINAL SURGERY.

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In the section of country from which I hail we meet with more than the average number of intestinal injuries. This may be explained by the fact that the ubiquitous "*forty-four*" and the "*festive bowie*" are a part of the apparel of the average man and oftentimes that of the woman also.

A number of years ago I did considerable experimental work in this line. This was undertaken more to practise with the needle and thread than anything else. It proved very valuable to me in other ways; in determining to my satisfaction the best thread to use, the best needle, and the best kind of stitch; and as practice makes perfect I learned on the dog how better to handle the human intestine.

I once attended a meeting of a literary club where the subject for discussion was vivisection; the essayist, a doctor, was rather on the fence. As a guest, I was asked for my ideas. I asked the simple question, in case any of the gentlemen present should accidentally or otherwise get a perforating belly wound, which he would rather have do the repair work, one who had killed a hundred dogs in learning how to sew guts, or one whose practice had only been on an occasional human. This was bringing it home so closely that the "anti" fellows were at once converted, and the discussion closed.

It is just as important for a surgeon to have learned to sew intestines as it is for a tailor to learn to make button-holes, or a lady to have practice before she can do embroidery well.

I report the following cases, with a conclusion or two:

CASE I.—*Abdominal Gunshot Wound: One Mesenteric and Four Intestinal Perforations; Operation; Recovery.* On February 7, 1893, I was called to see H. F., aged twenty-nine, who half an hour before had received a pistolshot wound of the abdomen, the ball entering in a line with and five inches to the left of the umbilicus. The man was found where he had fallen after running two squares, with

marked evidences of shock, face pallid, pulse barely perceptible at the wrist, temperature not taken.

A hypodermic injection of nitroglycerin, one one-hundredth of a grain, was given, and the patient removed carefully and rapidly fully a mile to the infirmary, and after as careful preparation as the circumstances of the case would allow, the cavity was opened in the median line between the umbilicus and pubes, no attention being given to the bullet wound. The ileum was brought out and carefully kneaded, no more than six inches being exposed at a time during this process.

Four perforations—two of entrance and two of exit—were closed with fine catgut, as was also a large wound of the mesenteric border, which exposed the mucosa. Careful search was made for any other injuries, but none were discovered. The cavity was then thoroughly irrigated and cleansed of the extravasated blood and fecal matter, the wound being closed with silkworm gut, a glass drainage tube being carried well into the pelvis at the lower angle of the wound. The method of suturing was by the continued Lembert suture, which was rendered doubly secure by a resuturing with the same piece of catgut, the two ends being then tied together.

Ether was the anæsthetic used, and the patient vomited large quantities of undigested food, this necessarily prolonging the operation, which lasted fifty minutes.

The drainage tube was removed at the end of forty-eight hours, it having been demonstrated, from the amount of bloody serum aspirated, that its use was a wise precaution.

At the end of three weeks the patient was up and walking about the ward in excellent condition, appetite and digestion normal, giving evidence of having lost very little of his strength. The bowels did not seem to have been disturbed in their function, castor oil having been administered at the end of fourteen days, an evacuation each alternate day having been maintained prior to this by enemata.

The favorable outcome in this case was due to the fact that the bullet ranged transversely and evidently entered the abdominal wall on the opposite side at a point nearly corresponding to the point of entrance. This was not demonstrated, however, by its location. The direction of the bullet was changed by its having struck a trousers button in its passage through the clothing, thus being deflected from its primary course, which was directly backward.

CASE II.—*Gunshot Wound of the Stomach and Duodenum; Operation; Recovery.* Dr. G., aged forty-five years, was shot in the abdomen by a drunken negro on October 30, 1898, with a .32 calibre Smith & Wesson revolver, the bullet entering two and one half inches above the umbilicus and one and one half inch to the left of the median line, the pistol being only a few feet away at the time. The patient did not fall, but walked one hundred feet into the house. He was immediately removed to the hospital, and within forty minutes the abdomen was opened by an incision to the left of the

median line, the bullet wound being at its centre; the wound extended up to the ensiform cartilage and down to a point on a line with the umbilicus. A large wound in the anterior aspect of the stomach was discovered at once, and closed with fine catgut interrupted Lembert sutures, then a continued Lembert suture being used in addition. No wound of exit in the stomach could be found. There was a wound of the lower border of the duodenum three inches below the pylorus, the bullet evidently getting out of the stomach at the pyloric opening, making the extensive wound of the intestine, the peritoneal covering of which was lost for quite an extent. This wound was closed with catgut, and a flap of the lesser omentum was sutured over in place of the lost serosa. The jejunum was much distended with blood and the bullet had evidently barked it in its passage, one point showing loss of peritonæum and slight bleeding. No other wounds were found. Irrigation with saline solution soon removed remaining clots, with some pieces of clothing which came from back of the liver.

The abdomen was closed with interrupted silk-worm gut sutures, a glass as well as gauze drain having been introduced between the stomach and liver back to the posterior abdominal wall, the gauze being covered with rubber tissue. The glass tube was removed at the end of fourteen hours, the gauze after twenty.

On the fifteenth day the patient returned to his home without having taken a single dose of medicine after leaving the operating room, and at the end of four weeks he returned to his practice as well as ever.

CASE III.—Gunshot Wound of the Stomach, Liver, Ileum, and Mesentery; Operation; Recovery. Just one week after the last case, I was called to Indiana, to see a boy, aged thirteen years, who six hours before had received a wound of the abdomen; the bullet was a .22 calibre from a Flobert rifle loaded with a long cartridge. The gun was in his own hands and he had been looking into the muzzle above his head; it was discharged just as he lowered it. The bullet entered the abdomen midway between the ensiform cartilage and the umbilicus, a little to the left of the median line. He immediately vomited the extensive breakfast he had just eaten, along with a great deal of blood. Six hours afterward I found him with great evidence of shock and loss of blood, pale, lips blue, pulse 130, hands and feet cold, large beads of perspiration on face and forehead.

The mother consented to an operation, though the desperate chances were fully explained. Without loss of time, with the cottage kitchen as an operating room, the abdomen was opened from the tip of the sternum to the umbilicus. As the peritonæum was opened, fluid blood escaped in quantities, and the cavity seemed filled with clots. The history of his having vomited blood made me seek the stomach first. A large wound was found about the middle of the anterior wall, evidently the bullet having bitten out a piece, continuing on downward. This wound was closed with plain catgut. No other wound of the stomach could be found. There was a button-hole through the edge of the left lobe of the liver which was not bleeding. Kneading of the

ileum was then done, the blood clots being removed as we progressed. Hot water from a pitcher was constantly poured into the cavity and also over the boy's body. About three feet above the cæcum three wounds of entrance and three of exit were found and carefully sutured as they appeared. The wounds of exit were large and ragged. Two wounds of the mesentery near the gut were also cared for. One of these had severed a large artery, which was bleeding actively and evidently had supplied most of the blood found in the cavity. The great omentum had three or four hæmatomata produced by the small bullet having grazed or passed through its meshes.

By this time the boy was in pretty bad shape, and the abdominal wound was closed rapidly, with a large gauze drain wrapped in rubber tissue inserted at the lower angle. The drain was removed at the end of twenty-four hours. After starving for three days this boy did well, and at the end of sixteen days had recovered, the only mishap being that the night after the stitches were removed he tore the wound open; being a rather unruly chap, I think he undertook to scratch too vigorously.

I had no idea when I finished this work but that this boy would die promptly. The result in this case should encourage us to operate in almost any case that presents itself within a reasonable time after the injury. This is my seventh operation and third recovery after extensive gunshot injuries of the stomach and intestines, the last three patients getting well. The first patient had eight wounds of the ileum, living four days, the post mortem showing that death occurred from a wound of the ureter. The second patient had eight wounds of the ileum and one of the fundus of the bladder, living three days, dying of sepsis due to infiltration of urine from the wound of exit in the bladder, which was undiscovered and must have been near the neck, as an abscess appeared in Scarpa's space before death.

The third had four wounds of the ileum; death at the end of thirty hours, the post mortem proving death to have occurred from hemorrhage into the bowel.

The fourth occurred in the country; the operation was done under unfavorable conditions, as a forlorn hope, and the patient died of shock.

The experience of the writer proves that success is due to the early period in which the patient is seen after the receipt of the injury, and to the fact that the bullet fails to injure the extraperitoneal and other abdominal viscera. After the patient has stood the necessary work to repair the intestines, additional exploration adds so greatly to the shock and to the time of the operation that a fatal outcome is almost certain.

The possibility of forestalling sepsis from the absorption of fecal matter is just in proportion to the time elapsing between the injury and the operation.

This fact alone should admonish the surgeon to be always ready for such emergencies, that no time be lost. Another momentous factor in this connection is the necessity of the careful handling of the patient, that no unnecessary movement on his part shall increase fecal extravasation.

CASE IV.—*Strangulated Femoral Hernia; Resection of Gut at the End of Eleven Days; End-to-End Anastomosis by Wölfler's Method, Modified; Recovery.* On January 30, 1893, I was called by her physician to see K. G., aged thirty-three, a domestic, who gave the following history: Eleven days previously she was taken sick suddenly with vomiting followed by purging. The purging ceased early on the first day; the vomiting continued until she was seen by the writer.

It was evident that the extreme modesty of the patient had prevented the physician attending from discovering the cause of the trouble, which upon closer investigation proved to be a strangulated femoral hernia of the left side.

The patient gave evidence of extreme exhaustion, the pulse being 150, the temperature, according to the physician, subnormal. No history of the hernia antedating the present illness could be obtained, and the patient had never been seriously sick before, having suffered occasionally from "bilious attacks" of short duration.

Nitroglycerin, one one-hundredth of a grain, was administered hypodermically at once, and the patient removed in a rolling chair to the infirmary, only a short distance from her residence; and after slight preparation, at 11:30 p. m., the operation for relief of her condition was begun.

Upon exposure and shaving of the pudendum, the tumor was found to be of about the size of a hen's egg. The sac was exposed and opened, about half an ounce of a very dark colored fluid evacuated, and the blackened intestine lifted out of the sac. The sac was much thicker than is ordinarily found in a recent hernia, so it is probable that the hernia had existed without the patient's knowledge.

The very tight constriction was relieved, and after thorough irrigation with sterilized filtered water the intestine was carefully drawn out, when one large perforation discharging fecal matter was drawn into view, the intestine being sphacelous in the line of constriction, which included a large portion of the convexity, the mesenteric border not being involved.

This line of slough was fully four inches in length. Resection was immediately determined upon, and an end-to-end anastomosis decided to be the best suited to the condition. The assistants each making digital compression well on either side of the strangulated portion, nine inches were quickly removed with scissors, the incisions being extended between the vessels down into the mesentery, a silk ligature being applied and the whole removed. These incisions approached each other so nearly that the part controlled by the ligature was not more than an inch in width.

There was no hemorrhage and the suturing was rapidly done as follows: By a continued fine catgut suture the mesenteric borders were closely approximated; with the same-sized catgut, which was No. 0, an interrupted suture was passed from the

inside through the entire thickness of the intestinal wall, coming out at a corresponding point of the opposing gut to be approximated. The part of the intestine above the constriction being greatly dilated and that below being collapsed made the approximation more difficult, but the result obtained was good. The first stitch was taken through the mesenteric junctions. This method of suturing was continued on either side of this point just as far as could be accomplished from the inside; the remaining third of the circumference was carefully closed by interrupted Lembert sutures. To make the closure doubly sure, a continued Lembert suture was commenced on one side of the apex of the mesenteric angle, and continued from this point around the gut to a corresponding point on the other side. By this means there was no fresh surface left uncovered by peritonæum.

During the whole procedure the parts were frequently douched, and every care was taken to prevent infection of the cavity. With some little difficulty the sutured part was returned to the abdomen, the sac being removed high up, and deep approximation sutures applied to the canal. The wound was closed with silkworm gut, with a gauze drain in the lower angle.

The patient's condition at this time was better than when first seen, the pulse being 135 when the operation was commenced, falling to 120 before its completion. The operation was begun two hours after the patient was first seen, and there was certainly a very decided effect from the nitroglycerin, the operation occupying fifty-three minutes.

The fact that the patient had continued so long without nourishment rendered her chance of recovery much less, as an element of exhaustion had to be considered and combated. After rather a slow convalescence, however, she made a complete recovery, and is well to-day, never suffering with any sequelæ whatever.

In every case of emergency of this kind a rapid decision is necessary as to what is best, and this depends entirely upon the condition of the patient. To my mind only one of two procedures is legitimate: If the patient is *in extremis* and plainly unable to withstand a prolonged operation, the production of an artificial anus is the operation; but if, in the estimation of the operator, the condition justifies it, even to straining a point, the patient should have the benefit of the doubt, and a complete operation be performed, as in this case.

CAES V.—*Knife Wound of Intestine with Wound of Spleen; Operation; Recovery.* On the morning of Easter Sunday, 1901, I was called by Dr. Henderson to the St. Joseph Infirmary to see a young man who had been "cut up." A young man, twenty-six years of age, while down the line, had met some negroes, got into a fight, and been wounded. He had five wounds, I think, on his person—one across the left side of his face, one severing the outer border of his hand, another penetrating through the pectoral and latissimus dorsi region, another in the arm, and the last in his left side between the tenth and eleventh ribs. The man was very

much exsanguinated, in extreme shock, and there was a large mass of omentum protruding from this wound in the left side. He was anesthetized and this wound was enlarged to the extent of four or five inches along the line of the ribs, the omentum was cleansed and replaced, and then there occurred active hæmorrhage, the source of which could not be discovered. I first reached in and found the colon, but could not find that it was wounded at any point; I went a little farther and drew out the ileum and found that the knife blade had made a very extensive wound, practically severing it, and a wound of the mesentery from which hæmorrhage was occurring. This we repaired, doing practically a resection, but the blood still came; by this time the man was nearly moribund, and I was convinced that the hæmorrhage, which continued after suturing the intestine, came from the spleen. I then stuffed into this wound two yards of yard-wide gauze, packing it up toward the spleen, and put a large gauze drain in the direction of my intestinal work.

The man recovered promptly and made an uninterrupted recovery. At the end of forty-eight hours the immense piece of gauze was removed and the wound brought together and closed. There were no septic manifestations. I closed the resection with catgut interrupted Lembert, then a continuous Lembert to brace it, with No. 1 chromicized gut.

In conclusion, I will say: The best suture material for all intestinal work is catgut. The needle to be used in sewing the intestine is an ordinary round needle, a milliner's or hatter's needle to be preferred. The best stitch is the Lembert or some modification of this form of suture.

Success will be in proportion to the early time after the receipt of the injury in which we begin our effort at repair and the rapidity with which we do the work, with minimum amount of insult to cavity contents.

The catgut is absorbed and out of the way sufficiently early to prevent its acting as bridge-work for organized lymph, which tends to narrow the lumen of the canal. This unquestionably does occur when silk is used as proved to the writer on more occasions than one in his experimental work.

If a man has qualified himself to do rapid needle work by practising on dogs, he can do just as perfect and rapid anastomosis, end-to-end or otherwise, as can be done by any of the mechanical aids, without their uncertainty and danger.

Efficient drainage is a desideratum in all cases of intestinal injury where it is even suspected that faecal matter has soiled the cavity.

My advice to aspiring intestinal surgeons is to spend less time tinkering with the different mechanical contrivances, forceps, buttons, etc., and more time in practising on dogs to acquire the skill and dexterity necessary in the use of the needle and thread in intestinal work.

LATE MANIFESTATIONS OF HEREDITARY SYPHILIS IN THE NOSE AND THROAT, WITH REPORTS. OF CASES.

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Syphilitic lesions of the nose and throat are frequently seen in the acquired form of the disease, also as an early manifestation of the hereditary type; but as a late form of hereditary syphilis they are comparatively rare. They resemble the tertiary lesions of the acquired form, and, like them, present the greatest diversity in character.

The diagnosis of these late manifestations is fraught with many difficulties. The family history is often misleading. Seldom can we get a distinct history of syphilis from either parent. Fournier says that the diagnosis of hereditary syphilis must be based on ocular evidence. Beyond the family history of excessive infantile mortality, the information is usually negative. While this is largely true, much light can be thrown upon the obscure cases by a carefully obtained family history. The maternal history of one or more abortions, or stillborn children, is presumptive evidence of specific trouble. In many cases where the syphilitic infection of the child is evident the most carefully obtained history and examination fail to disclose any evidence of the disease on the part of the mother. This has led to much controversy as to whether syphilis can be transmitted to the child by the father without the mother having been infected. The fact that the mothers are immune to the disease would indicate that they are syphilitic, although ocular evidence of the disease may be wanting. Many of these women are perfectly ignorant of ever having had the disease. The local lesion may never have attracted attention, and the secondary symptoms have been so slight as to have passed unnoticed, or been forgotten after a lapse of years. It is believed by many that a woman may become diseased through the medium of an ovum which was infected with syphilis, at the time of conception, without having an initial lesion. This would explain the many cases of immunity observed in women in whom no history or trace of an initial lesion can be found. The paternal history is sometimes more definite, but even here it is often impossible to obtain any exact data, either from their lack of knowledge, or from a desire to hide early indiscretions. It is generally admitted that syphilis can be transmitted by the father, through the medium of the semen, without a previous infection of the mother.

Hereditary syphilis may be evident at birth, when it is usually spoken of as congenital, or it may develop at any time after birth. In the large majority of cases the first symptoms of the disease appear within a few weeks following birth. Out of 249 cases collected by Rogers from various sources, 217 showed syphilis within three months after birth, and in 32 the symptoms were delayed longer than three months. While the very large majority present symptoms within the first three months, there are a few cases where the manifestations appear at a much later period. This form is known as syphilis hereditaria tarda. There has been much discussion as to whether it is possible for hereditary syphilis to remain latent for a number of years after birth, and finally be manifested for the first time during childhood, puberty, or even adult life. There are cases where the first symptoms were noted late, and where the history and physical examination failed to show evidences of former disease. We know how easy it is for the parents to forget, or overlook, some slight manifestation during infancy. In the majority of the cases a careful search will reveal evidences of earlier lesions, but even if they are not found, one is hardly justified in saying that none have existed. The generally received opinion is that these late symptoms are not the first manifestations, but simply a recrudescence of the disease. One year is believed to be the outside limit within which the first symptoms can occur.

These late manifestations are prone to attack the upper respiratory tract, and may, and often do, produce lesions which, in extent and seriousness, are comparable to the severe forms of the tertiary stage of the acquired disease. Latent syphilis seems to need some physiological epoch to kindle into activity the virus which may have remained dormant for years; thus, we find that these lesions often develop at about the age of puberty. It is a curious fact that females are much more prone to these tardy manifestations than are males. John N. Mackenzie states that, out of 69 cases of pharyngeal ulceration, 41 occurred in females.

The palate is the most frequent site of these lesions, but the nose, nasopharynx, buccal, and lingual surfaces, or the larynx may be involved. The character of the lesions varies, but they conform closely to the tertiary forms. Ulceration, diffuse infiltration, and gummatous deposits are the ones most frequently met with, and later adhesions between opposing surfaces, cicatricial contractions, and marked deformities of the parts may be present.

The diagnosis of these late manifestations is usually not difficult if the possibility of syphilitic disease is constantly kept in mind. A carefully obtained family and personal history, a thorough examination, a systematic exclusion of other possible le-

sions, and the therapeutic test will usually enable one to make a correct diagnosis. It is very important that a prompt diagnosis be made, as in some of the cases the deep ulcerative lesions run a very rapid course, and, if not promptly checked, produce a disfiguring deformity that persists through life and may bring about, either directly or indirectly, a fatal issue. The following cases illustrate many of the diagnostic symptoms incident to the disease:

CASE I.—C. K., a girl, aged fifteen, came to the clinic at Harper Hospital on April 20, 1900. History: Her mother had aborted several times, but no history of syphilis could be obtained. The father denied syphilis or any of the secondary symptoms of the disease, but admitted having had another venereal disease while in the army. The patient had been well until eight years of age, when she had severe inflammation of the eyes. This was followed by suppurative otitis media in both ears and abscess on the right side of the neck, which was opened by an external incision. Her throat was also affected at about the same time. It was impossible to get exact data in regard to the onset of these various affections, but since she was eight years of age she had not been well. Examination: The nose revealed mucopurulent discharge; no marked hypertrophy or deformity detected. The throat showed that the left side of the soft palate and a greater portion of the right were adherent to the posterior wall of the pharynx, so that only a small bent probe could be introduced into the nasopharynx. The uvula was drawn from its normal position by the cicatricial contraction. Strong bands of connective tissue could be seen radiating from the adherent portion. Deafness was marked, and there was present a chronic purulent otitis media. The eyes revealed evidences of an old interstitial keratitis and iritis. The teeth were irregularly placed; the upper central incisors were short and notched, and the lower ones peg-shaped.

The diagnostic points in this case are the presumptive evidence of maternal syphilis and the positive evidence of the disease in the patient as revealed in the history and physical examination. The irregular and notched teeth, the interstitial keratitis, the adhesions in the pharynx, and the chronic otitis media are a group of lesions which cannot be due to any other disease. This patient came under observation too late in the course of the disease to prevent the deformity in the throat. One can hardly hope for improvement in the condition of the throat by surgical measures, as the adhesions are very extensive and the scar tissue is dense. The treatment of the aural condition is unsatisfactory, at the best, so long as the adhesions exist in the nasopharynx.

CASE II.—M. B., a girl, aged sixteen. Family history: Mother apparently healthy, with no history of syphilis; father not seen. Mother has had nine pregnancies: The first and second children were boys, who are alive and healthy; the third and fourth were premature, at eight months, bodies de-

cayed; the fifth was our patient; the sixth, seventh, and eighth are alive and healthy; the ninth died of pneumonia when nine months old. Personal history: General health has been fair. A year and a half ago she had pain in her legs for a number of weeks. Has had enlarged glands of the neck for years. About two months before coming to the clinic she noticed a peak-like swelling at the mucocutaneous junction on the left side of the septal cartilage of the nose, which she thought was a cold sore. This increased in size, spreading to the upper lip and into the nose, especially attacking the septum. There was no pain or constitutional symptoms. The examination of the nose revealed an extensive ulceration of the whole cartilaginous septum, including the columna, and of the upper lip. The ulcerated area was covered with thick crusts, and there was a foul, irritating discharge from the nose. The whole of the septal cartilage was nearly ready to slough out. The next time the patient was seen the entire cartilaginous septum, including the columna, was removed. The parts were kept clean and iodide of potassium was given internally. The condition improved and the ulceration ceased.

In this case we have presumptive evidence of the maternal syphilis at the time of the premature births of the decayed fetuses, and as our patient followed these, we should naturally expect specific symptoms to develop. The personal history of this patient is unsatisfactory. There is no positive evidence of syphilitic manifestations earlier in life, although the enlarged glands of the neck and the history of only fair health are suspicious. The ulceration of the nose bore the evidence of syphilis, and responded promptly to antisypilitic treatment. The possibility of its being an initial lesion was considered, but the absence of secondary symptoms and of the characteristic appearance of a chancre make this improbable. There is at present but little deformity resulting from this extensive destruction of tissue, although a little tendency to drooping of the tip of the nose exists. There is no sinking in of the nose, in spite of the fact that all the cartilaginous and a portion of the bony septum are gone. This illustrates a familiar fact in bridge-building, that an arch can be sustained without a median support so long as the material forming the arch is sound and the lateral supports are intact. Thus far, the necrosis has involved neither the nasal bones nor the lateral supports of the nose. As this patient cannot be made to understand the necessity of constant care of her nose, we may look for more destruction and deformity at some future time. Another factor to be considered is the effect of the contraction of the scar tissue. The soft parts have been partially replaced by connective tissue, which in its contraction will tend to produce deformities. This extensive production of scar tissue, with its resulting deformity, is very characteristic of syphilis. At present the patient has crusts forming constantly in her nose,

which are aggravated by her lack of care in cleansing the parts.

CASE III.—M. O., a girl, aged fourteen. Family history: No history of parental syphilis could be obtained. Mother always healthy; has had four children, three alive and well; one died, aged seven months, of pneumonia; no miscarriages. Father is in excellent health, and denies ever having had syphilis. Personal history: Patient when one year old fell and struck on her nose, but no permanent injury resulted. Her general health has always been good and nasal breathing free. Six months before coming under observation she commenced to have obstruction to breathing through the right side of her nose. No cause could be discovered, unless possibly it was as the result of boxing with her brother. The obstruction gradually increased, but was unaccompanied by pain or constitutional symptoms. She was brought for treatment because of the obstruction, commencing deformity of the nose, and enlargement of the lymphatic glands just below the angle of the jaw on the right side. Examination revealed a red, globular tumor, of about the size of a pea, attached to the right side of the septal cartilage well forward. Just behind the anterior growth could be seen another globular tumor filling the nasal passage. There was bulging of the nose exteriorly, corresponding to the right ethmoid cells. As the nasopharynx was filled with the growth, it was evident that the tumor filled the whole nasal passage. There was marked swelling of the glands of the right side of the neck. The tumor in the nose was fairly firm in consistence, not painful, and did not bleed readily when touched. The glandular mass in the neck was not accompanied by any pain or tenderness. No ulceration was observed in the nose, and there was only a moderate acrid discharge. The growth in the nasopharynx had an angry appearance and was covered with thick, tenacious mucus. The general health of the patient was but little impaired. Her symptoms could all be accounted for by the nasal obstruction and the pressure of the growth.

The diagnosis seemed to be either that of a sarcoma or of a gumma of the nose. The entire absence of any other evidence of syphilis, as ascertained by the history and examination, made this diagnosis doubtful. The facts that sarcoma is not unusual in the young and that the appearance of the growth was not unlike some of these tumors made that diagnosis quite probable. The appearance of the nasopharyngeal growth resembled that of a malignant tumor more than did the portion in the nose. On the other hand, the growth lacked some of the points commonly met with in malignant tumors. It did not bleed readily, there was no pain, and the size of the growth was out of all proportion to the slight impairment of general health. In spite of the lack of confirmatory evidence the diagnosis of syphilis was made. The patient was given ten grains of iodide of potassium three times daily and inunctions of a mercurial ointment. A slight improvement was noticed at the end of a

week. The growth gradually melted away, the enlarged glands disappeared, nasal respiration through the formerly obstructed nostril was established again, the bulge over the ethmoid cells vanished, and in less than four months every vestige of the growth had disappeared without leaving a trace of its existence. It is to be regretted that a microscopical examination of a portion of the growth was not made.

The three cases cited illustrate unusual forms of syphilitic disease. Puberty in each of the cases was the time at which the late lesion developed, and they all occurred in females. Thus they conformed to the general rule, both as to time of development and as to the sex of the individual. In the first case there was a distinct history of previous syphilitic disease, and evidences of the same were plainly visible in the eyes and teeth. In the second case there were no positive signs of previous disease, but the suspicious family history, coupled with a few symptoms of uncertain value, made the diagnosis probable. The last case is the most unusual in many ways. There was not the least suspicion, either in the family or personal history or in the physical examination, to make one think of previous syphilitic disease; yet any doubt as to the diagnosis which one might have had on first seeing the case was dispelled after the use of antisyphilitic treatment.

The principle underlying the treatment of these cases is the same as in syphilis in other parts of the body. The late manifestations serve to show the importance of the early and thorough treatment of all cases of hereditary syphilis. If this is done we shall seldom find the late lesions developing. Our treatment is grouped, naturally, under the following heads:

1. Attention to the general health.
2. Antisyphilitic treatment.
3. Local treatment.

The attention to the general health is very important, as most of these patients are below par and ought to have the best possible hygienic surroundings, together with such general medication as the individual symptoms require. For the specific trouble we have to rely largely upon iodide of potassium. It should be given freely, especially if the ulceration and necrosis of the tissues are extensive. In extensive necrosis every day counts, and we should not lose time in getting our patient under the influence of the drug.

In regard to the use of mercury in these cases, some difference of opinion exists. Many observers believe that the iodide is the only drug necessary, but many patients seem to do better if small doses of mercury in some form are added. Where we have a gummatous deposit, the writer believes that

mercury is indicated as well as the iodides. The use of the drug by inunctions, as in the third case reported, is a thorough and satisfactory method of administration.

One ought to have a clear idea of the limitations of antisyphilitic treatment. Under its use we regularly expect the ulceration and necrosis to cease and cicatrization to take place, but the tissue already lost will not be replaced, although Nature will attempt to close the space as well as possible. After the new connective tissue has formed we cannot expect any of it to be absorbed. The cicatricial tissue formed as the result of syphilitic disease is often very extensive, and its gradual contraction frequently causes marked deformities, which sometimes can be relieved by surgical procedures.

912 CHAMBER OF COMMERCE.

A CASE OF EPITHELIOMA OF THE AURICLE AND AURICLE CANAL.*

By THOMAS R. POOLEY, M. D.,
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Cases of epithelioma of the external ear are of such comparatively rare occurrence as to warrant the report of any case, especially when the results of treatment can be shown by the presentation of the patient. This alone is my excuse for presenting this patient to the society with a brief account of the case.

The patient, aged fifty-eight, came to my clinic in the New Amsterdam Eye and Ear Hospital on September 17, 1900, with the statement that he had first noticed a nodule on the auricle some five years before, which came in time to be an ulcer. From the commencement, although it had been treated with various salves, caustics, and pastes, and once by operation, it gradually increased in extent until he sought my advice.

Status Præsens.—Situated in the upper part of the helix, just about the region of the anthelix, was a growth, nodular in character, extending downward, from the lower part of which growth there was a whitish reticular tissue, somewhat similar to cicatricial tissue, involving respectively the concha, tragus, and antitragus, and extending into the auditory meatus. The dimensions of the growth were half an inch in length by three quarters of an inch in width.

The patient being etherized, a transverse incision was made along the upper margin of the growth, then two vertical ones on either side, and all the suspicious tissues carefully dissected out. At one place in the meatus, where the growth seemed to invade the deeper structures of the auditory canal, it was scraped out with a sharp spoon, as was also some of the cartilage of the concha. In this dissection a considerable amount of the cutis of the helix, the tragus, and the antitragus was excised.

* Read before the Eastern Section of the American Laryngological, Rhinological, and Otolological Society, March 1, 1901.

The upper part of the auricle was then drawn forward by a continuous suture, and the lower part by two interrupted sutures, thus decreasing considerably the size of the wound resulting from the gaping of the incisions.

The healing was soon accomplished, but there was considerable swelling, redness, and the formation of blisters over the area of operation and extending over the adjacent surfaces, which resembled very closely erysipelas, but, as there was no rise of temperature, I concluded it to be due to poisoning from iodoform gauze. This being replaced by simple sterile gauze, healing rapidly took place and the patient left the hospital in one week.

On October 24th the wound had entirely cicatrized and I saw nothing more of the patient until January 2, 1902, when he returned with a recurrence of the disease which is described in the hospital record as follows: "A nodule about the size of a pea, $\frac{1}{2}$ " in front of the tragus, a deep erosion at the posterior and outer part of the auditory canal, about $\frac{1}{2}$ " square and extending for some distance into the canal. Another deep ulcer $\frac{1}{4}$ " wide at the junction of the lobule with the cheek. An operation was done the same day with the patient under ether, which consisted first in circumscribing with a scalpel all of the diseased tissue in the auditory meatus, then by means of it and strong scissors removing it, after which by means of a sharp spoon all suspicious tissue was carefully scraped away until in some parts of the anterior wall of the canal the periosteum was removed down to the bone. The small growth in front of the tragus was then excised, as was also the deep ulcer in the cleft of the lobule. Finally, the wounds left by the excision of the growth in front of the tragus and in the lobule were drawn together by sutures, the meatus packed with sterilized cotton, the wound covered with iodoform gauze, and cotton, and a firm roller bandage applied."

On the day following the dressing was removed and no unfavorable symptoms were noticed. That night, however, the temperature rose to 100° , and the pulse to 100, and the next morning the right side of the face was swollen almost beyond recognition. The swelling included the whole auricle and involved a number of glands in the neck. There was intense redness, with numerous small blebs. All this was limited exactly to the median line. A diagnosis of facial erysipelas was made, a solution of acetate of lead and opium applied, and half a teaspoonful of tincture of chloride of iron given three times a day. Under this treatment the condition rapidly subsided; the temperature rose only to 101° and the pulse to 110, and by January 7th the swelling and redness were gone and the temperature and pulse were normal. During this entire phase of his condition the favorable granulating of the wound was never interfered with, and the patient was discharged January 9th, just one week after the operation.

Considering the rapid healing and the inconsiderable constitutional symptoms, I am led to believe that the reaction here, as after the first operation, was an acute dermatitis due to iodoform poisoning and not to facial erysipelas, especially as it occurred after both operations, and soon got well after the

iodoform gauze was left off. The further healing of the wound has been slow, by granulation, and there is now complete cicatrization except for one minute ulcer on the upper wall of the meatus. Whether this is a place which has not entirely closed, or is a return of the growth, I leave undetermined.

According to Politzer, the starting point of epithelial new formation is most frequently the auricle and the external meatus, less frequently the tympanic cavity and mastoid process.

On the auricle the epithelioma is usually developed in the cutis on the upper part of the helix, and spreads from there at first gradually and then very quickly over the greater part of the auricle, the cartilage of which is ulcerated in various parts and perforated.

If an epithelioma of the auricle is not excised in time, it spreads, involving the side of the head and neck and (as it did in my case) the auditory canal, then the middle ear and the rest of the bones of the head and cranial cavity. The destruction may reach such an extent that not only is the middle ear exposed, but also deeper parts of the skull, and a fatal termination ensues. Thus, in a case reported by Delstanche fils (*Archiv für Ohrenheilkunde*, xv) the growth proceeded from the inner surface of the right tragus and extended so far that the tympanic cavity and Eustachian tube, the posterior part of the frontal bone, the lining of the sphenoid bone, and the posterior wall of the orbit, were destroyed and exposed. Symptoms accompanying this destruction were facial paralysis, amaurosis, loss of taste and smell, and paralysis of the right palatine muscles. Death resulted from the extension of the cancer to the dura mater. In my judgment the proper and only treatment for epithelioma of the auricle, whenever this is possible, is excision of all the growth well into the healthy tissue. This may at times be impossible, however, and then we must resort to its destruction with lunar caustic, zinc paste, the application of fuming nitric acid, the electric cautery, and the like, or the use of the toxines and x rays. All such measures are, however, unsurgical and unreliable, and should be "cast as rubbish to the void" whenever the knife, scissors, sharp spoon, or other surgical methods are possible.

The Columbian University.—The following changes and additions have been made in the medical faculty of the Columbian University, Washington, D. C.: Dr. Walter Reed, U. S. A., has been elected to the chair of general pathology; Dr. Sterling Ruffin to the vacancy in the chair of practice of medicine; Dr. Thomas Claytor to the chair of materia medica and therapeutics; Dr. H. B. Deale, to be a professor of clinical medicine; Dr. H. W. Hawkes to be a professor of clinical medicine, and Dr. James Carroll to be associate professor of pathology and bacteriology.

Issues and Events of the Day.

REMINISCENCES OF THE "FRENCHY" MURDER TRIAL.

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[The recent pardon of "Frenchy" renders Professor Flint's reminiscences of the trial peculiarly timely.]

I was an expert witness in the so-called "Frenchy" murder trial in June and July, 1891. The prisoner was indicted under the name of George Frank. In the low resorts which he frequented he was known as "Frenchy." His real name was supposed to be Ameer Ben Ali. He assumed to understand no English and very little French, speaking Arabic only. A Mr. Sultan, of New York, acted as interpreter during the trial. Ben Ali was accused of the murder of a woman named Carrie Brown, known to her associates as "Shakespeare," a dissolute character of the lowest grade. She was found dead and slashed with a knife, in the morning, in a disreputable "hotel" in the lower part of the city. Ben Ali had been in the habit of going to this hotel. The woman went to a room in the hotel about midnight with a man who was not the prisoner. This man disappeared during the night and has never been discovered. Ben Ali was in a room in the hotel during the night, having come in about 1 a. m., and was seen to leave about 5 o'clock in the morning. He was arrested the following morning, April 24, 1891. The prisoner's room was opposite the room in which the murdered woman was found. I published a short account of this case in the *New York Medical Journal*, July 11, 1891.

In general terms, the theory of the prosecution was that the prisoner had taken room 33 for the purpose of entering other rooms during the night and gratifying his passions with women whom he might find alone; that he had entered room 31 at some time during the night and had found Carrie Brown after her male companion had left her; that for some reason he had become enraged at the woman, had taken her by the throat and strangled her; that the mutilations, etc., were evidences of a certain ferocity of temperament not to be wondered at in a person of his character and previous record; that after the murder he had returned to room 33 and had left the hotel early in the morning without attracting particular attention. The murder was discovered about 10 a. m.

The theory of the defense was that the woman was killed by her male companion, who disappeared

during the night; that it could not be shown that the stains on the prisoner's clothing were blood mixed with intestinal contents; that the blood on the prisoner's shirt was to be explained by something which occurred the night before.

Ben Ali was convicted of murder in the second degree and sentenced to imprisonment for life. He spent part of his time in prison and part in the asylum for insane criminals. Lately, while in prison, he was pardoned, and he has left the United States. While in confinement he learned some English. I cannot ascertain that he made any confession during his confinement, but have heard that he strenuously denied his guilt.

I took up the study of his case June 26, 1891, and became associated with Dr. Edson, then of the Health Department, and with Dr. Formad, of the University of Pennsylvania, who has since died. We examined specimens of matters taken from under the long finger nails of the prisoner four days after the murder, stains from the flaps of the prisoner's shirt, from the right sleeve of the shirt, from the back of the shirt, from the left sleeve of the shirt, from the wallpaper on the hall near the door of room 33, from the door itself, from the floor of room 33, from the prisoner's socks, from a chair in room 33, from the floor between room 31 and room 33, from the bedticking in room 33, from a knife found in room 33, from the bedticking under the murdered woman in room 31, from the stockings of the murdered woman, from a petticoat tied about the head of the murdered woman, and from the sheet on the bed in room 31. The prisoner occupied room 33 on the night of the murder. The murdered woman was found in room 31.

In all of these specimens mammalian blood was found, presumably human blood. On the prisoner's shirt, the ticking of the bed in room 33, the woman's stockings and petticoat, nothing but blood was found. In all the other specimens blood was found mixed with more or less unchanged coloring matter of bile, fat globules and crystals, tyrosine, cholesterolin, triple phosphates, columnar epithelium, eggs of round worms, starch granules, partially digested muscular tissue, and partially digested vegetable matters. The specimens containing these matters included those taken from under the finger nails of the prisoner.

Before I became associated in the case, the theory of the experts was that the intestinal matters found in the various specimens came from the large intestine. Indeed, the experts at that time understood that a piece of intestine cut out by the murderer was from the large intestine, containing fecal matter and residue of food, and not from the

small intestine, which should contain partially digested matters and unchanged coloring matter of bile. After examining these specimens, I insisted that the matters came from the small intestine; although I was assured most positively that the records of the post-mortem showed that the large intestine only had been cut. However, I sent for the actual report of the autopsy and found the record that a portion of the lower part of the small intestine had been cut out, the large intestine being uninjured. Before I had ascertained this I had given a positive opinion that the ileum had been cut. This opinion was exactly confirmed by the official record.

On the witness stand I testified substantially to the following facts and conclusions:

1. That the specimens examined by me contained tyrosine, bilirubin, columnar epithelium, partially digested muscular tissue and vegetable substances, microorganisms, etc.

2. That the tyrosine and bilirubin must have come from the small intestine, while the other matters might exist as well in the large intestine.

3. That the tyrosine was produced by the prolonged action of the intestinal digestive fluids upon the proteids of food, these matters being first converted into trypsin peptones and afterward into tyrosine, the change into tyrosine being aided by the action of intestinal microorganisms.

4. That the bilirubin, which strongly colored the epithelial cells and other matters, was characteristic of the contents of the small intestine.

5. That the appearances were practically the same in all the specimens.

My opinion that these matters were from the small intestine was based mainly on the presence of tyrosine and bilirubin.

I further testified that after matters passed from the small into the large intestine, tyrosine ($C_9H_{11}NO_3$) was changed into indol (C_8H_7N), and that bilirubin ($C_{18}H_{18}N_2O_3$) was changed into stercobilin ($C_{32}H_{40}N_4O_7$), or hydrobilirubin, and became brown instead of yellow, that the recognized matters peculiar to the fæces were indol, skatol (which has the peculiar fæcal odor), phenol and stercorin, which last substance I discovered in 1862. It was considered important to determine the exact source of the intestinal contents, because the defense assumed that fæcal matter might be found under the finger nails in persons of grossly unclean habits. The changes which result in the formation of tyrosine in the small intestine and its further change in the large intestine are recognized by all physiologists. Tyrosine is found in health in other parts, such as the substance of the spleen, pancreas, and liver; and in certain diseased conditions it may be found also in other situations. In perfectly normal digestion tyrosine is by no means constant in

the small intestine; but it is very seldom found in the fæces, and then only in some kinds of diarrhoea and in Asiatic cholera.

Bilirubin (the unchanged coloring matter of the bile) is always found in the small intestine, if bile is discharged into the upper part of the intestinal tract. It does not exist in the fæces; and stercobilin, which is brown in color and is produced by a change in bilirubin, will not respond to the tests for the unchanged coloring matter. There are exceptions, however, in certain pathological conditions, especially when the fæces are green or bright yellow. The appearance of partially digested meat and vegetable articles was consistent with testimony showing when and what the murdered woman had last eaten.

From a strictly logical and scientific point of view, the chain of evidence connecting matters found on and about the person and room of the murdered woman with matters found on and about the person and room of the prisoner (even to the scrapings of the finger nails), the doors of the rooms, and the passage on the floor between the rooms seems to be absolutely complete and unbroken.

On the Hæmostatic Action of the Intravenous Injections of Calcium Chloride.—Dr. T. Silvestri (*Gazzetta degli Ospedali e delle Cliniche*, April 13th) recommends the intravenous injection of calcium chloride in the treatment of internal hæmorrhages from various sources. The basis of his therapeutic experiments was the work of Sicard, who showed *in vitro* that calcium chloride had the property of increasing the coagulability of blood in cases in which this process was regarded as absent through a deficiency in fibrin-ferment. He employed these injections in four cases. In the first of these, a profuse menorrhagia ceased within three-quarters of an hour after the injection of 150 cubic centimetres of a sterilized solution of calcium chloride of one-per-cent. strength. A second injection of 100 c. c. was given, though the profuse flow did not recur. In the second case, a typhoid ulcer ceased to bleed within thirty-five minutes after the injection of 100 c.c. In the third case a very profuse pulmonary hæmorrhage in a case of tuberculosis ceased within an hour after the injection of 150 c.c. The author saw the fourth patient after he had suffered from nosebleed for twelve hours. The nose was tamponed, and 100 c.c. of the solution were injected. As the hæmorrhage did not cease, a second injection of 150 c. c. was given, effecting the cessation of the bleeding in forty minutes. The median basilic vein was used as the site of the injection and the usual technics was employed. The author believes that calcium chloride is superior to gelatin as an internal hæmostatic, and has the additional advantage of being free from the germs of tetanus, which have been recently found to give rise to lockjaw after the injection of the gelatin solution.

Our Subscribers' Discussions.

A SERIES OF MONTHLY PRIZE ESSAYS.

[Questions for discussion in this department are announced once a month. So far as they have been decided upon, the subsequent questions are as follows:

XV.—How do you treat rhus poisoning? (Answers due not later than August 11, 1902.)

XVI.—What is the best non-operative treatment of dysmenorrhœa? (Answers due not later than September 10, 1902.)

XVII.—How do you treat nocturnal incontinence of urine in children? (Answers due not later than October 10, 1902.)

XVIII.—How do you prevent mammary abscess? (Answers due not later than November 10, 1902.)

Whoever among our subscribers (with the limitations mentioned below) answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short, no one answer to contain more than six hundred words. We shall publish the substance of such of the answers as seem to us most likely to prove interesting to our readers, and we reserve the right to publish any of the answers in any department of the JOURNAL.

Only subscribers to the NEW YORK MEDICAL JOURNAL (including regular and volunteer officers of the medical corps of the United States Army, Navy, and Marine-Hospital Service, commissioned or under contract) will be entitled to compete, and all persons known to be engaged in medical journalism are disqualified. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish.

The prize of \$25 for the best essay submitted in June has been awarded to Dr. J. O. Cobb, of the Marine-Hospital Service, whose paper appears below.

PRIZE QUESTION NO. XIV.

THE TREATMENT OF CHRONIC ULCERS OF THE LEG.

By J. O. COBB, M. D.,

SURGEON, U. S. MARINE-HOSPITAL SERVICE.

For clinical purposes it is only necessary to make two classes of ulcers—those amenable to purely medicinal treatment and those which require surgical intervention, either with the knife or by means of some mechanical appliance. The first class must be further subdivided and a correct differential diagnosis made. For all practical classifications, these ulcers are the syphilitic, the inflamed traumatic, and the indolent.

The syphilitic ulcer will usually heal readily under antisyphilitic treatment unless there has been considerable destruction of skin at some previous time, with consequent thickening and induration of scar tissue. If such tissue breaks down the second time and ulcerates, it is a condition hard to combat. Such a patient must have the most careful treatment for the specific disease, and this treatment must be of the kind that will build him up and increase his blood count and hemoglobin percentage. These leg ulcers

must be kept quiet and the limb elevated. Frequent and prolonged bathing in hot water, together with massage and lanolin well rubbed into the thickened skin, will give the best results. As an application to the ulcer itself any of the mild ointments will be sufficient. Few of these cases require stimulation of the ulcer itself.

The most frequent variety of leg ulcer met with is the traumatic. Certain kinds of labor expose the workman to the accident of "barked shin," and these small wounds are neglected or the shin is again contused and sooner or later they become infected and irritated by friction of the clothing. The ordinary case of barked shin seldom falls under the eye of the physician until the leg is swollen and inflamed and the ulcer suppurating badly. In such a case the patient must be sent to bed and kept there for a considerable time. If the edges of the wound are sphacelous, the necrotic tissue must be trimmed away and the ulcer thoroughly but gently cleansed with hot saline solution. I put on a large gauze dressing which is to be changed three times a day, the dressing kept constantly wet with saline solution.

After the suppurative process is stopped and the granulations look healthy, the patient, if a laboring man, is sure to clamor for permission to return to work. It is a common practice to prescribe ointments for these patients and let them go to work. I have found that a large percentage of them hurt the leg over again or have such a slow recovery that the ulcer is turned into the indolent variety with induration of the margin or, if finally healed, it is with such a thin cicatrix that the least contusion breaks the delicate skin and causes another ulcer which is harder to heal than the original. Before letting a patient with such an ulcer return to work, I show him how to apply a large gauze dressing, which is wet twice a day with saline solution, this dressing being covered with protective, and a rubber bandage carefully applied over the whole dressing. I do not like to use the rubber bandage, but it is the only bandage that the patient himself can apply and hold the dressing in place. Over this and under the trousers I have him wear a shin guard similar to those used by football players. After an ulcer is cured, it is well to have the patient wear the shin guard for several months. Ointments of any kind do these patients more harm than good.

The indolent ulcer without complications, such as enlarged veins, eczema, and induration of the margins, can be most successfully treated by applications of stimulating ointments or solutions. It is common to find that such ulcers have been treated with solutions of bichloride of mercury or carbolic acid. These, however, if persisted in, will cause an edematous condition in the granulations, which become pale and flabby. The application of digestive ferments in

the presence of weak hydrochloric acid or filling the ulcer with protonuclein or spirit of camphor very quickly changes the indolent ulcer into the irritable one with its red and healthy-looking granulations. When such a condition is brought about, a weak saline solution will usually cause rapid healing.

Ulcers requiring surgical intervention are the indolent with callous or indurated margin, the tuberculous, and the varicose ulcers, including those with eczema as a complication.

The old callous, indolent ulcer is usually one of the first to fall to the lot of the young surgeon, and such a case would necessarily excite all his faculties to effect a cure, for the reason that the history of the case is that of a continual round from one surgeon's office to another. I do not believe in temporizing with these patients, for nearly invariably they have been through the strapping process, the discomfort of the elastic bandage and the elastic stocking, and they have been curetted and scraped and tortured and lost weeks upon weeks of time with the leg elevated, gradually but certainly growing worse. There is no use to temporize. Radical surgical intervention is demanded at once. Anæsthetize the patient or the limb, and shave and carefully scrub the leg. If skin grafting is to be done, also prepare the field for this on the anterior portion of the thigh of the same side. With a very sharp scalpel make an elliptical incision down to the fascia, commencing about two inches above the margin of the ulcer, leaving a strip about an eighth of an inch wide, which is the indurated or callous margin. By carefully dissecting the whole of this elliptical flap, which includes the entire ulcer, it can be lifted off the superficial fascia, leaving a perfectly healthy wound. From this point one of two procedures can be followed. If the ulcer has not been very large, the wound can be filled with grafts and dressed as will be described below, or if the ulcer is very large, the better plan is to dissect the skin from the fascia for two or three inches and cut longitudinal incisions through these flaps, making it possible to bring over healthy skin and unite it by sutures. By doing this the site of the ulcer will be covered with new healthy skin which can be held in place by a few ligatures. The longitudinal flap incisions are allowed to fill in by granulation. This gives a good and permanent result.

I use gauze dressing whether grafts are planted or whether the flaps are dissected up and carried over. After the grafts are planted and pressed carefully into place, I take one end of a single thickness of gauze which has been wet with saline solution and have an assistant take the other end, carefully keeping the gauze taut. With a little care this layer can be brought down on the grafts without shifting one of them. Let the ends drop and, as they are wet, they

adhere to the skin. It is necessary to adjust about twelve layers in this manner, and then a wide gauze bandage is applied over the whole. Several times a day the dressing is wet with saline solution, but it is not otherwise disturbed for ten days. This makes an absorptive dressing, allowing the wound to be kept moist, and does not drown out small grafts, as happens if the rubber protective is used, especially if there is any infection.

Tuberculous leg ulcers are not so infrequent as one would suppose, and they are often misinterpreted and treated improperly. Thorough curetting gives better results in this class of ulcer than in any other. But the operation must be very thorough and extend into every little sinus or burrow under the flabby, bluish margins of the ulcer. The after-treatment should be simply with applications of saline solution and absolute rest for the limb. Ointments must not be used at all. If the ulcer is of long standing and has been curetted before, it will save time to dissect out the ulcer and graft or bring over fresh flaps as previously described.

The ulcer with varix or eczema or both as complications is seldom permanently cured, except by radical surgical intervention, therefore strapping, curetting, or the use of the elastic bandage or elastic stocking is an unjustifiable waste of time.

With such ulcers I pick up the saphena, tie it off in Scarpa's triangle, and dissect it out bodily down below the knee, stopping while still in healthy tissue. All lateral branches are tied off and the simple skin wound is closed like any skin wound. The ulcer itself is dissected out and dealt with exactly as described above, the remaining wound being covered by grafts or flaps as the circumstances of the case may dictate.

I have given up the Schede girdle incision for the reason that the incision is made in unhealthy tissue and it is very hard to keep the wound from becoming infected. Formerly I did the Schede operation and picked up the saphena also and tied it off in two places, cutting the vein between the ligatures. This is unsatisfactory because it leaves a long trunk of vein which is liable to become infected or in any event is slow in disappearing because it is fed by so many lateral branches. Furthermore, the saphena sometimes divides low down in the thigh, one division entering at the triangle and the other about four inches lower. In such a case, if the Schede operation had been done and one of the divided veins should become infected, the infection could easily reach the circulation, causing an infective phlebitis or pneumonia or other septic complication. This is exactly what happened to me in a patient with an anomalous division of the saphena.

The inflamed ulcer must have rest and be treated as an infected wound.

The syphilitic ulcer seldom requires stimulation or the knife.

For the indolent ulcer, without induration or other complication, spirit of camphor will nearly invariably effect a cure.

Of all ulcers, the tuberculous nearly invariably require radical surgical intervention.

With varix, don't waste time, but dissect out the saphena the entire length of the thigh. This is far more satisfactory than the Schede girdle and a safer operation.

Whenever one is puzzled what to do with an ulcer, use a saline dressing, kept constantly wet. Avoid ointments wherever possible.

The question has only been dealt with from the standpoint of the skin lesion. The general health, the environment of the patient, together with the kind of labor he does, are questions that the physician must meet with each individual patient.

PORTLAND, OREGON.

THE NEED OF CONTINUOUS SUPPORT.

Dr. Hugh T. Nelson, of Charlottesville, Va., says:

The first question to be considered is that of whether or not the person is or is not syphilitic, for it is plain that the existence of such a taint must influence the treatment. It is true, however, that in all cases the same local treatment must in the main be insisted on, and syphilitics often recover of their lesions with no other treatment.

For the practical working of the subject, then, all chronic ulcers of the leg will be considered as if they were not modified by syphilitic infection; as it may be inferred from the statement made above that in such cases proper specific medication must always be judiciously employed prior to or coincident with local treatment.

As the great majority of persons suffering from chronic ulcer of leg are unable to take rest in bed, which, when practicable, is a *sine qua non*, the treatment followed at the out-patient clinic is the one given.

First, scrub the parts near the ulcerated surface with hot soap and water, and apply over the whole region a voluminous dressing of absorbent cotton soaked in a 1-to-1,000 hot solution of mercuric chloride, confining the dressing with a bandage snugly applied from the toe up to the knee, lessening the tension as the knee is approached. This dressing is allowed to remain in place for forty-eight hours, when it is removed, and a fresh dressing applied like the first, except that a thick coating of vaseline is applied to the area to be covered by the dressing up to about half an inch from the margins of the ulcer. This form of dressing is repeated, and frequently temporarily cures the ulcer; if not, after some ten

days of "bichloride poulticing"—using cocaine hypodermically—the ulcer is circumscribed with a scalpel about half an inch from its margin, the incision extending down to the investing fascia. The entire area within the incision is removed by scissors and a sharp spoon until nothing but the glistening fascia is presenting.

This surface is now dressed with a 1-to-4,000 "bichloride poultice," and snug bandaging maintained. Granulation tissue ordinarily is thrown out from the clean edges of the cut skin, and contraction of the dimensions of the area is usually quite rapid. A Martin's rubber bandage and daily change of dressing will hasten the cure very materially.

After the dimensions of the *pared surface* have begun to diminish under this treatment, and if there is a tendency to produce dermatitis around its edges by continued bandaging, the use of the following ointment—not original with the writer—applied on absorbent cotton held in place by zinc oxide adhesive plaster and changed twice daily, will in most cases expedite complete recovery:

- | | | |
|---|---------------------------------|-------------------|
| R | Carbolic acid (pure) | 20 minims; |
| | Fluid extract of ergot. | 1 fluid drachm; |
| | Oxide of zinc. | { each. 1 drachm; |
| | Starch. | |
| | Lanolin, enough to make. . . | 1 ounce. |

M.

Should this method of treatment fail to produce satisfactory results, a circumcision of the entire cutaneous tissues of the thigh and deligation of the cutaneous veins should be resorted to in addition to the local treatment of the ulcer already indicated.

After a cure is effected, the limb should be well supported by the patient's wearing continuously while he is on his feet a snugly fitting bandage, either elastic or not, some porous material to be preferred.

In conclusion, all predisposing causes must of course be removed, and exciting causes avoided as far as possible.

THE WOVEN ELASTIC BANDAGE AND THE RÖNTGEN RAYS.

Dr. Henry W. Cheney, of Chicago, says:

1. *Varicose Ulcers.*—Under this head we may also class those chronic fibrous ulcers due partly to varicose veins, partly to chronic eczema and irritation or infection. These ulcers usually come to us badly irritated and infected, discharging pus, etc. We must first endeavor to get them into a clean, healthy condition. If the ulcer is not too tender, and some are not, we may use a stiff hand brush and scrub the surface and surrounding parts with soap and water, rinse with plain water, and then scrub with bichloride solution, 1 to 2,000. This cleans and stimulates the

granulations and edges of the skin surface. Then apply a liberal gauze dressing wet with bichloride solution, 1 to 3,000. Cover the dressing with rubber protective and bandage the leg snugly from the toes to the knee. If the ulcer is very tender, omit scrubbing the ulcer, but do so to the surrounding skin and apply the wet dressing as before. Put the bandage on snugly to make slight compression and to support the superficial vessels.

The best kind of bandage to use is a *woven elastic bandage*, which may be obtained from the instrument makers for seventy-five cents or a dollar. Have the patient buy one three inches wide and five yards long when stretched. This will reach from the toes to the knee of the ordinary patient. The old-fashioned rubber bandage, made of smooth pure rubber, is an abomination and should be discarded. The *woven* bandage is porous and allows evaporation and ventilation of the skin to take place, which the old kind does not. The wet dressing should be changed twice a day if possible, once a day anyway, and should be continued three or four days, when the ulcer will be found much more healthy looking and very little pus formation present. Then an ointment should be applied daily after cleansing the ulcer with hydrogen peroxide and the leg bandaged as before. Almost any antiseptic and astringent ointment will do, such as zinc oxide ointment or one composed of five per cent. each of ichthyol and balsam of Peru in vaseline.

In the majority of cases this will stimulate the growth of epithelium from the edges and heal the ulcer in a few weeks. Certain cases will require curetting of the granulating surface and perhaps of the skin edges, especially when the edges are hard and unyielding and bound down by adhesions. Then they should be thoroughly loosened and pared off with the scissors. If the ulcer is large and not inclined to heal readily, skin grafting should be done by the Thiersch method of planting minute grafts in the granulating surface or by the method of applying large, thin skin shavings. A radical operation for the cure of the enlarged veins should be done if necessary, either dissecting out the diseased veins or making the circular incision around the leg high up or around the thigh.

If possible, in the beginning put the patient to bed and elevate the affected leg and foot. Determine the underlying cause of the varicose condition, whether cardiac, hepatic, renal, intestinal (constipation), or other, and treat the patient accordingly. Do not allow the patient to wear garters or employ constriction of any kind on the leg or thigh.

If it is impossible for the patient to go to bed, insist on the wearing of the *woven elastic bandage* constantly until the ulcer is healed. This bandage will be found more valuable than an elastic stocking

as a preventive measure or to support the superficial vessels after the healing of the ulcer. If the patient cannot afford to buy the bandage, one can be made from flannel which will be a good substitute and quite elastic. Have it made four inches wide and cut on the bias, that is, diagonally to the way the threads run, then when stretched it will be about three inches wide. The pieces of flannel should be sewed together to make a bandage about six yards' long. This sort of bandage will afford considerable compression and support.

Locally, the same treatment can be applied to syphilitic ulcers at first, only these ulcers are seldom painful and the scrubbing with the brush can almost always be done. After a few days of wet dressing, when the ulcer is clean, an ointment containing mercury in some form should be used; the ordinary mercurial ointment does very well. This should be applied daily on gauze. It does good locally and, by absorption, constitutionally. The elastic bandage and confinement in bed are not so necessary in all these cases, but may be so for some of them. In some cases, where a large surface is denuded or much tissue necrosed, skin grafting or a plastic operation may be necessary. Constitutionally, we should administer potassium iodide and push it to the limit of tolerance until the ulcer is healed, and then continue a small dose for a year or two to prevent further trouble. If you can impress on the patient that the medicine internally is of more value than the local dressing, you will often be surprised at the rapidity with which this class of ulcers heal.

The diagnosis of the epitheliomatous and of the tuberculous ulcer should be made by microscopic examination of a small section of the ulcer removed for that purpose. If it proves to be epithelioma, there are two methods of treatment. One is by excision, and this should be done thoroughly, extending well into the healthy skin on all sides and into the healthy connective tissue beneath the ulcer. If all of the growth is removed, we have left a simple ulcer which will heal spontaneously or, if large, will require skin grafting. The other method of cure is treatment by the x ray. The patient should be sent to an expert in the use of the x ray and have the rays applied directly to the ulcer two or three times a week. The number of cases of epithelioma cured by means of the x ray is rapidly increasing until we can now say that practically every case can be cured by such treatment. It should be used especially if the growth recurs after excision.

There are two methods of cure for tuberculous ulcers. One is a thorough curetting at first and then a daily dressing with iodoform powder and gauze. This treatment will often heal them in a few weeks. The other treatment is by the x ray, which will also

heal this kind of ulcer. It should be administered by an expert.

THE IMPORTANCE OF HYGIENIC TREATMENT.

Mr. Penrose Williams, M. R. C. S., England, L. R. C. P., London, of Bridgwater, England, says:

Chronic ulcers of the leg, in the majority of instances occur in women, no longer young, of the poorer classes, who have been accustomed to years of hard work, and brought up a considerable family, living in dirty and stuffy surroundings on more or less insufficient food. These conditions of life lead to dyspepsia, constipation, anæmia, etc., in fact, a general lowering of health which may be looked upon as the main predisposing cause of chronic ulcer of the leg, and this points to the fact that general treatment is as important as local varicose veins frequently coexist, but this does not, to my mind, justify the term "varicose ulcer," the veins themselves being in many cases secondary to the general debility.

General Treatment.—The ideal treatment is, of course, to get the patient into hospital, where errors of diet, ventilation, cleanliness, in fact, general hygiene are corrected at once, but when, as is generally the case, this is impossible, the following rules should be insisted on:

1. *Physical rest*, a fortnight or three weeks in bed, or at least several hours daily in the recumbent position and at all other times when sitting, the leg to be horizontally across another chair.

2. *Daily washing of the whole body* with soap and water. This may seem a superfluous direction to practitioners whose work lies wholly in pleasant places; but is a very necessary one to insist on with the poorer classes in England. The importance of a wholesome and physiologically active skin need not be emphasized.

Diet.—It is useless to give large directions as to diet without regard to the patients' means, but much may be done by careful inquiry as to what they eat and how they eat it, and faults corrected on general principles.

Fresh Air.—This is a matter that requires much insistence because the poor usually like to herd together in small, stuffy rooms, particularly at night, and have a terrible fear of an open window. Lastly, any anæmia, dyspepsia, or constipation should be treated medicinally.

Local Treatment.—The first indication is to get the ulcer clean. Usually when the patient is first seen, the ulcer is concealed by a caked mass composed of pus, slough, epithelium, and patent ointment; this should be carefully removed with a blunt

spoon, the ulcer being at the same time irrigated with a streamy boric lotion or one of carbolic acid, 1 to 60. The base will then probably be found covered with a more or less adherent slough; to remove this the ulcer may be dressed twice daily with a piece of lint cut to exact size, soaked in solution of chlorinated soda (B. P.). At each dressing the ulcer should be irrigated for twenty or thirty minutes with boiled water; as soon as the base is clean and showing healthy granulations, the chlorinated soda should be discontinued, and some simple ointment used, or none at all, but the irrigation continued, as apart from the mere mechanical working away of detritus, it appears to have a direct stimulating effect.

After-treatment.—When the ulcer is healed, an elastic stocking, not an elastic bandage, should be worn constantly by day for from six to twelve months whether varicose veins exist or not.

Recently I have been applying x rays, with excellent results. This treatment not only very quickly stimulates an ulcer to throw off its dead material and start healing, but has apparently two other marked effects, cessation of pain, sometimes from the first application, and cessation of the disgusting smell which so often accompanies these sores. Both these points, which occur also with x ray treatment of cancer, are not unimportant from the patient's point of view or that of the patient's friends either.

Therapeutical Notes.

The Treatment of Typhoid Fever. By N. E. Norway, M. R. C. S. (*British Medical Journal*, July 12th).—The author holds that, in typhoid fever, the patient wastes because the food assimilated does not equal the elimination of urea and carbon dioxide; the non-assimilation of food is in some way due to Eberth's bacillus; and the bacillus being safe from direct attack by drugs, there remains nothing but to strengthen the resisting powers of the patient. To this end he gives the following mixture:

R	Essence of pepsin.....	from $\frac{1}{2}$ to 1 drachm
	Dilute nitrohydrochloric acid.....	10 minims
	Glycerin.....	20 minims
	Water.....	to $\frac{1}{2}$ an ounce.

M.

This half ounce is put in half a tumbler of water and sipped or taken as desired to relieve thirst. At first such a dose is given every hour, adding ten minims of spirit of chloroform if the heart requires stimulation. As the temperature falls, which it usually begins to do on the second or third day, the frequency of the dose is lessened, but the mixture is kept up throughout the disease until the temperature reaches normal.

For Intestinal Self-intoxication.—Dr. Bernard Le Roy (*Therapeutic Gazette*, June) recommends that patients who suffer from intestinal self-intoxication, especially when accompanied by cyclic vomiting, should be supplied with the following medicine, being instructed to take one capsule at the very beginning of the attack:

R Powdered myrrh and aloes.....2 drachms
 Powdered guaiacum1½ drachm
 Powdered capsicum1 drachm
 M. Triturate in a porcelain mortar to an impalpable powder, and add:
 Oil of cinnamon.....25 drops
 M. Ft. capsulas 25.

Sig. A capsule every four hours until the bowels act freely.

Ambulatory Treatment of Ulcers of the Leg.—Dr. Gaudin (*Caducée*, May 3rd) describes the following method of treating varicose ulcers: The limb is first washed with soap and water, and then it is covered throughout its extent, with the exception of the ulcer, with a paste of traumatol, similar to that of Unna:

R Traumatol.....) of each 10 grammes (150 grains)
 Glycerin.....) of each 40 grammes (10 drachms)
 Distilled water..) M.

The paste is melted in a water-bath and a thick layer spread over the limb with a brush.

The ulcer is next dusted freely with powdered traumatol, which is a compound of iodine and cresylic acid.

It is then covered with gauze impregnated with the drug, and by a layer of absorbent cotton.

Before the paste smeared on the limb dries, a double starch bandage, moistened in hot water is applied at a point opposite the ulcer, and the two rolls are crossed on both sides of the ulcer, in such a way as to cause its edges to approach and diminish its extent. Then beginning from the toes the limb is bandaged evenly. This first dressing should remain for two or three days, according to the quantity of discharge. The subsequent dressings will serve for a longer period. The author has left them on for a fortnight. To remove the dressing the limb should be plunged into warm water. Under this treatment the pain is said to be promptly relieved, the foul odor to disappear, and a cure to be obtained in from three to four weeks without cessation of the patient's occupation.

For Gouty Eczema in Children.—Leullier, in a Paris thesis (*Journal médical de Bruxelles*, May 22d) points out that eczema is one of the most frequent manifestations of the gouty diathesis, and is seen in nurslings and childhood. The diagnosis depends on, (1) the stigmata of the arthritic diathesis, uricæmiæ (Comby) the urine being of great density and containing uric acid or urates in excess; (2) hereditary antecedents; (3) the symptomatology of this eczema which is usually dry, does not crust, is very irritating, evolved in progressive invasions, is rebellious to treatment, and alternates with other manifestations of arthritism.

The treatment must be prophylactic, general, and local: (1) *Prophylactic*. The child should be nursed at the breast with short and frequent applications, the nurse abstaining from alcohol, fermented drinks, spiced foods, and a too nitrogenous diet. Milk should be fresh.

(2) *General*. Overalimentation must be avoided. If the child is weaned, his diet must be but little nitrogenous. Meat, especially red meat, can only be sparingly allowed; wine, alcoholic drinks, coffee, tea, are forbidden; the stools must be regulated; green vegetables, cooked fruits, prunes, marmalades of apples and pears, and bananas must be insisted on. But little bread, especially graham bread, should be allowed.

Hydrotherapy (moistened clothes, cold ablutions) massage, friction with a hair glove, with alcohol are useful. Life in the open air and physical exercise are essential.

The alkalines (sodium and potassium bicarbonate, potassium acetate, calcined magnesia, lithium benzoate) must be given intermittently in moderate doses for from ten days to a month. Comby prescribes:

R Sodium bicarbonate) of each 0.20 gramme (3 grains)
 Calcined magnesia.)
 Powdered nuxvomica.....0.01 gramme (1/7 grain)
 M. For one powder.

"Depuratives" should be prescribed.

In children who are old enough, a mineral water treatment may be employed.

(3) *Local*. Ointments of zinc oxide with the addition of menthol or salicylic acid in small quantity. Vaseline, which is often badly borne may be replaced by benzoated lard.

R Benzoated lard.) ...of each 20 grammes (300 grains)
 Vaseline.....)
 Boric acid.....) ...of each 2 grammes (30 grains)
 Zinc oxide.....)
 M. For local application. Then powder with
 R Powdered talc.....)
 Powdered starch.) of each 20 grammes (300 grains)
 Lycopodium.....)
 Salicylic acid.....1 gramme (15 grains)
 M.

For Acute Amygdalitis.—Dr. George L. Richards (*International Journal of Surgery*, July) speaks highly of the following tablets for use in acute amygdalitis when the patient is seen early:

R Tincture of aconite.....1/5 minim
 Tincture of belladonna leaves..... 1/10 minim
 Tincture of bryony..... 1/10 minim
 Red iodide of mercury..... 1/100 grain
 M. ft. tabella.

One should be given every fifteen minutes for two hours, and then every half hour for two hours more. At the same time is given five grains of sodium salicylate once in two hours, for four doses, and every four hours thereafter as long as fever and general aching continue. In addition, he gives from six to eight grains of quinine in divided doses, and a little morphine if the pain seems to demand it.

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SIR FREDERICK TREVES ON MCBURNEY'S POINT.

Any deliberate utterance concerning disease of the vermiform appendix by a surgeon so favorably known as Sir Frederick Treves must command attention, more especially at the present time, when he has but recently operated successfully on the British King for perityphlitic abscess and when that occurrence has led to its being proclaimed to the world by some of our English contemporaries that Sir Frederick's experience in appendicular disease is probably greater than that of any other one man. Hence attention is likely to be fastened with uncommon keenness on his Cavendish Lecture on Some Phases of Inflammation of the Appendix, delivered on June 20th and published in the July number of the *West London Medical Journal*. This was abstracted at length from the *British Medical Journal* in our issue for July 12th, page 75.

One of the features of appendicular disease to which the distinguished author devotes particular attention is that of its supposed frequent expression by special tenderness at McBurney's point, on which some stress has been laid—more by others than by Dr. McBurney himself, we believe—as an aid in the early diagnosis. He quotes as follows from Dr. McBurney's articles in the *New York Medical Journal* for December 21, 1889, and in the *Annals of Surgery* for April, 1891: "I believe that in every case (of appendicitis) the seat of greatest pain, determined by the pressure of one finger, has been very exactly between an inch and a half and two inches from the anterior spinous process of the ilium, in a straight line drawn from that process to the umbilicus;" "the point corresponds very accurately in the living subject to the base of the appendix;" and "no other acute disease presents this feature."

Sir Frederick remarks that tenderness in the right iliac fossa is a very conspicuous symptom of appendicular inflammation of all grades, and adds that, as the point under discussion is about at the centre of the fossa, it may be the centre of the tender area. "Beyond this," he says, "I do not think the sign is of any clinical value." He has been at some pains to convince himself that the point in question does not correspond to the situation of the base of the appendix, founding this conclusion on an elaborate investigation undertaken at his instance by Dr. Arthur Keith, lecturer on anatomy at the London Hospital. In Sir Frederick Treves's summary of Dr. Keith's observations, McBurney's point is treated as practically the same as Monro's point, although the latter is stated to be situated on an average in the young male adult at a distance of about 2.6 inches from the iliac spine. Monro's point is thus defined: "The spinoumbilical line runs from the anterior superior iliac spine to the navel. The point at which it crosses the outer edge of the rectus is called 'Monro's point' (Merkel)."

Monro's point, according to Sir Frederick Treves, "has the advantage" over McBurney's of "a more precise localization," and the structure peculiar to the right side which comes more or less precisely beneath it is the ileocecal valve. The base, or opening, of the appendix, he adds, "lies on an average rather more than one inch below the opening of the ileum." Apparently the investigations on which these statements rest were made upon the cadaver, and, while we may admit that Monro's point "has the advantage" of "a more precise localization," viewed from the dissector's standpoint, it must be borne in mind that the topography of such movable structures as the intestines is apt to be much distorted by changes that take place after death, and dissections of the cadaver can hardly be accepted as offsetting the observations of so competent an anatomist as Dr. McBurney, made largely, we may assume, on the living subject.

Sir Frederick finds that, so far from tenderness at McBurney's point being peculiar to appendicular inflammation, it is "common in healthy persons, and in subjects of colitis involving the cæcum such tenderness may be quite acute." We can understand that typhlitis may often be accompanied by such tenderness, but we doubt if it is "common in healthy

persons," and we must certainly question the soundness of Sir Frederick's intimation that the fact that the eleventh dorsal nerve enters the sheath of the rectus beneath Monro's point accounts for the alleged tenderness in healthy persons, for the nerve is underlain by such yielding structures that pressure on it would have to be firm indeed to elicit the degree of sensitiveness that we expect to find in appendicular inflammation. On the whole, we do not think that the idea of the diagnostic value of tenderness at McBurney's point has been demolished.

THE MEDICAL FESTSCHRIFT.

The seventieth birthday of Professor Ernst von Leyden, of Berlin, which occurred on the 20th of April of the current year, called forth from a number of his friends and former pupils literary contributions bearing on various subjects in medicine which have now been published in two volumes entitled *Internationale Beiträge zur inneren Medizin*. While almost all the contributors are Germans, the word international is appropriate to the work, for there are in it several papers by French, Austrian, Hungarian, Russian, Swiss, Dutch, Italian, Finnish, Greek, English, and American writers. The languages employed, however, are only German, French, English, and Italian. The only American contributor is Dr. S. A. Knopf, of New York, whose paper is entitled *A Few Thoughts on the Medical and Social Aspect of Tuberculosis at the Beginning of the Twentieth Century*.

Medical *Festschriften* are getting to be more and more important in our literature, for they are something more than graceful tributes to the person whose attainment of a certain age or whose completion of a certain term of years employed in professional teaching they are designed to commemorate; the occasion is almost sure to call forth from some of the contributors material of exceptional value, as was exemplified in the recent Jacobi *Festschrift*. And the title itself, German as it is, seems to have no acceptable equivalent in English, as was pointed out in the preface to the Jacobi volume, and may, indeed, be regarded as fairly Anglicized, although it is still customary to inflect it after the German form.

The subjects, of course, can hardly be arranged in any natural sequence in a *Festschrift*, so that even

when, as in this instance, they all pertain to medicine as distinguished from surgery and obstetrics—the *innere Medizin* of the Germans—the collection can only be classed under the head of miscellany, having little more unity of design than volumes made by binding together pamphlets on diverse subjects. But the same thing is true of any medical journal, even if it is devoted to a specialty. The *Festschrift*, therefore, takes its place as a book of reference rather than as a work likely to meet with continuous reading; and this, too, is true of the journals. Since, however, both the *Festschriften* and the periodicals receive careful indexing in the *Index-Catalogue of the Library of the Surgeon-General's Office*, their contents are really accessible enough to anybody engaged in studying the literature of a particular subject. Let the *Festschriften* be multiplied.

THE ELECTRICAL CONDUCTIVITY OF THE URINE AS A DIAGNOSTIC AID.

To obtain from one kidney as much urine as is desirable for a satisfactory application of cryoscopy is not always practicable without consuming more time than the physician may have at his command or without unduly taxing the patient's endurance. But of such distinct value are cryoscopical examinations of the renal excretion that they would not lightly be abandoned in the absence of a trustworthy substitute. Such a substitute seems to have been discovered by Dr. F. Loewenhardt, of Breslau, who recently gave an account of his experiments with regard to the matter in the form of a paper read at the thirty-first meeting of the Deutsche Gesellschaft für Chirurgie, an abstract of which, prepared by the author, appears in the *Centralblatt für chirurgie* for June 28th.

Loewenhardt thinks that he has demonstrated the existence of such a constant relationship between the degree of electrical conductivity of the urine and its freezing point that observations as to the former may in case of need take the place of cryoscopy. He is careful to point out, however, that both tests should be employed as a rule, on the principle that any subject of research should be examined from as many points of view and with as many check observations as may be practicable. Such, he remarks, is the common procedure among

investigators whose work is wholly or chiefly experimental.

It is represented that the electrical examination is easy of execution, calls for the expense of but little time, requires but a very small amount of urine, and can be carried out with no more special appliances than those that are in common use in physical laboratories. The author demonstrated the procedure before the meeting. It must certainly be conceded that the art of diagnosis can only be strengthened by routine resort to a multiplicity of tests each of which serves as a check upon the others, and a distinct addition will have been made to our resources if Loewenhardt's conclusions meet with general confirmation.

NOXIOUS EMANATIONS IN STREET CARS.

Some of the cross-town surface cars in New York, it seems, are still propelled by electric generators situated within the cars themselves. These devices give off emanations that are decidedly irritant and may doubtless prove of serious detriment to the health of persons whose lungs are not entirely sound. We must therefore commend the efforts of the city board of health to put a stop to this state of things.

THE HEALTH OF DR. GEORGE H. SIMMONS, OF CHICAGO.

For some months it has been known among his friends in the profession that the editor of the *Journal of the American Medical Association* was not in vigorous health. We learn from the *Journal* for July 19th that on the 13th he underwent an operation for gallstones. We are glad to note the added statement that thus far he is making satisfactory progress toward recovery.

LIGAMENOUS INTERPOSITION IN THE TREATMENT OF ANKYLOSIS.

That which now and then happens accidentally to cause pseudarthrosis, namely, the insinuation of neighboring soft parts between the fragments of a broken bone, may be brought about purposely to prevent a recurrence of consolidation after resection of a joint for ankylosis. This idea occurred to Nélaton, and it has lately been carried out with success by Quénu (*Presse médicale*, June 28th). The elbow was the joint affected, and the patient was a young woman. The anterior ligament, freed from fibres of the brachialis anticus, was interposed between the bones after free resection.

AN APPARENTLY EXCEPTIONAL CASE OF "IMPERATIVE CONCEPTION."

In an exceedingly interesting article on Imperative Conceptions published in our issue for September 7, 1901, the author, Dr. Hugh T. Patrick, of Chicago, said: "Concerning possible dangers, it is to be said that patients who fear that they may jump from high places, commit suicide, or injure their friends never do so." Apparently an exception to this rule has lately occurred in the case of a young woman who committed suicide by jumping into the Niagara River, for it is reported that she had some time before been heard to remark that it was hard to resist the temptation of the rapids.

THE ANTIQUITY OF THE TRENDELENBURG POSTURE.

Is there anything really new? M. F. Jayle in the *Presse médicale* for June 25th, in an interesting article on *La Position déclive*, gives a picture reproducing a miniature from a MS. of the thirteenth century, which shows the use then made of the Trendelenburg posture in the operation for hernia. The posture is described in the works of numerous authors of the middle ages, Roger, of Salerno, Roland, of Parma, Brenner, Guy de Chanliac, Ambroise Paré, Pierre Franco, *et. al.* Roger, for instance, who supports all his precepts with the authority of Alucasis and the Arabian School, says: "In the first place let the patient be laid on a bench, with the head and shoulders lowered, so that all the intestine may fall back toward the chest. But the hips and thighs should be raised."

THE COMPANIONSHIP OF THE BATH.

A recent editorial article in the *New York Times* anent the conferring of this rank on Major Ronald Ross is so appreciative of his services in the fight against malaria that we hardly feel like demurring to any of the remarks made by the writer. We must, however, insist that Major Ross would be the last to profess to have discovered the relation of the mosquito to the propagation of malarial disease; also we must dissent from this comment of the *Times's*: "To equip a man like this with a title reminiscent of servile tasks once deemed honorable when performed for royalty is fortunately amusing as well as absurd. Otherwise it would be outrageous." We know not whether the ancient service consisted in scrubbing the royal person or in standing guard over him while he was divested of armor; in either case the service was considered honorable, and so is now the office. We believe that Major Ross receives as an honor what all previous nominees have looked upon as such.

News Items.

The Chicago, Eye, Ear, Nose and Throat College.—Dr. Edwin J. Gardiner has been elected to the chair of ophthalmology.

The Kentucky School of Medicine graduated forty-four students on July 10th, the graduating exercises being held in McAuley's theatre.

Change of Address.—Dr. Charles W. Banks and Dr. Winifred D. Banks from Port Jervis, N. Y., to 18 South Arlington Avenue, East Orange, N. J.; Dr. William F. Neumann, to No. 205 West One Hundred and Thirty-seventh Street, New York; Dr. Reginald H. Sayre, to No. 9 East Forty-fifth Street, New York.

A New Hospital for the Bronx.—The State Board of Charities has approved the certificate of incorporation of St. Joseph's Hospital for consumptives which is to be located in the Borough of the Bronx, New York City.

Dr. W. K. Jaques Appointed Bacteriologist of Chicago.—Dr. W. K. Jaques, who has been in the service of the Health Department of the city of Chicago for six years, has been appointed to the post of superintendent and bacteriologist of the Municipal Laboratory to fill the vacancy caused by the resignation of Dr. Adolph Gehrmann.

Trouble with the Milk Supply of St. Louis.—Dr. Starkloff, Health Commissioner of St. Louis, has requested the commission of supply to cancel the contract for furnishing milk to the City Hospital, the poor house and the quarantine ward of the old City Hall on the ground that the contractor had been furnishing milk of a poor quality.

The Loomis Sanitarium.—Dr. Herbert M. King, of Grand Rapids, Michigan, has been appointed physician in charge of the Loomis Sanitarium at Liberty, N. Y. Dr. King's name is well known throughout the west for his writings and researches in pulmonary tuberculosis. He will bring to his appointment the skill and experience of an expert.

A Twenty-nine Thousand Dollar Fee.—Judgment has been handed down in the Orphans' Court in Pittsburgh awarding to Dr. W. C. Brown of Philadelphia the sum of \$29,239.25 for professional services to the late Senator Chris. L. Magee. The doctor claimed \$350,000, of which \$200,000 was for profits in stock speculations which the senator had made for the doctor.

The Assistant Surgeon-General of the Navy.—Dr. J. F. Urie, who has been attending physician to the family of the president in Washington, has been assigned to duty as assistant to the Chief of the Naval Bureau of Medicine and Surgery. This assignment will not interfere with

Dr. Urie's professional detail at the White House. It is interesting to recall the fact that Dr. Urie's predecessor at the White House, Dr. Rixey, is now surgeon general of the navy.

Typhoid at Chickamauga.—The medical board, which was charged with an investigation of the report that typhoid fever prevailed among the troops now lying in the Chickamauga Park under canvas, has made a most careful examination and has reported that there is no foundation for the statement. The report says that the water in the park is pure and wholesome and the health conditions are perfectly normal, the few typhoid cases being purely sporadic.

Free Sterilized Milk in Germany.—The city authorities of Halle, Germany, have made an appropriation of 1,000 marks for a tentative experiment in furnishing sterilized milk in the tenement house section at very low rates. Where the mothers of children needing milk are wholly without means, the milk will be furnished free of charge. This step will be taken with the hope of reducing the very high rate of mortality among infants.

Dr. Thomas C. Duncan died at his home in Chicago on July 16th, after a brief illness. Dr. Duncan was born in Kinross, Scotland, in 1840. He came to the United States as a boy with his parents, enlisted as a private in the civil war and was mustered out as a major. He took up his residence in Chicago in 1866, where he continued to be actively engaged in the practice of medicine up to the date of his death. He was connected with the Dunham Medical College and was also a member of the medical staff of the same institution.

Trial for Witch-craft.—A trial in which a charge of witch-craft, or attempted witch-craft was involved came up recently in Carlisle, Pa. Two residents of Mount Holly Springs brought charges against another married couple to the effect that the accused had procured money from the plaintiff on the ground that they and all their belongings were bewitched and that the "spell" could only be relieved by paying money to the accused. This is probably the first trial in which witch-craft has been involved since colonial days.

Prevention of Tuberculosis.—At a recent meeting of the executive branch of the charity organization Committee for the Prevention of Tuberculosis, a resolution was passed urging the erection under the direction of the Board of Health of a sanatorium for incipient cases of tuberculosis outside the city limits. The project was discussed for providing separate classes for the treatment of consumptives in the various dispensaries. It is hoped that by keeping all the waiting patients together who are consumptive the danger of conveying the disease to other patients who are not suffering from the disease would be minimized. A sub-committee was appointed to interview the various dispensaries on this subject.

Dr. Otto Zinsmeister died at Troppau, Germany, on June 26th, from the effect of sepsis acquired while performing an operation for osteomyelitis. Dr. Zinsmeister had several times suffered from septic infection contracted while performing an operation, the last infection having occurred about two years ago when it became necessary to remove the axillary glands. Dr. Zinsmeister was born in Silesia, in 1860, was educated in the local schools, and took his degree in medicine in Vienna in 1884. He served as assistant in the clinic of Bamberger, Albert, Slazzer and Chrobak. In 1890 he became assistant surgeon at the Troppau hospital and later became chief surgeon there. He was a man of great energy, a profound student, and an excellent operator. He was equally successful as a surgeon, a gynecologist and an obstetrician.

An Association for the Prevention of Venereal Diseases is to be formed in Germany, a call having been issued to this end by a committee composed of Dr. Blaschko, of Berlin; Dr. Galewsky, of Dresden; Dr. Kirchner, of Berlin; Professor Lesser, of Berlin; Professor Niesser, of Breslau, and Professor Wolff, of Strasburg. In this call attention is directed to the fact that while an organized effort has been made to counteract the evils of tuberculosis and alcohol, no general movement has been started to combat the spread of venereal diseases. While it is impossible, of course, to solve the ethical and social questions involved in the subject in a manner which would ensure a radical and prompt cure for these diseases, still it is possible that steps may be taken which will enable the physicians to put some limit to their spread.

Acting Assistant Surgeons in the Navy.—Every vacancy in the medical department of the navy has been filled, but the supply of surgeons is still inadequate for the service. As a means of furnishing the required number of surgeons, the secretary of the navy has put into operation a law passed twenty-four years ago, which has been practically a dead letter for a long time. Under this law, acting assistant surgeons to the number of twenty-five may be appointed to serve temporarily, and three applicants for commissions who had passed the board of examiners but for whom there was no vacancy have been appointed acting assistant surgeons. The appointees will be regarded as being borne on an eligible list and will be commissioned in the regular service as soon as vacancies occur.

In Memory of Dr. George F. Carey.—At a recent meeting of the medical board of the New York County Hospital resolutions of regret were passed at the death of Dr. George F. Carey who has for nearly thirty years given his services as attending physician to the hospital in the most disinterested manner. The resolutions closed with the following words: "Active and energetic, he was successful as a physician and was a careful and pains-taking surgeon; a good teacher, of excellent attainments, and of courtly

manner. His daily life was that of a christian, and he died as he had lived, with an unflinching trust and hope of immortality; and this minute is placed on record, not because of duty and established custom, but because his gifts and qualities brought him the love and respect of those around him, and his death comes as a personal loss."

Colonel O'Reilly to Be Surgeon General.—The President has designated Col. R. M. O'Reilly to be surgeon general of the army to succeed Colonel Forwood who will retire on September 7th, after having served as surgeon general for only three months. Col. O'Reilly was appointed from Pennsylvania as a medical cadet in 1864. He is a graduate of the medical department of the University of Pennsylvania. He was made Assistant Surgeon in 1867, Assistant Surgeon with the rank of Captain, in 1870; Surgeon, with the rank of Major, in 1886, and Deputy Surgeon General, with the rank of Lieutenant Colonel, in 1900.

Investigating Cholera in the Philippines.—A medical commission has been appointed by the civil government of the Philippine Islands to carry on an exhaustive investigation into the character and causes of cholera. First Lieutenant Richard P. Strong, of the Medical Corps of the army, who was ordered to the Philippines some time ago to make an inquiry into the entire subject of tropical diseases, has been placed at the head of the commission. Several months ago Lieutenant Strong returned to the United States and made a collection of all the latest literature on the subject of cholera, which collection he carried with him to Manila recently. It is to be hoped that this commission will be able to shed some light upon the subject, which will enable us to more effectually guard against the introduction and spread of the disease.

Improving the Milk Supply in Brooklyn.—Last winter a movement was set on foot by the Kings County Medical Society to obtain at least a small supply of comparatively good milk which Brooklyn physicians could prescribe for their patients. Several joint meetings of members of the society and large milk dealers were held, and an agreement was reached by which the medical association was to conduct analytical examinations of the milk from certain dairies at regular and frequent intervals, and to furnish label certificates which were to be affixed to sealed bottles which contained milk in which the proportion of bacteria did not exceed thirty thousand to a cubic centimetre of milk. During May the number of these organisms found in some samples of milk was 7,000,000 to a cubic centimetre. In March there were 11,000,000 bacteria to the cubic centimetre, and 43,000,000 were found in a cubic centimetre of one sample of milk that was recently examined. This milk was not sour, and it was on sale in a grocer's store.

The Long Island State Hospital Crowded.—The overcrowded condition of the Long Island State Hospital at Kings Park necessitated the

transfer of 1,400 insane patients from that institution recently to the Manhattan State Hospital, at Central Islip. The patients, in charge of a corps of doctors and nurses, were taken from the institution to the Kings Park station, and then placed in special cars, which went to the Central Islip institution via Hicksville. The greater number of the transferred patients will be assigned to the new colony buildings in the Manhattan State Hospital. The requests for admission to the Long Island State Hospitals for the treatment of the insane, seem to increase daily, and it is thought that in time the Kings Park institution may have to be enlarged. At present there are over 2,000 patients in the Long Island State Hospital, and over 4,000 at the Central Islip Hospital. Demands for admittance to both of these institutions are being made daily, aside from the patients sent from other State institutions.

The Hospitals for Contagious Diseases.—The Board of Estimate having placed half a million dollars at the disposal of the Department of Health of New York City for making improvements in the facilities for taking care of patients suffering from contagious diseases, the department is now busily engaged in elaborating plans for the utilization of this appropriation. The sum of \$75,000 has been set aside for the repairs and extension of the Kingston Avenue Hospital in Brooklyn, and of the Riverside Hospital on North Brothers Island. The remaining sum of \$425,000 will be devoted to the construction of new hospitals in the Borough of the Bronx, the Borough of Queens and the Borough of Richmond, which are at present wholly unprovided for in this particular direction. In the Borough of Manhattan additional property is to be acquired adjacent to the hospital for contagious diseases at the foot of East Sixteenth Street where separate pavilions will be provided for the sufferers from different diseases. A hospital will also be provided in Harlem. All the new buildings will be fitted up with the most improved appliances for the treatment of contagious diseases and for the prevention of their spread.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending July 19, 1902:

DISEASES.	Week end'g July 12.		Week end'g July 19.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	64	13	74	18
Scarlet fever.....	173	10	134	23
Cerebro-spinal meningitis.....	0	0	0	0
Measles.....	230	8	201	8
Diphtheria and Croup.....	28	36	225	40
Small-pox.....	28	9	15	3
Tuberculosis.....	245	100	253	146

Marine-Hospital Service Public Health Reports:

The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending July 19, 1902:

Small-pox—United States.

California.....	San Francisco.....	June 20-July 6.....	5 cases.	
Florida.....	Live Oak.....	July 11.....	1 case.	
.....	Palmetto.....	July 11.....	1 case.	
Illinois.....	Belleville.....	June 5-12.....	1 case.	
.....	Chicago.....	July 5-12.....	5 cases.	
.....	Freeport.....	July 5-12.....	1 case.	
Indiana.....	Indianapolis.....	June 20-July 5.....	11 cases.	
Kansas.....	Wichita.....	July 5-12.....	1 case.	
Kentucky.....	Covington.....	July 5-12.....	6 cases.	
.....	Lexington.....	July 5-12.....	1 case.	
Massachusetts.....	Boston.....	July 5-12.....	7 cases.	1 death.
.....	Cambridge.....	July 5-12.....	13 cases.	2 deaths.
.....	Everett.....	June 28-July 12.....	6 cases.	1 death.
.....	Lowell.....	July 5-12.....	7 cases.	
.....	Melrose.....	July 5-12.....	1 case.	
.....	Newton.....	July 5-12.....	1 case.	
.....	Scrimville.....	July 5-12.....	3 cases.	
Michigan.....	Detroit.....	July 5-12.....	1 case.	
Missouri.....	St. Louis.....	July 6-12.....	16 cases.	
Montana.....	Butte.....	June 6-July 13.....	6 cases.	
Nebraska.....	Omaha.....	July 5-12.....	8 cases.	
N. Hampshire.....	Nashua.....	July 5-12.....	1 case.	
New Jersey.....	Hudson County.....			
.....	Jersey City in.....			
.....	.....	July 6-13.....	18 cases.	3 deaths.
.....	.....	July 5-12.....	10 cases.	1 death.
New York.....	New York.....	July 5-12.....	28 cases.	9 deaths.
Ohio.....	Cincinnati.....	July 4-11.....	5 cases.	
.....	Cleveland.....	July 5-12.....	38 cases.	4 deaths.
.....	Hamilton.....	July 5-12.....	1 case.	
.....	Toledo.....	June 20-July 12.....	3 cases.	
.....	Zanesville.....	June 1-30.....	1 case.	
Pennsylvania.....	Allentown.....	July 5-12.....	1 case.	
.....	Erie.....	July 5-12.....	1 case.	
.....	Philadelphia.....	July 5-12.....	18 cases.	3 deaths.
.....	Pittsburgh.....	July 5-12.....	32 cases.	1 death.
.....	Scranton.....	June 28-July 5.....	1 case.	
Rhode Island.....	Providence.....	July 5-12.....	1 case.	
Tennessee.....	Memphis.....	July 5-12.....	1 case.	
Utah.....	Ogden.....	June 1-30.....	9 cases.	
.....	Salt Lake City.....	July 5-12.....	3 cases.	
Virginia.....	Danville.....	July 7-14.....	3 cases.	
Washington.....	Tacoma.....	June 30-July 6.....	1 case.	
Wisconsin.....	Green Bay.....	June 6-13.....	1 case.	
.....	Milwaukee.....	July 5-12.....	3 cases.	

Small-pox—Foreign.

Argentina.....	Montevideo.....	June 4-11.....	40 cases.	3 deaths.
Austria.....	Prague.....	June 21-28.....	2 cases.	
Colombia.....	Cartagena.....	June 23-29.....	1 case.	
.....	Panama.....	June 30-July 7.....	6 cases.	
Egypt.....	Saïo.....	June 10-17.....	1 death.	
Great Britain.....	Birmingham.....	June 28-July 5.....	2 cases.	
.....	Liverpool.....	June 30-July 5.....	3 cases.	
.....	London.....	June 21-28.....	129 cases.	17 deaths.
.....	Sunderland.....	June 21-28.....	1 case.	
India.....	Bombay.....	June 10-17.....	9 deaths.	
.....	Calcutta.....	June 7-14.....	3 deaths.	
.....	Kanachi.....	June 1-14.....	1 death.	
Italy.....	Saïo.....	June 10-17.....	2 cases.	
.....	Saïo.....	June 10-17.....	5 cases.	
Mexico.....	City of Mex.....	June 20-July 6.....	1 case.	1 death.
Russia.....	Moscow.....	June 14-21.....	15 cases.	2 deaths.
.....	Odessa.....	June 21-28.....	3 cases.	
.....	Warsaw.....	June 14-21.....	3 cases.	3 deaths.

Yellow Fever.

Colombia.....	Panama.....	June 30-July 7.....	5 cases.	2 deaths.
Cuba.....	Gibara.....	July 16.....	1 case.	
Mexico.....	Vera Cruz.....	June 28-July 5.....	9 cases.	8 deaths.

Plague.

India.....	Bombay.....	June 10-17.....	55 deaths.	
.....	Calcutta.....	June 7-14.....	65 deaths.	
Russia.....	Odessa.....	July 10.....	Present.	

Cholera—Insular.

Philippine Islands.....	Manila.....	May 10-24.....	236 cases.	186 deaths.
.....	Provinces.....	May 10-24.....	804 cases.	549 deaths.

Cholera.

China.....	Kweilan.....	July 12.....	10,000 deaths.	
.....	Pinglo.....	July 12.....	3,000 deaths.	
.....	Shanghai.....	June 1-30.....	20 cases.	
.....	Tanku.....	June 7.....	Epidemic.	
India.....	Bombay.....	June 10-17.....	2 deaths.	
.....	Calcutta.....	June 7-14.....	32 deaths.	

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending July 19, 1902

BAKER, FRANK C., First Lieutenant and Assistant Surgeon, will report in person to the commanding general, Department of California, for duty.

BLOCK, WILLIAM H., Captain and Assistant Surgeon, will proceed to San Francisco for transportation to the Philippine Islands.

CONNOR, CLARENCE H., First Lieutenant and Assistant Surgeon, is assigned to duty at the United States General Hospital, Washington Barracks, D. C.

GRISSINGER, JAY W., First Lieutenant and Assistant Surgeon, will proceed from York, Pennsylvania, to Fort Totten, N. Y., for duty.

LAMBERT, SAMUEL E., First Lieutenant and Assistant Surgeon, will report to the commanding officer, Fort Morgan, Alabama, for duty.

MARROW, CHARLES E., First Lieutenant and Assistant Surgeon, is granted leave of absence for thirty days, with the privilege of applying for an extension of thirty days.

ROBERTS, WILLIAM, First Lieutenant and Assistant Surgeon, will proceed to Fort Brady, Michigan, for duty.

WOOD, MARSHALL W., Major and Surgeon, is directed to report in person to WILLIAM A. KOBBE, Brigadier General, president of the Army retiring board, to meet in St. Paul, for examination.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending July 19, 1902:

BELL, W. L., Assistant Surgeon. Detached from recruiting duty and ordered to the Naval Hospital, Mare Island, California.

COOK, F. C., Passed Assistant Surgeon. Detached from the Naval Hospital, Washington, and ordered to the Supply.

CURL, H. C., Passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, and ordered to Aspen, Colorado, for recruiting duty.

GATEWOOD, J. D., Surgeon. Detached from duty as assistant to the chief of the Bureau of Medicine and Surgery, and ordered to the *Lancaster*.

HOYT, R. E., Assistant Surgeon. Detached from the *Wabash*, and ordered to the Naval Hospital, Newport, R. I., for duty.

MUNSON, F. M., Assistant Surgeon. Detached from the Naval Hospital, Norfolk, Virginia, and ordered to duty with the torpedo boat flotilla.

THOMSON, E., Passed Assistant Surgeon. Detached from Naval Laboratory and ordered to the *Montgomery*.

URIE, J. F., Surgeon. Detached from the Naval Dispensary, Washington, and ordered to the Bureau of Medicine and Surgery for duty as assistant to the chief.

Births, Marriages, and Deaths.

Engaged.

FRANKEL—RUBIN.—In New York, July, 1902, Dr. Julius Frankel and Miss Cecilia Rubin.

Married.

BOISLINIÈRE—PORTIS.—In St. Louis, on Monday, July 14th, Dr. Louis C. Boislinière and Miss Nellie Portis.

DOOLITTLE—POSSON.—In Medina, N. Y., on Wednesday, July 9th, Dr. George Pierson Doolittle, of Albion, N. Y., and Miss Myra K. Posson.

ERNST—HOESCH.—In Watertown, Wisconsin, on Monday, July 14th, Dr. George Ernst, of Milwaukee, and Miss Lucy Agnes Hoesch.

HOSKINS—LOEFSTROEM.—In Sioux City, Iowa, on Thursday, July 10th, Dr. S. B. Hoskins and Miss Anna M. Loefstroem.

KENYON—LIGHTON.—In Syracuse, N. Y., on Saturday, July 12th, Dr. Raymond T. Kenyon and Miss Estella M. Lighton.

KLEIN—LAPIN.—In Baltimore, on Wednesday, July 16th, Dr. Herman Klein and Miss Lapin.

OSMUN—SCHOLL.—In New York, on Saturday, July 12th, Dr. L. Graves Osmun, of Glen Ridge, N. J., and Miss Harriett Scholl.

PERRY—LIPS.—In Baltimore, on Tuesday, July 15th, Dr. William Brenton Perry and Miss Clara Louise Lips.

PIGEON—BIRCKHEAD.—In Philadelphia, on Thursday, June 19th, Dr. Edmond O. Pigeon and Miss Mabel Birckhead.

RICE—TAYLOR.—In Brooklyn, on Wednesday, July 16th, Dr. A. W. Rice, of Bellevue Hospital, and Mrs. Florence Taylor.

RODMAN—WYMAN.—In Richmond, Virginia, on Saturday, July 12th, Dr. Harry Heth Rodman and Miss Edith Wyman.

SLAVIN—HOLLAND.—In Brooklyn, on Wednesday, July 16th, Dr. James S. Slavin and Miss Katharine G. Holland.

SMYTH—BRACKETT.—In Pocasset, Massachusetts, on Thursday, July 10th, Dr. Henry Field Smyth, of Germantown, Pennsylvania, and Miss Alice Emeline Brackett.

SNYDER—PARRISH.—In Wilkes-Barre, Pennsylvania, on Tuesday, July 22d, Dr. Arthur A. Snyder, of Washington, D. C., and Miss Katherine C. Parrish.

SULLIVAN—BISBEE.—In New York, on Wednesday, July 16th, Dr. Eugene Cornelius Sullivan, of Ann Arbor, Michigan, and Miss Ada Bisbee.

Died.

ARNOLD.—In Rushville, Indiana, on Thursday, July 10th, Dr. John Arnold, in the eighty-seventh year of his age.

BISHOP.—In St. Joseph, Missouri, on Friday, July 11th, Dr. Galen E. Bishop, in the seventy-eighth year of his age.

DWINELLE.—In Baltimore, on Friday, July 18th, Dr. James Elliott Dwinelle, in the seventy-second year of his age.

GORDON.—In New York, on Friday, July 18th, Dr. Jonathan Rhea Gordon, in the thirtieth year of his age.

HAZEN.—In Omaha, Nebraska, on Sunday, July 13th, Dr. Charles C. Hazen, in the forty-fourth year of his age.

HICKS.—In Cambridge, Massachusetts, on Sunday, July 13th, Dr. George L. Hicks.

HOLLAND.—In Atlanta, Georgia, on Sunday, July 13th, Dr. S. G. Holland, in the seventy-first year of his age.

JOHNSON.—In Pine Brook, N. J., on Wednesday, July 16th, Dr. William Johnson, in the seventy-fifth year of his age.

TUCKER.—In Salt Lake City, Utah, on Friday, July 11th, Dr. John H. Tucker, in the fifty-third year of his age.

VON URFF.—In Brooklyn, on Wednesday, July 16th, Dr. Charles A. Von Urff, in the thirty-fifth year of his age.

OBITUARY NOTES.

DR. EDWARD L. PARKER, of the Long Island State Hospital for the Insane, was found drowned in the surf off Sea Gate, which is the extreme eastern point of Coney Island, on July 16th. Dr. Parker had dined at the Brighton Beach Hotel and left by boat for the city the night previous. It is presumed that he fell off the boat, as his body was fully clothed when found. Dr. Parker was a graduate of the Medical School of the Syracuse University and had for the past year been a member of the staff of the State Hospital for the Insane.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Narcolepsia.—Dr. L. Loewenfeld (*Münchener medicinische Wochenschrift*, July 24th) says that this is undoubtedly a disease *sui generis*, when Gélinau's description is taken as the type. It is characterized by repeated and frequent attacks of somnolence and by a simultaneous motor inhibition. The two symptoms are not evolved from different pathological processes but, undoubtedly, from the same pathological lesion. As there is no gross lesion of the nervous system demonstrable, the disease is unquestionably to be classed among the neuroses.

Alimentary Glycosuria in Hepatic Disease.—Dr. J. Bruining (*Berliner klinische Wochenschrift*, June 23rd) found lævulose in ten out of twelve cases. Lævulosuria appeared in eleven patients with cirrhosis fed with lævulose. Dextrose was administered in fifteen cases, in thirteen of which the result was negative. In fifteen cases in which saccharose was given, thirteen showed dextrose in the urine. Lævulose, therefore, is a diagnostic aid in determining the presence of hepatic disease. The author thinks that the different conduct of the various sugars may even become of aid in making a diagnosis as to the kind of disease of the liver which exists.

The Work and the Diseases of Operatives in Sulphur Mines. By Dr. Salvatore Micella (*Gazzetta degli Ospedali e delle Cliniche*, April 13th).—The work of the sulphur miner is divided into work within and without the mine. In the mine, the air which he is obliged to breathe is deficient in oxygen and supercharged with carbonic acid gas, is saturated with a fine sulphur dust, devoid of light, very hot in some portions, and cold and damp in others. In addition, it contains traces of methane, and of sulphuretted hydrogen. It is easily seen that air of this kind is most injurious to the health of the miners. It interferes with oxidation and assimilation, and destroys the red cells of the blood. The consequences are anæmia, organic debility, precocious senility, in adults, and in children who are obliged to work in the mines, arrest of development, infantilism, masturbation, and grave defects of the constitution. The sulphur dust irritates the mucous membranes and produces chronic bronchitis, as well as a form of pneumoconiosis which has been termed thiopneumoconiosis. Near the sulphur-smelting furnaces, outside of the mines, the air contains sulphurous anhydride, the influence of which is felt for several miles around the furnace, the tender vegetation and the flowers and leaves of trees withering and dying within that radius, as the result of the abstraction of water from their tissues by the anhydride. The result is practically a devastation among the plants in the neighborhood, and it is in an air of this kind, where plants will not grow, that men must work. It is not astonishing to find that a great many miners are miserable specimens of humanity. In addition to all these noxious influences, ankylostomiasis is prevalent in these mines. The author recommends a series of stringent hygienic measures for the prevention of miner's

anæmia. He says that those affected with the disease should be removed from the mines; that the latrines should be provided with removable buckets, and the faeces accumulating therein should be removed and disinfected at intervals; drinking water should be kept in clean and appropriate containers. The miners should be ordered to eat outside of the mines, and to wash their faces and hands before each meal. Deformities of the spine, especially kyphosis, are very common among the miners on account of their position in the corridors of the mines. A minimum age-limit of fifteen years should be established, in order to prevent the development of these deformities.

Diplococcal Bronchitis.—Dr. P. Watson Williams (*British Medico-Chirurgical Journal*, June) gives brief notes of a group of cases in support of his contention that the *Diplococcus pneumonia* is the essential causal factor in many cases of acute bronchitis, and that diplococcal bronchitis tends to affect localized areas in one or more lobes of the lungs, and often runs a very benign course. It is probable that without due care and with exposure to cold such cases may develop ordinary acute lobar pneumonia.

On the Neurotic Origin of Angina pectoris following Syphilitic Aortitis. Dr. Ugo Benenati (*Riforma Medica*, May 3d, 5th, 6th, and 7th.) says that, while the vascular origin of angina pectoris cannot be denied, as Huchard observed a number of cases in which the vascular origin was apparent, there are certainly sets of cases that must be due to nervous lesions. The cases observed by Benenati lead him to conclude that the aortic plexus and the coronary nerves are the seats of lesions in certain groups of cases of angina pectoris of syphilitic origin. These lesions may be in the form of a neuritis, as described by the majority of authors on the subject, or they may consist of vascular changes in the vessels supplying the nerves of the plexus, and therefore be practically equivalent to lesions of the plexus itself. The lesions found in the vessels of the plexus consist of obliterating arteritis or parvicellular infiltration, or gummatous deposits. These lesions in the majority of cases are amenable to antisiphilitic treatment, and the success of the treatment is in inverse proportion to the age of the patient, so that an early diagnosis is imperative.

Serous Meningitis of Otitic Origin.—M. P. Lecène and M. H. Bourgeois (*Presse médicale*, June 21st) aver that the diagnosis of a serous meningitis cannot be made before operation. Lumbar puncture offers a means of diagnosis from a suppurative meningitis, the latter showing pus in the liquid and being accompanied by a higher elevation of temperature. A distinction from cerebral abscess is impossible, except when the illness is ushered in brusquely with alarming symptoms. Extra dural abscesses and simple suppurative mastoiditis may give rise to symptoms of cerebral irritation without any intracranial lesion. Between perititic œdema and serous meningitis there is practically no difference. In some cases, simply opening the dura mater is sufficient treatment, in other cases puncture of the lateral ventricle has been successfully practised.

Latent Hepatic Steatosis in Alcoholists.—M. A. Gilbert and M. P. Lereboullet (*Gazette hebdomadaire de médecine et de chirurgie*, June 22nd) say that this lesion is worthy of being considered an entity as an hepatic disease. It affects mainly young persons and increases, in them, the gravity of some diseases and especially of surgical operations and of injuries. As the vessels are healthy, they usually go through a pneumonia well, however. The steatosis helps to explain the variable evolution of intercurrent diseases in persons suffering from hepatic disease owing to the functional differences which they manifest. While the diagnosis of a latent steatosis cannot be made outright, it must be suspected in alcoholists whose pneumonias, operations, delirium tremens, and other acute disturbances, are marked by severe complications. The condition is often fatal when associated with acute disease, and the autopsy shows marked changes in the liver; but tuberculosis was never found.

Epidemiology of Small-Pox in the Nineteenth Century. By Dr. A. Newsholme (*British Medical Journal*, July 5th).—The author has carefully studied the different epidemics of small-pox occurring in the nineteenth century, and reaches the following conclusions: The chief governing factor is personal infection; the disease spreads from town to town, and from one country to another, not always affecting different countries in the same year, as it might be expected to do when similar climatic conditions occur in different countries, if climatic conditions had a predominant influence. There is, however, some further factor responsible for the causation of the greater epidemics and pandemics of small-pox, which, for lack of a better term, we must still designate by the old-fashioned name of "epidemic constitution." As the expression of a fact, without being committed to a theory, it may be admitted that there is a *constitutio epidemica variolosa*. By this is meant that at certain irregular intervals small-pox, as judged by its wider spread, is more infectious than it is in other years with equal opportunities for its dissemination. There is no regular periodicity for these greater epidemics; but there is a fairly regular periodicity for the minor epidemics, which has become disturbed and the intervals protracted in well-vaccinated communities. Whether small-pox belongs to the group of diseases including scarlet fever, diphtheria, and rheumatic fever, which are epidemic chiefly in years of deficient rain-fall, is doubtful.

Differential Diagnosis Between Variola and Varicella. By W. McC. Wanklyn, M. R. C. S. (*British Medical Journal*, July 5th).—The author's article is based upon the observation of 200 cases of varicella, which were at first taken to be small-pox, during the recent outbreak of small-pox in London. The history and age of the patient seldom furnish information of much value. While moderate pyrexia, nausea, *malaise*, and aching in head and limbs, occur in varicella, sacral pain, high temperature, and vomiting are uncommon. An important point is that in small-pox there is a general prostration with muscular flaccidity and tonelessness. The patient is prostrated like a man after severe muscular exertion. In a patient marked by abundant rash, whose expression is alert, attention

keen, and mentalisation acute, the diagnosis of small-pox is most unlikely.

After speaking of the well-known differences in localization between the rash of varicella and that of small-pox, the author goes on to say that it must not be thought that if vesicles occur on the palms or soles, varicella is thereby excluded. Such a distribution is met with, though it is not common. Distribution on the mucous membrane is of no importance; it occurs in both diseases.

The expressions "shotty" and "umbilicated" should be treated as most pernicious and discarded. In the diagnosis of small-pox there are no more fertile sources of error. The true distinction between individual lesions of variola and varicella lies in the depth of the skin at which the lesion is placed. As compared with variola, the varicella rash is superficial; this can be recognized by the fineness and thinness of the pellicle covering the vesicle, giving to it with its serous contents the familiar pearly translucency. The position of the vesicle in the skin allows it often to take on an irregularly oval outline, its long axis being parallel to the creases in the skin of the part. The lesions in varicella vary remarkably in size, as well as in shape and stage of development. In a late stage of either disorder diagnosis rests almost entirely upon the distribution of the scars and such scabs as remain. The diagnosis of small-pox is clinched if the evenly circular disc-like scabs are found, and the brown inspissated remains of pustules in the thick skin of the hands and feet.

Primary Sarcomata of the Liver. Dr. R. Simonini (*Riforma Medica*, May 10th, 12th) says that primary sarcomata of the liver are rare, and in the whole literature only fifty cases have been reported, of which sixteen were in children. He reports a case of this kind occurring in a child aged three years. The child had been suffering for a long time from gastro-intestinal disturbances and had been losing flesh. He complained of pain located vaguely in the abdomen. His fæces were foul-smelling and of a greenish hue, and his abdomen was enlarged, particularly at its upper half. On palpation the abdomen was somewhat tender, and a tumor, which was somewhat harder than the liver, was found occupying the whole right upper portion of the abdomen. The urine showed the presence of sugar, urobilin, and indican. The child gradually lost flesh and strength and the tumor slowly continued to increase in size. The surface of the tumor became studded with nodules, ascites and œdema of the extremities appeared, and the child died of exhaustion. At the autopsy the tumor proved to be a primary sarcoma of the liver. These tumors may be mistaken for amyloid liver, syphilitic liver, echinococcus cysts, hepatoptosis, and cancer of the liver.

SURGERY AND ANATOMY.

A Case of Fibroma of the Palate Associated with Nasal Polyps, Operated upon by the Nasal Route. By Dr. Ugo Martini (*Gazzetta degli Ospedali e delle Cliniche*, April 13th).—In reporting this rare form of nasopalatal growth, the author calls attention to the necessity of careful examinations of nose and throat in routine practice, for in this

case the patient complained of symptoms that, especially in women, may be attributed to nervous causes, reflex or hysterical in origin, namely, a sense of occlusion in the nose, and of a foreign body in the pharynx. It was impossible to remove the tumor by the mouth on account of reflexes, which persisted in spite of thorough cocaineization. Therefore, the author attacked the growth in the ordinary way of treating nasal polyps, by means of a cold snare through the nose. A long loop was passed into the nose, and the growth successfully removed by means of it, from the soft palate. The growth became suddenly detached and dropped into the larynx, producing an attack of dyspnoea, which was quickly relieved by an access of vomiting that supervened. The occurrence of this accident is recorded as a warning to surgeons who attempt this procedure in future.

Reduction of Luxation of the Astagalus by Es-march's Bandage.—M. Paul Boudin (*Lyon médical*, June 29th) records a case in which, after adduction and rotation of the foot, he applied, without anæsthesia, an Esmarch bandage in a figure of eight. The reduction of the luxation was very easy. In a week's time, after a few massage sessions, the patient was able to walk without the slightest difficulty or discomfort.

On Suprapubic Lithotomy in Childhood. By Dr. P. Tichoff. (*Roussky Vrach*, June 1st).—The author reports twelve cases of suprapubic lithotomy in children, and concludes as follows: (1) The method of Rasumovsky, suturing the incision after the operation without deep sutures, is to be regarded as applicable in childhood. (2) The advantages of this method are the possibility of obtaining a rapid closure of the wound without risking the recurrence of stone through the presence of suture material within the cavity of the bladder, and in a rapid and uneventful healing of the bladder wound within seven or eight days. The postoperative period in these patients passes without any leakage of urine through the wound, and, even in case the suture is not successful, the openings are very small, and not so dangerous as the gaping apertures that are seen with the ordinary methods of suture. Finally, the advantage of being able to convert the closed wound into an open incision for drainage at any time without any trouble is not to be underestimated. Rasumovsky's method is easy from the technical side, does not require any special instruments, and in this respect is superior to lithotripsy and litholapaxy. The only contraindication for its use in children is a very poor constitution.

An Inquiry into the Contagiousness of Cancer.—Professor L. M. Bossi (*Gazzetta degli Ospedali e delle Cliniche*, April 13th) believes that gynaecology is the best field for the study of the contagiousness of cancer. Cancer of the cervix may be present for considerable length of time before it is discovered, so that sexual intercourse may be indulged in during that time. The lesions in these cases are generally superficial, so that they come directly into contact with the prepuce and glans. In this manner direct infection would be favored. In addition, the favorable factors for infection would be the accompanying traumatism, which in these

cases results sometimes in hæmorrhage and pain after every intercourse; the hyperæmia of the genital organs of both sexes, which is induced by the act; and the peculiar susceptibility of the prepuce and glands to cancer. The author collected 180 cases of cancer of the cervix in which there was a record of cohabitation after the development of the growth. In no case did careful inquiry show the development of cancer of the penis in the husband of these patients. This result does not coincide with those obtained by some other authors. Thus, Behla reported seventeen cases of cancer *à deux*, that is, occurring in married couples in various parts of the body. Boas in 200 cases found 20 in married couples; and Guelliot reported 23 cases of this kind. An inquiry instituted among gynaecologists in Italy, Germany, and France, showed that while the question of contagiousness of cancer was still unsolved, recent reports seemed to confirm the possibility of transmission by contact. Those who replied to the author's inquiry had never seen a case in which marital contact had transmitted the disease.

GENITO-URINARY DISEASES.

On the Diagnosis and Treatment of Chronic Inflammation of the Prostate Gland.—Dr. C. Posner, of Berlin, (*Roussky Vrach*, June 1st), outlines the treatment of chronic prostatitis as follows: It is only within recent years that chronic prostatitis has attracted the attention which it deserves. The frequency of this affection is a matter of dispute, and the differences of opinion are based on the fact that some authors demand the presence of swelling and hardening of the gland for a diagnosis of chronic prostatitis. The author found that in three quarters of all cases of chronic gonorrhœa a chronic prostatitis could be found, and in many other cases the presence of this affection though not discovered, was suspected. The diagnosis is based upon the presence of tenderness, and perhaps slight enlargement of the gland and later of regions of hardness on palpation. In the first stage of the affection, however, the structure of the gland itself is not affected, there being merely a catarrhal inflammation of the ducts of the prostate which originates from the gonococcus in the posterior urethra. The secretion of the prostate can be expressed by the rectal method, and examined. The patient should be first directed to pass his water, so as to wash out any urethral discharge that may have been present. If after this the finger expresses a drop or two of discharge, it must come from the prostatic ducts, and must be due to prostatitis. The patient may be directed to pass his urine once more after the expression, and the sediment may be centrifugated and examined for prostatic elements, or, if the last portion is clear, it must be prostatic secretion without any further examination. The microscope shows in such cases epithelial, amyloid bodies, and pus cells. When there are many amyloid bodies surrounded by pus cells, the deeper structures of the prostate must be involved. The latter stage of the disease is called the parenchymatous. In this stage the disease penetrates from the ducts into the parenchyma of the organ, where it produces hardening, or in some cases softening and suppuration. The treatment of these cases consists in the first place of attention to the urethritis. Massage of the prostate in

the catarrhal stage should be gentle and only serves to promote stimulation of the muscles of the prostatic gland and ducts which expel the secretion and help the healing of the process, and massage also directly serves to discharge the contents of the ducts to the posterior urethra. The application of cold by means of Auzperger's apparatus is also to be recommended, but too low temperature and too long sitting should be avoided. Faradization, and careful dilation with Bénéiqué's sounds can also be tried. In the parenchymatous stage the massage should be much more vigorous, so as to help the absorption of the inflammatory deposits, the use of cold may be continued, or the psychrophore may be used. The bowels should be kept open by means of laxatives or enemata. The discharge of semen mixed with prostatic secretion infected with gonococci is the cause of infection of women who marry men years after the husbands have had urethritis. In cases complicated with neurasthenia the proper treatment of this condition should, of course, also be instituted.

Marriage and Venereal Disease.—Dr. E. Lesser (*Berliner klinische Wochenschrift*, June 9th,) says that, as regards gonorrhoea, those cases offer the greatest obstacles to marriage in which, despite all treatment, no curative result seems possible of attainment. He permits marriage, however, if the "threads" contain few leucocytes, if the last infection dates several years back, and if, for many years, the patients have been free from subjective symptoms. But if the threads are of a purulent character, even though gonococci are absent, the physician should not give his consent to marriage. As to syphilis, the author believes five years should have elapsed since the original infection before marriage is allowed, and treatment should have been vigorous.

Gonorrhoeal Disturbances of the Bladder.—Dr. R. Kutner (*Berliner klinische Wochenschrift*, May 19th) says that the three-glass test is important diagnostically as is bacteriuria. Expectant treatment is advised, and instrumentation is especially warned against. Salol and the balsams may be given internally. After two weeks, injections of weak silver solutions may be given.

OPHTHALMOLOGY.

Ligation of the Canaliculi in Acute Suppurative Keratitis.—Dr. Frank Buller (*Montreal Medical Journal*, March) says that the presence of a dacryocystitis is a positive contra-indication to any operative procedure involving an opening into the eyeball. About a year ago he operated on a patient for cataract in whom, although no pus or mucus could be demonstrated in the tear-sac, the puncta lacrymalia had a somewhat unhealthy appearance. In spite of the usual antiseptic precautions, suppuration of the wound promptly set in, and the eye perished utterly. Assuming that the tear passages probably furnished the septic infection, it occurred to him that this might be prevented by ligating the canaliculi before removing the cataract. This was accordingly done by passing a ligature around each canaliculus, about two millimetres to the inner side of each punctum, the threads being drawn tightly enough to occlude the canals without cutting through them. In this eye the cataract operation was perfectly satisfactory. En-

couraged by this result, he determined to try the same means of shutting off the tear-sac from the conjunctiva in the first case of suppurative keratitis that he saw in connection with disease of the tear-sac. A patient came to him subsequently with the right cornea apparently ulcerated extensively, and for about three-quarters of its extent transformed into a yellowish pulpy mass. Only a small extent of the cornea to its upper and inner side was sufficiently clear to afford a view of the iris, which was here close up to the cornea. Pressure over the tear-sac caused a free regurgitation of mucus from the sac. The corneal trouble had commenced suddenly whilst driving on a windy day about two weeks previously. A more hopeless looking eye could hardly be imagined, and there was certainly nothing to be lost by heroic treatment.

He began by washing out the tear-sac through the canaliculi with a one-in-three-thousand perchloride solution. He then ligated the canaliculi, thoroughly cleansed the conjunctiva, and having instilled a ten-per-cent. solution of cocaine, touched the diseased cornea with formalin, one-in-sixty, then filled the conjunctival sac with ten-per-cent. airoil ointment and applied a compress bandage. The subsequent local treatment consisted in hot boric acid fomentations and the free use of airoil ointment. The formalin caused some reaction for a couple of days, then a steady improvement ensued and has resulted in quite a presentable-looking eye. There is, of course, a large adherent leucoma, but more than half the cornea is sufficiently transparent to show the iris behind a shallow anterior chamber, and there is a prospect of ultimately obtaining useful vision. It is quite certain that the effect of the treatment was an immediate and complete arrest of the corneal suppuration, and a large area that had been completely opaque has regained transparency. The result is infinitely more satisfactory than the author hoped.

He has found no difficulty in reopening the canaliculi after they have been ligated for two weeks, nor does their temporary closure lead to disturbance from increased accumulation in the tear-sac.

Notes on Operations Performed on Adults for Congenital Blindness. Dr. M. M. Koenigsberg (*Scottish Medical and Surgical Journal*, June,) records three cases of congenital blindness in the adult caused by changes in the crystalline lens. All three patients, aged respectively twenty-eight, eighteen and sixteen years, were operated upon successfully. The author's observations seem to indicate that in our first application of the sense of sight we also make use of touch on a large scale to ascertain the general appearance and detailed outline of objects, etc., and it is only after that, that we arrive at a correct understanding of these objects, and remember them later on. In the very first use we make of the organs of sight we at once see objects as they are, and not reversed, in spite of their being so reflected on the retina. Upon entering the dimly-lighted ward in which one patient, named Barsukof, was learning to put his newly acquired sense to use, the author found him gone, and, while rebuking the attendant for having allowed a patient suffering from photophobia to leave the premises, was astonished to see Barsukof slowly creep out of the grate. On asking him what made him climb up the chimney, he said apologetically that he had noticed the fireplace that

day; that he was unable to make out by external manipulation what it was, and that he had therefore undertaken an excursion into the interior, so as to be able there, at any rate, by a more extended application of the sense of touch, to decide what it was.

HYGIENE AND SANITARY SCIENCE.

Sore Throats, Scarlet Fever, and the Milk Supply.—Dr. ARTHUR NEWSHOLME, medical officer of health for Brighton, England (*Journal of Hygiene*, April), in a paper on An Outbreak of Sore Throats and of Scarlet Fever Caused by Infected Milk, arrives at the following conclusions: 1. Scarlet fever may be caused by infected milk containing the contagium in such an attenuated form or minute quantity that no symptoms manifest themselves except an anomalous sore throat with fever. 2. Scarlet fever may assume this type in a large number of children who have not been partially protected by a previous attack of scarlet fever. 3. If such anomalous cases occur among milkmen or their families the milk may be infected at intervals for a much longer time than has been recognized in previously described milk-outbreaks of scarlet fever and scarlatinal sore throat. 4. The fact that only a few cases of scarlet fever are traceable to a given milk supply does not necessarily show that this milk is not infective. The fewness of the cases in this outbreak, and their sporadic character, is analogous to the suspected connection between sporadic cases of enteric fever in the metropolis and the presence of excessive amount of organic matter in the metropolitan river water-supply (Corfield) or the occurrence of floods a fortnight before the onset of the cases in question (Shirley Murphy). In each instance the dose of the contagium is small, and the detection of causative connection between the infecting material and the cases of disease is difficult. The demonstration of the connection is impossible. 5. The occurrence of anomalous attacks of sore throat, as in this outbreak, indicates the desirability of the notification of all such cases to the medical officer of health. He would by this means be placed in a much more favorable position to trace sources of infection. Dr. Newsholme's views on this subject are set out in full in A National System of Notification and Registration of Sickness, *Journal of the Royal Statistical Society*, Vol. lix. Part I.; and Possible Medical Extensions of Public Health Work, *Journal of State Medicine* September, 1901.

OBSTETRICS AND DISEASES OF WOMEN.

Cysts of the Ovary and Pregnancy.—M. Condamin (*Lyon médical*, June 29th) reports two cases and concludes from his observations that an ovarian cyst, developed concomitantly with pregnancy, may be lifted up by the growing uterus, so that it may form serious adhesions with the inferior surface of the liver. After labor, the adhesions prevent the descent of the cyst as uterine involution proceeds, and the consequent tugging may bring about its rupture or extravasations of blood. The symptoms closely simulate those of torsion of the pedicle. Unless urgent indications to the contrary exist, surgical intervention is best postponed until

the termination of the puerperal period, and will be facilitated in case of hæmorrhage of the cystic walls, by ligature and section of the pedicle before the removal of the cyst. The possibility of adhesions with the liver is an argument in favor of operation during pregnancy when the diagnosis of a cyst is made and holding in mind the term of the gravidity at the time.

NERVOUS AND MENTAL DISEASES.

A Few Observations on the Blood Pressure in Mental Disease, with a Note on the Treatment of Melancholia. By Dr. H. DeM. Alexander (*Lancet*, July 5th).—In the observations on the blood pressure in mental disease here reported, the sphygmometer of Hill and Barnard was used.

Melancholia. There was no marked elevation of the blood pressure in the *simple* form of this malady, whereas, in the *acute passive* type, the blood-pressure was invariably bright and remained so until the acute physical and mental symptoms abated; a re-elevation occurred with each relapse of the disease. It is probable that the high blood-pressure and the high tension pulse of this affection are due to the retention in the system of certain waste products of tissue-metabolism as evidenced by the marked diminution of urea and the atonic condition of the alimentary tract.

Acute demonstrative melancholia (agitated or excited melancholia) differs from the foregoing passive type physically as well as mentally. Here there is no great diminution in the amount of urine and urea excreted, a less elevated blood pressure, and usually a leucocytosis. Body weight is also lost more rapidly. It is thus akin to mania.

In *chronic melancholia* the blood pressure was generally low; an elevation occurred when the mental symptoms became more acute.

The blood pressure in *mania* appears to be considerably modified by the presence of general physical disability, and thus restlessness in the chronic manic of poor physique is as a rule associated with a normal, or even low, blood-pressure, though an elevation may occur with any increase in excitement. In pure *senile mania* and *melancholia* the blood pressure corresponds to that registered in the same affections occurring in an adult or adolescent. But in that variety of senile insanity which is associated with dementia and a constant fidgety motor restlessness, the blood pressure was usually much above normal; and it is in this form of insanity that drugs of the nitric class are of most benefit.

The author again calls attention to the marked beneficial effect of fluid diet in conjunction with the "bed treatment" in shortening the acute stage of acute passive melancholia, and a shortened acute stage generally ensures a more rapid convalescence.

Pupillary Disturbances, Syphilis, and Nervous Disease.—M. Henri Dufour (*Gazette hebdomadaire de médecine et de chirurgie*, June 19th) concludes that pupillary inequality, alone or of mild degree, unaccompanied by other nervous symptoms, has little value. Meiosis accompanied by other pupillary or nervous disturbances, lends suspicion to the diagnosis of syphilis or nervous disease. There is a striking relation in many cases between syphilis and pupillary deformity, while some authors regard

the combination as significant of tabes or paresis. The Argyll-Robertson pupil is found only in syphilitics, in tabetics, or in paretics. Out of twenty cases, five syphilitics showed pupillary deformity alone, two syphilitic tabetics showed neither deformity of the pupil nor an Argyll-Robertson pupil, and thirteen presented an Argyll-Robertson pupil with syphilis, tabes, general paralysis, or one or the other of these diseases.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Salol in the Treatment of Small-pox.—Dr. Thomson and Dr. Love (*Glasgow Medical Journal*, June) conclude from a study of the salol treatment that the drug is absolutely useless in small-pox. In a series of seven unvaccinated patients, three died, giving approximately the usual case mortality among unvaccinated persons. On examining the list of sixty-nine vaccinated patients the mortality is seen to have been fourteen and four-tenths per cent. Not only was the case mortality uninfluenced by the treatment but the severity of the attack likewise seemed to be unaffected. Even supposing it to be true that salol has a power of preventing the pus formation resulting from the presence of pyogenic organisms, the authors point out that it does not follow that the drug will prevent the development of the stage of maturation; for, if there is one fact in the pathology of the small-pox pustule more certain than another, it is that the so-called pustule is no pustule in the stricter sense of the term, and that in the majority of the cases pyogenic micro-organisms, both in cultures and in properly prepared sections, are conspicuous by their absence. In many cases of severe secondary fever the so-called pustules contain practically nothing but lymphocytes, and show a complete absence of the multiforminuclear corpuscles usually produced by pyogenic organisms. It is difficult to believe that racial or climatic differences can modify the action of salol in small-pox, though, of course, this is just possible, but the satisfactory action of salol in China may be reconciled with its unsatisfactory action in the authors' cases, if we remember that there is in the East a disease which has been, and is now being, confused with true small-pox on account of its superficial resemblance to that disease.

The Treatment of Aneurysm with Gelatin. By Dr. CLAUDIO MANCINI (*Riforma medica*, May 1st) reports two cases of aneurysm in which the injection of gelatin into the blood was followed by temporary improvement. The first case was one of fusiform aneurysm of the arch of the aorta in a man aged thirty-one years. Injections were given of thirty parts of gelatin dissolved in one hundred parts of water to which one part of carbolic acid had been added. Five cubic centimetres of this solution were injected into the gluteal regions, and five injections in all were given. It was found, however, that these injections were followed by fever and by pain which evoked a violent cough, while the aneurysm did not seem to be changed. The administration of gelatin by the rectum was then tried, twenty cubic centimetres of a 50 per cent. solution being given at each dose. The quantity was gradually increased until two injections of 100 cubic centimetres each were given daily. A temporary improvement in all the symptoms fol-

lowed this treatment but the pain and cough returned in about a month, when the gelatin treatment was again resumed; but in spite of this the symptoms continued to grow worse and the patient died soon afterward.

The second case was one of aneurysm of the ascending aorta in a man aged forty-eight years. In this case, rectal injections of gelatin were used at first, but better results were obtained by hypodermic injections. The blood in the expectoration disappeared after a few injections and the other symptoms improved correspondingly. The tumor was markedly diminished in size, and its pulsation was considerably weakened. The patient was discharged from the hospital but returned a month later with a recurrence of the symptoms of cough, bloody expectoration, and dyspnoea. This time the gelatin injection did not do any good and the symptoms remained stationary. These two cases, therefore, do not sustain the enthusiasm for the gelatin treatment of aneurysm evinced by Lanceraux and Paulesco, as the favorable results were only temporary; but they show that gelatin may be considered as among the better means at our disposal in the treatment of inaccessible aneurysms.

What is Pure Chloroform?—Thomas D. Luke, M.R.C.S. (*Edinburgh Medical Journal*, June), deals with this subject in a practical manner. He concerns himself more especially with the alcohol factor in the chloroform. This may be pure ethyl alcohol, which has never been anything but pure ethyl alcohol, or it may be methyl alcohol, so dealt with and purified, either before or after the process of chloroform-making begins that it is to all intents and purposes ethyl alcohol freed from methylic impurity. The author considers that even if we employ chloroform prepared from methyl alcohol only partially rectified, it seems highly questionable if the methylic impurity would cause any trouble. He concludes that methylated chloroform manufactured from methylated spirit is as good, as pure, and as safe, as "pure chloroform" prepared from pure alcohol.

PHYSIOLOGY AND PATHOLOGY.

Study of Human Actinomycosis.—Dr. Karl Deepke (*Münchener medicinische Wochenschrift*, May 27, 1902) says that the diagnosis of actinomycosis may be made (a) in unstained specimens of fresh pus, when the degenerated forms of the fungus will be seen; (b) in dry, stained specimens where the ray fungus will be seen, often projecting from a rounded mass; (c) in sections, when both the fungus and its degenerated forms will be seen. The horny elements seen are the permanent form of the actinomycetes which may sometimes appear, however, as rounded elements closely lined together like streptococci, or as delicate rows of bacteria, or as longer or shorter segmented threads. From all these forms the permanent ones can be watched to develop, horny masses which represent the spores.

Observations on Cytotoxic Serums, with Special Reference to Neurotoxine.—Dr. E. Ravenna (*Riforma Medica*, May 14th) says that many of the experimental results obtained by Ehrlich and Morgenroth in their work on the hæmolysis which was used in working out their theory of side-chains, cannot be constantly observed. He repeated some of these experiments a number of times with nega-

tive results in a large proportion of instances; for example, the experiment of Ehrlich and Morgenroth which shows that the blood of a dog dissolves very energetically the red blood cells of a guinea-pig. Five cubic centimetres of a five-per-cent. solution of guinea-pig's blood in normal salt solution is placed in two test tubes, and 0.2 c. c. of dog's serum is added, after having been rendered inactive by heating to 55° C.; when the mixture has stood for a half hour at 20° C. it is centrifugated and the precipitate repeatedly washed with normal salt solution. Then, to one of the tubes, 1.5 c. c. of the serum of a guinea-pig is added, and to the other an equal quantity of normal salt solution. In the first there is complete solution of the red cells, in the other, these cells remain intact. In four experiments out of six the author failed to obtain this hæmolytic, though he used the same technics as Ehrlich. In a second series of experiments he attempted to prepare a cytotoxic serum which would be specific for the muscle fibres of the body. His results were negative, and he abandoned the theme. As regards the subject of specific neurotoxines—i. e., of substances generated in the body of an animal under the influence of injections of an emulsion of nerve matter from another species, which would produce lesions in the nervous system of a third animal when injected into its blood—his experiments convinced him that the results obtained with neurotoxines inoculated into the bodies of animals were unfortunately by no means so constant and definite as to justify positive conclusions. The serum can be prepared only with great difficulties, and kills the animals very rapidly. He concludes as follows: (1) The duck, after injections of nerve substance from the dog, furnishes, though not constantly, serum which is fairly toxic toward the nervous system of the dog. This neurotoxin is not specific, as it affects also the nervous system of the rabbit. The rabbit furnishes a serum which is neurotoxic in guinea-pigs, after the rabbit has been injected with emulsions of nerve tissue from guinea-pigs that died in a tetanic condition. (2) The guinea-pig does not furnish a neurotoxic serum which is effective in rabbits when it is inoculated with emulsions of the central nervous system of the healthy rabbit. (3) The neurotoxines produce lesions which have no specific characters in the central nervous tissues.

Some Experiments on the Precipitins. By Dr. A. Castellani (*Lancet*, June 28th).—The author's conclusions, drawn from the results of his experiments, are as follows: 1. The blood serum of animals treated with different preparations of natural albumins contains specific precipitins for the albumins. 2. The blood serum of animals treated with unfiltered bacterial cultures produces a precipitate in filtered cultures of the organism in question. 3. The serum of animals treated with filtered cultures of bacteria likewise develops specific precipitins, which produce precipitates in the filtered cultures of the same bacteria. 4. An exception occurs in the case of diphtheria cultures, the injection of which does not lead to the production of precipitins. 5. Animals which are treated with dialyzed typhoid cultures develop the specific precipitins in their serum. 6. There is a close connection between the agglutinins and the precipitins.

Tuberculosis Acquired from Handling Tuberculous Organs of a Cow.—Dr. Paul Krause (*Münchener medicinische Wochenschrift*, June 24th) narrates the case of a butcher, who, three years ago cut his finger. This was followed by an infectious disease (probably tuberculosis) with glandular enlargement in the arm and axilla. The arm became phlegmonous and, after repeated operation, was healed. His occupation was that of removing the organs of diseased cattle. As the adenopathy continued, a gland was excised and was found to contain many giant cells and tubercle bacilli. The author regards this case as certain evidence that the tuberculosis of cattle is communicable to man.

American Medical Association.

SECTION IN MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

Third Day, Thursday, June 12th.

Glycosuric Symptoms of Disease and Its Medicinal Treatment.—Dr. HEINRICH STERN, of New York, stated that an unusual amount of grape sugar present in the urine was by no means an absolute indication of the presence of diabetes mellitus. It might be concomitant with, or sequential to, various other transitory, as well as chronic, anomalies. Glycosuria might appear after injuries and extirpation of some less important organs; after ether and chloroform anesthesia; after administration of drugs and chemicals, such as phloridzin, mercuric bichloride, chloral, morphine, strychnine, etc.; after the inhalation of carbon monoxide, or the excessive use of tobacco or alcohol, and after infectious diseases. The good results obtained by the institution of a rigid diet in diabetes and its concomitant glycosuria led to the supposition that analogous improvement would accrue from it in other glycosurias. In truth, there was little discrimination exercised between the various types of chronic glycosuria. It was evident that the application of the excellent empirical methods, used in combating the diabetic state, to the treatment of all glycosurias, irrespective of the underlying cause, was irrational and injurious in many instances. If we remembered that glycosuria was a consequence of manifold causes we should understand that it was useless to treat symptoms alone, and we must try to influence the causes and conditions themselves. The author's experience showed that it was not necessary to combat glycosuria whenever it occurred. If the patient felt well, with no symptom of physical or mental decline, we should not attempt to interfere with a slight glycosuria. The end might not justify the means, especially if routine treatment, implying deprivation, was employed. On account of the general application of dietary methods to the management of various glycosuric states, and of the injudicious prescribing and the polypharmacy of former times, medical treatment had of late been relegated to the rear. But to the same degree in which the influence of diet upon the amelioration of all forms of glycosuria had been overestimated, the potency of certain medicinal agents upon various

substrata of the glycosuric symptoms was now unquestionably underrated. The author then gave some rules for treatment as follows:

Indications for the institution of dietary treatment alone: All patients exhibiting the usual symptoms of diabetes mellitus whose urine is free from acetone, diacetic, and beta-oxy-butyric acids, should be subjected to strict dietary regulations until all symptoms have completely subsided, or until all symptoms, excepting glycosuria, which meantime has declined to less than 1 per cent., have disappeared.

Indications for institution of medical treatment alone: 1. All cases systematically declining under regulation of diet; 2. all cases in which long continued rich diet cannot effectually compel cessation of glycosuric symptoms; 3. all cases excreting less than 1 per cent. of glucose, in which the patient suffers from some disorder, but does not exhibit the second symptom-complex of diabetes mellitus; 4. cases in which diet has brought about the subsidence of diabetic phenomena, but in which continued mental excitement is liable to effect a recurrence of glycosuria.

Indications for both dietary and medicinal treatment: 1. All cases in which diet and special hygienic treatment is indicated, in which the patient, on account of circumstances, is prevented from properly executing them; 2. all cases exhibiting symptoms of diabetes mellitus, but which, for reasons accompanying affections, such as chronic nephritis, for instance, cannot be kept under rigid anti-diabetic regimen. The speaker followed with references to treatment.

In the discussion which followed *Dr. Thompson* said that in course of his practice he had treated a large number of negroes; they were not syphilitic and he had never seen a case of diabetes among them. He was anxious to know *Dr. Stern's* experience along that line. *Dr. Wood* said that he had used methylene blue, which had not been mentioned in the paper, with success. *Dr. Slack* drew attention to the results from potato diet, which were better than in case of a bread diet. *Dr. Robinson* was of opinion that there were many diseases of which they knew but little, and they knew less about diabetes and rheumatism, than any of the others. A physician who had had the temerity to put a patient on a potato diet a few years ago would have been sneered at. In bringing the discussion to a close *Dr. Stern* said that his paper treated of glycosuria, not diabetes. They knew all about the former, if not about the latter. It had been his experience that the disease was not of frequent occurrence among negroes. He had evidently no great faith in the potato diet, and explained the difference in results as compared with bread by reminding the meeting that potatoes contained a very large percentage of water. He had been using methylene blue for three or four years but without any definite results.

Some Sugar Tests.—*Dr. ALBERT B. LYONS*, of Chicago, did not read a paper on this subject, but gave an informal talk, in course of which he pointed out that reduction tests were not now considered so important as formerly. The copper, bismuth, and indigo tests, he said, depended upon reduction, but

they were inconclusive, though not without value. It was shown that normal urine contained reducing substances and the methods of removing some of these (uric acid and creatinin) were suggested. These were sometimes found present accidentally, which might not indicate sugar at all. Among the newer reducing tests were methylene blue, litmus blue, safranine, and potassium ferricyanide. *Johnson's* test was most useful because it was easily made and approximately quantitative. The author then described his method. He stated that the phenylhydrazin test for glucose was superior to reduction, and gave some of the improved methods which saved time. In speaking of the fermentation test, the author referred to defects in the old form of saccharometers and exhibited an improved instrument. He also demonstrated that there were apt to be fallacies in the sugar tests, depending on the remedies the patient might have been using. He would say nothing about the polariscope test on account of the expense of the instrument. In the short discussion which followed, *Dr. Stern* held that phenylhydrazin was not a good test, and cited a case to prove his assertion. He approved of the fermentation test and the new instrument exhibited, because it prevented the absorption of the gas. His own instrument, which he considered an improvement, gave good results in five hours.

Diuretics: Their Comparative Value. By *Dr. WILLIAM BAUM*, of Chicago.—This paper had not been received and it was thought it might have been burned in Monday morning's fire.

Alcoholics in Therapy. By *Dr. J. MOORE*, of New Orleans.—Read by title.

American Mineral Springs.—By *Dr. GEORGE H. FISH*, of Saratoga Springs.—This paper had also presumably been burned.

The External Preparations and Their Therapy.—*Dr. CARL S. N. HALLBERG* first reviewed the subject, gave a history of the preparations, and grouped them from a therapeutic standpoint. He then proceeded to classify the ointments according to the vehicle, and divided them into absorptive and semi-absorptive. He referred to suppositories, rectal, vaginal, and urethral, and their vehicles. Gelatin, he said, was not good for rectal suppositories. Many people thought that a plaster was anything that would stick, but at the same time plasters served some useful purposes. After pointing out the limitations of oleates, and that they did not penetrate the skin, reference was made to collodions, liniments, and the preparations of the newer dermatology, pastes, such as the glycerogelatin, salves, mulls, etc., which he thought deserved more attention from dermatologists.

Cutaneous Therapy: Some of the Newer Methods.—*Dr. CHARLES W. ALLEN*, of New York, after a brief review of recent advancements said that enough had been done to justify certain conclusions. He gave a report of 35 cases of cancer of various kinds where radiotherapy had been used. Of nine breast cases one patient had died; one patient had ceased treatment, because of a fall from a bicycle, after being treated six times. (This patient's head had been injured by the fall, and he did not know how far the treatment could be used

in such a case.) One patient had been treated whose pulse rose to 140, and the author sent her back to her own physician, as she was not at present a subject for treatment. There were still five under treatment and showing improvement. Other cases were given in detail; one of cancer, where death had been predicted from day to day. The patient could eat nothing. He was now able to walk around. In one case of sarcoma, the patient, after being partially treated by radiotherapy, went to a surgeon for treatment with the result that he was now in a dreadful state. He was now giving the man the rays, not because he had any hope of a cure, but for mental relief. The chances were that the man would die and the case would be quoted as a failure in radiotherapy. Many of his cases showed marked improvement, among them one of leprosy. While nothing particularly brilliant could yet be shown, his belief was that in the x rays they possessed an adjunct to other treatment which might be of invaluable benefit.

Dr. C. H. Skinner thought the full significance of radiotherapy had hardly been appreciated. The question of the permanence of the relief was not so important as it seemed to be. They knew that it helped, just as medicines which did not affect a permanent cure, did. He had treated a number of patients and some of them had been dismissed as cured. Radiotherapy was of the greatest service in diseases of the breast. He had removed a large cancer by surgery and then used the rays with the most beneficial results.

Dr. Baer thought this was only the beginning of a number of papers that would be brought forward in the next few years. The question of sarcoma was an interesting one. In carcinoma, let the surgeon do his work. He mentioned a case of moist ulcer, which had been completely dried up in fifteen minutes by x rays.

Dr. R. Varney, of Detroit, had worked with coils and with static apparatus; the coils were expensive to work and dangerous to the patient. He preferred static, in which he found better results. He could make exposure every day with but little risk. We might burn the patient, but we would get warning and know the extent of the burn. We could get as much penetration from static as from coils. Every malignant case should be exposed to the rays after operation.

In closing the discussion *Dr. Allen* said that it was true that the rays might do harm. He was in the habit of using coils, static, and storage battery, and preferred the coils for their therapeutic results. He believed in the use of the rays before operation.

Mercury in Syphilis.—*Dr. EUGENE FULLER*, of New York, advocated mercurial administration hypodermically as superior to other methods. All were agreed as to the use of mercury in syphilis, and it was only concerning methods of administration as to which they differed. It had, of course, different effects on different subjects. The author then proceeded to show why he objected to the administration of mercury, in any form, by the mouth. The chief argument against its cutaneous use was that it soiled the clothing. In administering it hypodermically, the patient should stand erect with the buttocks exposed, and everything should be done

speedily except the injection itself. In case of obstruction the needle should be withdrawn and another spot selected.

Nerve Nostrums and Their Dangers.—*Dr. WILLIAM P. SPRATLING*, of Sonoma, N. Y., presented a strong case against the use of secret nostrums. One of the reasons why these nostrums were so greatly used was the secrecy attached to them, and the vendors knew how to make use of this to impose on the credulous. If the seal of secrecy were removed, a great part of the power of the quack would vanish. It was our duty to try to put down quacks and secret nostrums, and although it might be a long and tedious process, he would advise that, as one of the steps towards its accomplishment, we should invite leading physicians to contribute articles on the subject, to be published in the medical journals and afterwards sent to the daily papers, their insertion to be paid for if necessary. In these, the drugs to be guarded against should be named, and we should also inaugurate a series of lectures in every city. This would cost money, but it could be got. The laws relating to secret nostrums in other countries were quoted. The author concluded by denouncing physicians who made use of secret nostrums, whether their own or any other person's.

Hypnotics, Analgetics and Resultant Drug Addictions.—*Dr. SMITH ELY JELLIFFE*, of New York, compared the past with the present as to the bearing of pain. People at the present day were too ready to seek relief from pain or insomnia by the use of drugs. The mischief caused by this was forcibly pointed out, and physicians were advised to encourage their patients to bear pain. Very often physicians were to blame. They would talk to their patients of the beneficial results to be derived from the use of some drug, and the consequence was that the patient had recourse to that drug whenever the slightest return of the symptoms was felt. This was emphatically wrong. "In many cases these cheap combinations of well-known drugs were sold at from fifty cents to a dollar an ounce, when the constituents could be bought for ten cents a pound. Legislation was imperative if physicians could not find a cure. They might give relief to a patient by means of a drug but they should keep their mouths shut. As to the introduction of nerve drugs the honest chemist deserved commendation.

These two papers met with the approval of all present, although the difficulty of finding relief was not overlooked. Among those who spoke in approval were *Dr. Wood*, *Dr. Robinson*, and *Dr. Baer*. A committee of three was appointed to have the papers published.

Dosage of Liquid Medicine: A Simple Plan for Greater Accuracy and Metric Measures.—*Dr. HALLBERG* referred to the central idea and showed what an anomalous state of affairs it was that the physician and pharmacist should concern themselves so much about the quality of drugs and, when it came to dosage, speak of "spoonfuls." It was impossible to secure accuracy by such means, and even the manner of pouring into a spoon made a difference. The desire for metric measures involved the getting of an equivalent. Thus a teaspoonful might be 5 cubic centimetres, a dessert spoonful 10 c. c., and a tablespoonful 15 c. c. Spoon

should not be used, however, but graduated glass vessels. There was no uniformity in their system of weights and measures, no commensurability. In concluding, the author presented a copy of a Bill which he desired the association to ask Congress to pass, asking that the metric system of weights and measures be introduced into use in all government departments and become legal throughout the country on January 1, 1904.

Sale of Serums by Boards of Health.—Among the miscellaneous business brought before this section was a resolution introduced by Dr. H. STERN, and passed unanimously, deprecating the action of boards of health in manufacturing and selling vaccine virus and serums instead of carrying out their properly defined duties.

New Officers.—The following are the new officers: Chairman, Dr. S. Solis-Cohen, of Philadelphia; secretary, Dr. C. S. N. Hallberg, of Chicago; member of the House of Delegates, Dr. W. B. Hill, of Milwaukee, Wis.

SECTION IN SURGERY AND ANATOMY.

Third Day, Thursday, June 12th.

Obstruction of the Bowels by Meckel's Diverticulum.—Dr. JAMES E. MOORE, of Minneapolis, spoke of the location and frequency with which the diverticulum was present; of the fact that it had in many cases been confounded with the appendix, and of the frequency and manner of obstruction. He showed an admirable series of drawings which illustrated his cases very clearly. About two per cent. of the causes of obstruction might be ascribed to the diverticulum, so that it was somewhat more common than was usually supposed. There were practically no means of establishing an ante-operative diagnosis. He then gave in detail a series of three cases which had yielded to operative treatment.

Dr. Tinker, of Baltimore, said that in the last two years there had been found at operation three cases like Dr. Moore's. In one there were pretty characteristic symptoms of strangulated hernia, and on operation the diverticulum was mistaken for the appendix.

Dr. Munro, of Boston, thought the diagnosis could be made in some few cases. One characteristic was that the symptoms came and went with astonishing speed.

Dr. Moore, in closing, said that the omphalo-mesenteric vessels were often in the bands, and care should be exercised before separating them.

Calculus Nephritis and Ureteritis.—Dr. C. L. LEONARD, of Philadelphia, presented a study of the symptoms in 254 cases of suspected renal or ureteral lithiasis. The latter were much more common than was usually supposed, being represented by something like 60 per cent. of the total number. There was an extraordinary variation of the symptom-complex compatible with the presence of calculi. The small calculi were by far the most dangerous. The large quiescent forms were often diagnosed as chronic Bright's disease. The larger the calculus, the less marked the symptoms. The hydronephrosis might be intermittent or complete. In the latter case, of course, it soon led to destruc-

tion of the kidney. Now that we were able to trace the progress of a stone through the ureter by the x ray, and at the same time to watch the symptoms of pain, we were able to note what was not seen before, namely, a characteristic kind of pain for the different positions of the stone. Because of the probability of involvement of the other kidney, there was great danger in leaving a calculus anywhere in the urinary system. While it was quite true that stones in many cases arose from the breaking down of urea in foul alkaline urines, it was equally certain that they developed in apparently normal urine. All the older methods of diagnosis, and even the newer, were faulty and of little value as compared with the x ray. So certain had this mode of diagnosis become that the author had been able, by studying a large number of cases, to predict the probable passage of a stone and to contra-indicate operation until this happy outcome might take place.

Infrapubic Section for Prostatotomy and Prostactectomy.—Dr. E. W. ANDREWS, of Chicago, spoke of the utterly chaotic condition of the literature, and compared the advantages of the suprapubic and perineal routes. The disadvantage of each was that the urinary tract was opened. From this there was a considerable source of danger. There was great need of an extravasical method which should avoid this and make the operation a safer one. The prostate was held very firmly in position in the pelvis, and it seemed quite probable that the reason why some large prostates gave no symptoms, and some small ones caused marked difficulty was that the bony walls of the pelvis prevented any motion backward and downward of the gland. After treating a number of cases in the ordinary way, he determined to try to invade the region through an anterior incision which should admit him to the pelvis *via* the pelvic angle. This he found to be quite practicable, and he had done three such operations, all of which were successful. The basis of his technique was entirely to free the prostate from its ligamentous attachments anteriorly and above, and to remove all the portion of the gland anterior to the urethra.

Drainage of Extra-Vesical and Extra-Peritoneal Suppurations of the Male Pelvis.—Dr. EUGENE FULLER, of New York, stated that the lower limits of the space under consideration were well defined, but not so the upper. When the bladder was empty, the space of Retzius lay wholly within the pelvic cavity. He gave a detailed account of the anatomy of the parts and considered the natural paths of exit from the pelvis. There were many sources of infection of the pelvis from above, some from below, while some took their origin in easily recognized trauma. The symptoms were extremely obscure, except when known to be due to extrinsic causes. Pain was, however, constant and characteristic, and sooner or later a tumefaction over one or other of the paths of exit referred to made its appearance. The diagnosis depended on the history of the case and on careful physical examination. He laid great stress upon the treatment of the condition. Patients died in some cases, he said, because of the inertia and cowardice of the surgeon, who failed, as a rule, to make suitably free and generous drainage. In almost all cases an ab-

dominal incision should be made, similar to that used for tying the iliac arteries. It might be necessary, however, at times, to precede this by a median low incision. A silver probe was then made to travel around the bladder and could, if properly bent, be felt in the perinaeum. Dependent dissection of the rectum from the prerectal area was then made, the patient being in the knee-chest position. Tubes were introduced, and if both lateral chambers of the pelvis were involved, several of these should be used.

External Urethrotomy from the Standpoint of the General Surgeon.—Dr. JOHN C. MUNRO, of Boston, said that there was no operation in the whole domain of surgery more fascinating nor yet more difficult of execution. Making his deductions from a series of fifty cases in which he had recently operated, he said that there were, indeed, but few cases in which patience, time, and skill would not serve to pass one of a half dozen filiforms pushed to the seat of stricture. Rarely, it might be necessary to cut the corpus spongiosum, or to do suprapubic cystotomy. After operation, he passed no sound for three days, then used a small one, and immediately afterward a larger instrument. This seemed to give less pain. There was no doubt in his mind that such instrumentation every third day was all-sufficient. Extravasation of urine called for a keen anatomical knowledge. Unfortunately, it was almost impossible to trace the results in these cases, because they were usually performed upon the nomadic vagabond in the city. As a life saving measure, however, external urethrotomy stood foremost.

Dr. A. T. Cabot, of Boston, in opening the discussion, devoted himself to Dr. Leonard's able paper. He said that despite the modern aids to diagnosis, such as urethral catheterization and segregation, the great difficulty of diagnosing renal colic accurately was well known. The world owed a debt of gratitude to Leonard for the magnificent work that he had done. Nevertheless, despite its accuracy, it must not be forgotten that there were conditions difficult even for the x ray to elucidate, and he wished to be put on record that no negative evidence could be considered at all final without the making of many plates. When the calculus had passed over the brim into the pelvis, the bone cast a shadow which oftentimes made it impossible to recognize the lesser shadow of the stone.

Dr. Ernesto Blasucci, of New York, said that urinary infiltrations were a frequent sequel of operative intervention. All tubes applied to the draining of the bladder were improperly called syphons. He showed an apparatus which seemed capable of good use.

Dr. Ochsner, of Chicago, said that Dr. Andrews's paper had been of great value. He urged the use of the perineal incision, however, for prostatectomy, inasmuch as it gave admirable results if great attention was paid to technical detail in controlling hæmorrhage.

Dr. Moore, of Minneapolis, said that Dr. Andrews had demonstrated a very important truth when he showed that obstruction was not in proportion to the size of the gland. He was not yet prepared to commend the proposed anterior partial

prostatectomy. He desired to emphasize the importance of the preservation of the openings of the seminal ducts, because, as the operation became perfected, younger men would be more anxious to have it done. Dr. Andrews's route did not seem practical to him. He would not condemn it however, without trial, because it seemed theoretically the correct course to pursue, and might be capable of broad application.

Dr. Murphy, of Chicago, said that in all cases of enlarged prostate, the urethra, as it passed through that organ, was also markedly enlarged, often to the extent of reaching an inch in diameter. In the occasional cases of persistent urinary fistula which followed the perineal operation, he had taken pains to find the cause. It was due to the downward dragging of the hypertrophied mucous membrane of the part which was left behind; this became loosened after the removal of the organ, and dropped down into the wound. He would continue to do perineal section in removing prostates, and agreed with Dr. Ochsner's mode of treating the hæmorrhage. The so-called middle lobe was not a part of the prostate at all.

Dr. Ferguson, of Chicago, had given up the suprapubic route entirely. He believed Dr. Murphy to be entirely wrong, both in his conclusions as to the ætiology of fistula formation and as to the size of the prostatic urethra. He reported 21 cases without a death, the patients' ages varying from 49 to 82 years.

Dr. Mayo, of Rochester, wished to give testimony to the great value of Harris's segregator. He thought that the x ray method of diagnosis was showing us that stones were more frequently in the ureter than was formerly supposed.

Dr. Young, of Baltimore, said that the cystoscope was of the greatest value in diagnosing all renal and ureteral conditions, most of which could be interpreted from the varying conditions of the ureteral papilla. He expressed great astonishment that in this profoundly interesting discussion on the prostate, no one had as yet spoken of Bottini's operation. He had recently done the operation 55 times with 3 deaths, 2 of which occurred in patients who were moribund at the time of operation; 19 of these men were over 70 years of age. He admitted that the operation was not surgical, but stated that it had a broad field of usefulness, because, as yet, prostatectomy was done only in very grave and advanced cases.

Dr. Parker Syms, of New York, said that he was glad to see the trend of opinion well turned in the direction of perineal prostatectomy. He was one of the first to advise it, and had been patiently striving to introduce it for many years. He hoped in a few days to do this operation on a patient upon whom the Bottini operation had been done by a very competent surgeon no less than four times. He referred to his rubber bulb catheter, which, when introduced into the bladder and filled with sterile water, gave an admirable opportunity to make traction on that organ and thus to pull down the prostate. He had operated on 20 patients by this method, all of whom had recovered without discomfort.

Dr. Leonard, in closing, said that the accuracy of the x ray method was far in advance of any other

known technics. Out of 254 cases he had failed to establish a negative diagnosis in only 2 per cent.

Dr. Andrews said that he had only offered his operation as a tentative measure and he realized fully its shortcomings. He had only done the operation on three patients, all of whom had recovered with perfect relief of symptoms, but he would not presume to ask any members of the section to accept such meagre statistics. He hoped that among the gentlemen present there were those who would try his technics themselves.

Dr. Fuller said that he was happy indeed that progress was being made. He had fought the profession for a great many years in the struggle to establish the rule of early operation in enlarged prostates. His principle had been that, although the mortality was high, yet if we did nothing for these patients, they would certainly die. He had no use whatever for the Bottini operation and said that it would fall asleep for good before long. He hoped its coming somnolent period would be longer than its last, which was twenty years. Dr. Andrews's paper had interested him very much, but he objected to the operation advised mainly on the ground that it was extravesical. He had always advocated the suprapubic route for prostatectomy, but he was not hidebound in his adherence to it. The question of the location of the incision was secondary, the primary consideration being to get the prostate out.

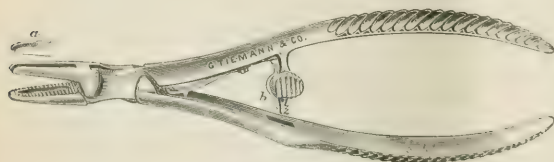
New Inventions.

A NEW NEEDLE HOLDER.

By FLOYD W. McRAE, M. D.,
ATLANTA, GA.

In this holder the lower blade is serrated; the needle surface of the upper blade is smooth and the blade bifurcated, enabling any kind of needle to be held without turning or being broken; it has an open box lock and a handle resembling that of a sequesterum forceps in curvature and outside corrugation.

The main features of this instrument are the position and character of control. This is placed at about the junction of the distal third with the prox-



imal two thirds of handle and is very simple, consisting of a small bar, which hinges in a groove on the inner surface of the upper handle. This bar has three notches on the free end that play over a catch notch within a through-and-through opening in the lower handle, which is bulged at this point; and a pin, at its middle, upon the anterior end of which is

placed a stop-corrugated button to be pressed forward by the thumb. This pin plays within a notch in a small projecting plate from the upper handle. The catch bar is regulated and the handles are separated by a single spring placed between the catch bar and the forceps joint.

All parts are detachable for cleaning, and none will become loose while the instrument is being used.

This needle holder was devised to meet two objections to the holder of Dr. Harris, of Chicago. The release of the Harris instrument, being in the handle, is in a position where it is liable to be touched inadvertently while manipulating the instrument, thus releasing the needle, and the button screws into the spring which releases the catch, and occasionally becomes loose and falls off, disabling the instrument. Were it to fall off into the abdomen (as it did once for me), it might become a source of delay and danger. The lock and blades are almost identical with those of the Harris instrument.

The rough designs submitted to Messrs. Tiemann & Company were worked out for me in a most satisfactory manner by Mr. L. G. Pfarre, of that firm.

Book Notices.

Le Cancer du sein. Etude clinique statistique. Par A. LE DENTU, Professeur de clinique chirurgicale à la Faculté de Médecine, etc. Avec 8 figures intercalées dans le texte. Paris: J. B. Baillière et fils, 1902. Pp. 123.

The appearance of this monograph is very opportune at a time when, owing to the zeal to ascertain the cause and cure of carcinoma, its treatment seems to be running riot. Fifty-seven of the author's cases are detailed, and they comprise cases of operation in the aseptic and in the antiseptic period. The removal of great parts of the breast, made possible by antiseptics and the limits of which were still further enlarged by virtue of aseptic methods, from the statistics presented, makes a decidedly favorable showing for the most radical procedures applied. The

combined figures of operators, who formerly were content with ablation of the breast and removal of the axillary glands, contrasted with similar figures in cases in which extirpation of the pectoral muscles was added, shows a gain of nine per cent for the latter patients, who survived the arbitrary time limit of four or more years free from any local or manifest constitutional metastases.

The various modern radical procedures are explicitly described and illustrated. The methods of Halsted and W. Meyer are warmly endorsed. The diagnosis of mammary carcinoma from other mammary tumors is thoroughly dealt with, and the great necessity of an early diagnosis strongly emphasized, in order still further to improve the statistics of operative intervention.

Some Thoughts on the Principles of Local Treatment in Diseases of the Upper Air Passages. Being Two Lectures delivered at the Medical Graduates' College and Polyclinic on October 2, and 9, 1901. With an Appendix consisting of Two Letters published on November 23, 1901, and on January 11, 1902, in the *British Medical Journal*. By SIR FELIX SEMON, M. D., F. R. C. P., Physician Extraordinary to H. M. the King, etc. London and New York: The Macmillan Company, 1902. Pp. vi-7 to 130. (Price 2s. 6d.)

This work consists of two lectures delivered last autumn at the Medical Graduates' College and Polyclinic, together with two letters that have previously appeared in one of the English medical journals. The main motive of the work is to make an appeal for greater conservatism in the matter of operative procedures in affections of the upper air passages, and this appeal, which takes on at times a distinctly polemic tone, is couched in the trenchant language familiar to those acquainted with Dr. Semon's writings. The letters contain some rather cutting personal allusions to some of the writer's critics, but, leaving this latter feature aside, it cannot be doubted that conservative laryngologists will agree to most of the conclusions reached. To no one more than to Sir Felix Semon is the medical profession indebted for exertions to keep matters at a high level so far as scientific standards are concerned. In this respect he has rendered yeoman's service. We commend the work unhesitatingly to all those engaged in the treatment of nose and throat diseases.

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume II. General Surgery. Edited by JOHN B. MURPHY, M. D., Professor of Surgery, Northwestern University Medical School, Chicago. Chicago: The Year Book Publishers, 1902. Pp. 3 to 515. (Price, \$2.)

As one of a series of year books covering the various branches of practical medicine, this handbook offers us a retrospect of the surgical progress for the past year. The professions of the editor as to the extent of the literature covered are apologetic, and even a casual perusal makes it evident that the American literature has been strongly favored and even that not thoroughly as is shown in the entire absence of any reference to the surgery of prostatic enlargement, concerning which so much was written during the past year.

However, the attempt to render in the English language an annual review of surgical progress along the lines of the French publication *L'Année chirurgicale*, or the German *Jahresbericht der Fortschritte der Chirurgie*, is very commendable. Compared with other American publications of the same nature, it is, though not so voluminous, endowed with a greater wealth of subject matter, presented in very terse abstracts from the original articles, and these are free from criticism.

A decided want is supplied in this handy volume, and the response of surgeons should be such as to warrant a more comprehensive edition in the future.

The Accessory Sinuses of the Nose; their Surgical Anatomy and the Diagnosis and Treatment of their Inflammatory Affections. By A. LOGAN TURNER, M. D. (Edin.), F. R. C. S. Ed., Surgeon for Diseases of the Ear and Throat, Deaconess Hospital, Edinburgh. With Forty Plates and Eighty-one Figures. Edinburgh: William Green & Sons, 1901. Pp. xiv-211.

In a large, well printed volume the entire subject of inflammations of the accessory sinuses is most carefully considered, and that, too, from the standpoint of extensive anatomical studies. Many of the illustrations have been made from photographs of original dissections. These illustrations are of unusual clearness. A valuable contribution to the comparative anatomy of the subject is presented in the chapter entitled *The Comparative Anatomy of the Frontal Sinuses in Human Crania*.

Concerning the text, space does not permit us to particularize. We note that the author regards transillumination as of little or no practical value in the diagnosis of chronic suppurative of the antrum. A valuable index makes the book one of great value for reference, and the fact that it is founded on a basis of anatomy gives to its conclusions special weight. It is a most creditable contribution to the subject.

Miscellany.

The Antitoxic Function of the Suprarenal Capsules.—M. R. Oppenheim (*Thèse de Paris*, 1902; *Presse Médicale*, May 3rd) in a very full work enriched with a full biography, containing not only an excellent résumé of all recent work on the normal and pathological physiology of the suprarenal capsules, but also a series of personal observations, concludes that the syndrome of acute capsular insufficiency, such as is often observed clinically in young children, may appear in the subjects of old standing lesions of the suprarenal glands, and whether they have remained previously latent, or have given rise to a more or less complete picture of Addison's disease. A previous suprarenal lesion operates only by rendering impossible the complete destruction of poisons due to an infection or to an intercurrent intoxication. It may thus transform into a rapidly fatal disease an ordinary infection, such as an amygdalitis, which, in a normal subject, would have been benign. Such facts are of evident importance, and emphasize the import of the antitoxic function of the secretion of the suprarenal glands.

A Case of Primary Cancer of the Vagina was reported recently by Sadowski (*Monatsschrift für Geburtshilfe und Gynäkologie*, March; *British Medical Journal*, May 10th) to the St. Petersburg Gynecological Society. It appeared as an ulcer sharply defined from the surrounding healthy tissues on the mucosa of the posterior vaginal fornix. The cervix was healthy. Metastatic deposits were found on the anterior and lateral aspects of the vaginal mucous membrane. Primary cancer of the vagina is rare.

Chronic Trophic Œdema.—E. Feindel (*Gazette hebdomadaire de médecine et de chirurgie*, February 20th; *Medical Review*, April) discusses the condition described, in 1898, by H. Meige, under the term "trophic œdema," consisting of a white, painless, chronic œdema of the limbs, the skin being white, thickened, and tense, without excoriations or marbling.

It could not be pinched up between the fingers or made to move upon the muscles and bones beneath it. It was difficult to produce pitting by pressure.

Chronic trophic œdema usually begins insidiously, but sometimes does not appear till the age of puberty, in other cases earlier, being, perhaps, congenital. Once developed it undergoes only slight changes, and persists indefinitely without endangering life. Its chronicity distinguishes it from all transitory œdematous affections, which are sometimes accompanied by pyrexia, alterations in sensibility, color of the skin, pain, or eruptions. It closely resembles elephantiasis Arabum, but the *filaria* has never been found in the blood. No mechanical or constitutional cause for the œdema can be found. Meige published (*Nowelle Iconographie de la Salpêtrière*, 1899) a case in which the whole of the right leg from the groin to the toes was greatly swollen, so that all its outline was disfigured. Thigh, knee, leg, and foot were œdematous, with ridges as in elephantiasis. The dorsal aspect of the foot was swollen, and the toes were thickened. At the ankle the swelling was extreme, and the integuments hung in swollen folds which masked the malleoli and the tendo Achillis. The subcutaneous edge of the tibia could not be felt. The outline of the knee was concealed by folds, and the thigh was a huge cylinder. The swelling ceased abruptly in the groin. The left leg was unaffected. The sister of this patient had also trophic œdema of both lower limbs. Several other members of this family were affected.

Trophic œdema may affect only one member of a family. Cases of this kind have been reported by Vigouroux, Prothon, Hertoghe and others. But it occurs as an hereditary and family dystrophy. There is also a congenital trophic œdema, which may be hereditary—so called congenital elephantiasis. Nonne has described several cases. The connective tissue is known to be affected in some trophic affections and sometimes dystrophies of connective tissue, muscles, and bones, co-exist. In chronic trophic œdema the connective tissue is chiefly involved. The cause is probably an alteration in the trophic centres of the subcutaneous cellular tissue in the grey matter of the cord. Mabile has recently published a case of trophic œdema of both lower limbs in a woman aged forty-nine years, with hemiplegia and chorea. Infectious diseases—typhoid fever (Meige), scarlatina (Lannois), small-pox (Rapin), measles (Hertoghe)—have several times been noticed to precede the appearance of trophic œdema.

Trophic œdema may be associated with other affections of nutrition, *e.g.* osseous or muscular ones. Hertoghe's observations go to prove the kinship of trophic œdema with other abnormalities of the cellular and cutaneous tissues, *e.g.*, trophic affections of the hair, nævi, and warts. It does not seem to have

any affinity with myxœdema, as thyreoid treatment is useless.

Trophic œdema affects a whole limb, or the segments of a limb. This segmental distribution is another argument in support of the spinal origin. As a rule the condition affects the lower limbs; but in two cases of Rapin the upper limbs were affected. In his first case the hypertrophy was a "cross" one, the right arm and the left leg being affected. In the other the two upper limbs were involved equally. There is also a facial trophic œdema.

Gonorrhœal Rheumatism in an Infant as the Result of Ophthalmic Infection.—Dr. R. W. Innes Smith (*British Medical Journal*, June 7th) reports the case of an infant born on March 10th, which, on March 12th, had a purulent discharge from the eyes. The mother had had a vaginal discharge for several months, and the husband admitted having had gonorrhœa six months previously. When the infant was fifteen days old it developed a well marked gonorrhœal synovitis of the right knee. Generalized gonorrhœa is not common in infants. Clement Lucas, in a paper read in 1899 before the Royal Medical and Chirurgical Society collected twenty-three cases of gonorrhœal rheumatism in infantile subjects of ophthalmia. The condition was transitory, and there was no tendency to ankylosis.

A Case of Progressive Idiopathic Atrophy of the Skin.—In a paper on this subject read before the Section in Cutaneous Medicine and Surgery at the Saratoga meeting of the American Medical Association, Dr. Ravogli remarked that the progressive atrophy of the skin was an important affection on account of its rarity, and of the causes producing it. In his case, that of a young woman, seventeen years of age, under treatment for tumor of the brain, the autopsy revealed the altered condition of the nervous centres. The atrophy of the skin was in the form of yellowish-white superficial scar-like patches, resembling mused cigarette paper, and of a thin and atrophic appearance. The atrophic patch covered the right side of the chest, the shoulder, the scapula, and the arm to the wrist. Other spots were spread on the knees and on different parts of the body. The whole atrophic surface showed no desquamation and was destitute of lanugo. On the periphery of the atrophic patches were found brown erythematous spots, which lasted only a few days, and left the skin in the described condition.

The patient had no pain. The muscles were somewhat weak and badly nourished. The sensibility somewhat unimpaired. The patient became comatose and died. The post-mortem revealed syphilitic gummata in the brain, one gumma having its seat near the pons, showing the cause of the impaired action of the vasomotor nerves.

Dr. Ravogli referred to the pathological alterations found in the stroma of the skin, consisting of atrophy of the papillæ, increase in the collagenous tissues, and diminution of the elastic fibres. The blood vessels were enlarged and in some places surrounded by infiltrating cells. The nerves and the touch-corpuscles were compressed by the crowding of the collagenous fibres. He said that every point tended to show the importance of the vasomotor nerves in the production of idiopathic atrophy of the skin.

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Special Articles.

INFLAMMATION WITHIN THE FEMALE PELVIS, AND ITS TREATMENT.

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Of all the ailments that afflict womankind there is none so frequent nor followed more often by disastrous consequences than inflammation within the pelvis. Were it possible to eliminate this condition the life of woman would be rendered comparatively comfortable. There are few women free from the evil results of a previous inflammatory attack in some part of her generative organs. Although the menstrual period is much the more frequent, there is no time in the life of a woman when it can be said she is absolutely free from such an invasion. Young girls are known to have severe inflammation and abscess in the pelvis due to some lethal influence in the vagina or vulva, and old women are not exempt. It is during the child bearing period, however, that the great majority of these cases occur. It is quite reasonable that this should be so. Until the age of puberty the menstrual organs are gradually and unconsciously preparing themselves for the important physiological functions which they are to assume. During this period they are functionless structures and participate in no important part of the economy. They receive their necessary nourishment from the blood that zig-zags its way into the various recesses. The intricate nervous mechanism that is to play such an important and wonderful influence in the future is yet lying dormant. As the girl approaches the period of puberty peculiar manifestations arise. These are singularly complex and of great interest. A new impulse is about to be given to life. Instinct admonishes her of sacred obligations about to begin, bringing womanly reserve and dignity in their train. The whole physical and moral character of the girl becomes peculiarly changed. No less important are the changes that are brought about in the pelvis. Where formerly the uterus and appendages remained quiescent, functionless structures, receiving their nourishment from the blood that silently traversed the tissues, all is now activity and unrest. The

arteries, veins, and capillaries are increased in size and thus convey more blood to the various organs; the lymphatics become laden with lymph that knows not where to go; and the nervous mechanism has by this time perfected its subtle plans. One cycle of a physiological act and the girl stands filled with wonder, at the dawn of womanhood. When one considers the intricate anatomical structures of the parts involved in this process and the constant recurring periods of congestion, it is little wonder that deviations frequently take place which may be considered preparatory to inflammatory attacks.

Anatomical Considerations.—A certain amount of anatomical knowledge is absolutely necessary in order to have a clear conception of the importance of



FIG. 1.—Diagrammatic section, showing how the pelvic peritoneum is reflected over the Fallopian tube, round ligament and ovary. (1) Fallopian tube; (2) round ligament; (3) ovary.

our subject. It is not the purpose to enter fully into this subject here. The reader is referred to works on anatomy for that. There are, however, a few very important points that should be distinctly understood and will be considered below.

The Pelvic Peritonæum.—The pelvic reflexions and attachments of this membrane are of peculiar practical interest. The casual dissections carried out in our colleges fail to convey the enormous importance of this structure. The peritonæum descends down behind and in front of the great vessels, sacrum and bladder. It then turns upward onto the posterior wall of the uterus and Fallopian tubes. From this point it rounds over the summit of these structures and then dips downward in front to the extent of about two thirds of its posterior dip. It then passes over the fundus of the bladder before taking its final upward turn to the anterior abdominal wall. That part of the peritonæum that passes up the side of the pelvis is not intimately attached to the subjacent structures, but has an interval of loose cellular tissue intervening. This can be demonstrated by any one who wishes to make a careful dissection of the parts. One inch below and a little to the inner side of the anterior superior spine of the ilium an incision can be made which will guide one below the peritonæum if the direction of such an incision be to-

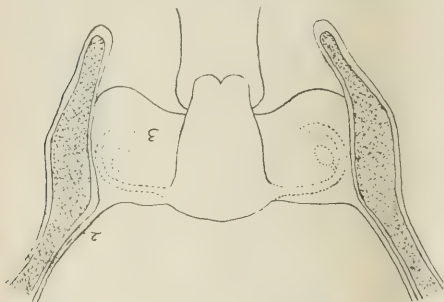


FIG. 2. Shows the peritonæum loosely reflected onto the side of the pelvis. (1) Loose cellular tissue; (2) peritonæum; (3) broad ligament.

ward the ilium. Frequently hæmatocœles and inflammatory exudations taking place below the peritonæum will burrow this membrane from its usual attachments and so cause it to be reflected far up as to be readily and safely removed from injury for even a higher incision. Fig. 1 gives a clear idea of the folds of the peritonæum as it passes over the Fallopian tube, round ligament, and ovary. When speaking of the treatment of pelvic abscess, further on, it will be seen how important a knowledge of these anatomical facts become. About the centre of each broad ligament the two folds of the peritonæum are practically lying close together, but in certain diseased conditions they are widely separated. Near the uterus, between these two folds, there is a small amount of cellular tissue that frequently becomes inflamed and may be the forerunner of important pathological conditions. Figs. 2 and 3 will con-

vey a better idea of the reflexions of the peritonæum than any words can do.

Pelvic Connective Tissue.—The areolar tissue of the pelvis differs in no respect from areolar tissue in



FIG. 3.—Another view of peritonæum reflected onto the pelvic wall. (2) Fallopian tube.

any other part of the body. Its function is to connect adjacent tissues and frequently to support blood vessels and act the part of a cushion. In the pelvis it is found distributed as layers of different thicknesses between the various organs and underneath the peritonæum. It fills up the irregular spaces

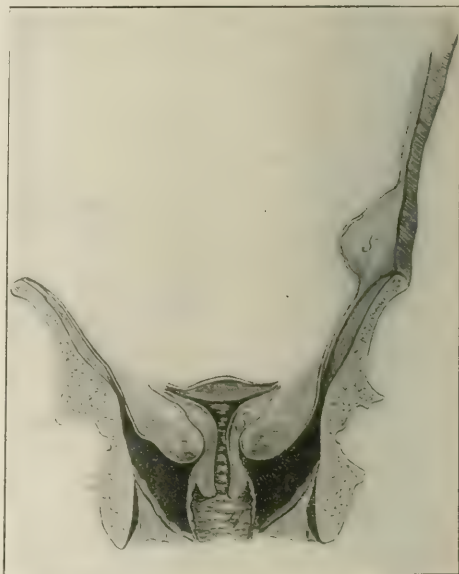


FIG. 4.—Loose areolar tissue filling up the irregular space beneath the lower limits of the peritonæum. (1) Loose areolar tissue; (2) lowest fold of peritonæum; (3) uterus; (4) vagina; (5) an abscess following an abortion.

and in places is quite plentiful. Behind the pubes it is thick and forms a pad of areolar tissue that

stretches backward to the anterior surface of the bladder. There is also a large amount of this tissue at the lower part of the pelvis. It is entirely underneath the folds of the peritonæum. (See Fig. 4.)

A knowledge of the distribution of this pelvic cellular tissue is frequently of great importance. It is singularly prone to become the seat of inflammatory processes and may lead on to the formation of abscesses that may burrow about in various directions.

Lymphatics.—The lymphatic system of the generative organs of the female possesses considerable importance. It is frequently by this route that inflammatory poisons are carried to more remote regions. Those arising from the vulva distribute their contents into the inguinal glands. Hence it is that ulcers of these parts are so often seen to cause enlargement and suppuration of one or more of these glands. The lymphatics arising in the upper part of the vagina carry their contents to the areolar tissue below the peritonæum in either side of the pelvis

The Uterus.—It is not my purpose to enter into an anatomical description of this important organ. The reader is referred to any good work on anatomy for this. There is, however, a very important point in connection with the uterus that requires careful consideration. It is a matter I have never seen mentioned by authors, nevertheless I am persuaded after a number of careful dissections and from operations on the living uterus that one of the most noteworthy points, so far as practical gynaecology is concerned, has heretofore been neglected. The walls of the uterus consist of three distinct layers. The two innermost of these are fairly thick and are composed of a mucous and a muscular layer. The outermost one should be considered a capsular covering. It is a fairly thin membrane and can readily be removed from the subjacent or muscular wall. This layer extends the whole way down and includes the cervix. When describing the operative procedures that may be found necessary to remove pus from the folds of the broad ligaments it will be seen how this impor-

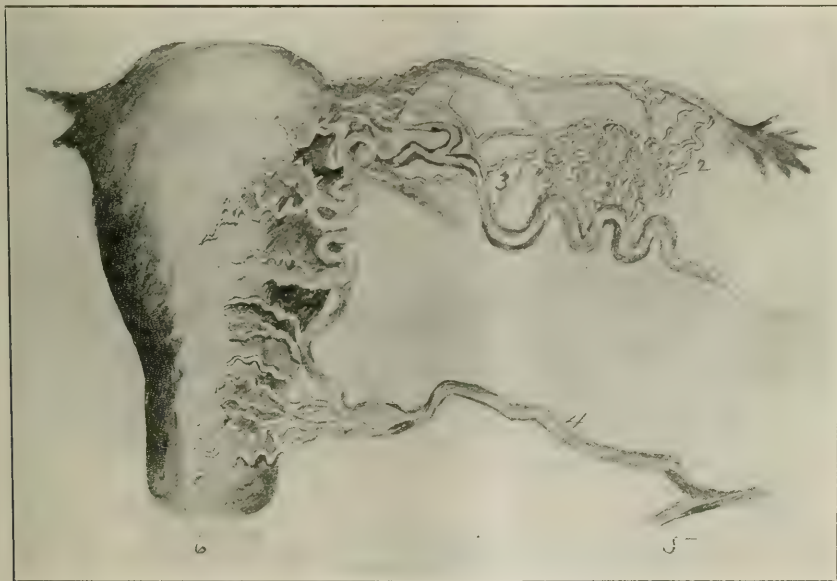


FIG. 5.—Arteries of female generative organs. (1) Ovarian artery; (2) branches to tube; (3) branches to ovary; (4) uterine artery; (5) internal iliac artery; (6) azygos artery.

and between the folds of the broad ligament. In the cervix the network is exceedingly numerous. These and the lymphatics of the uterus proper anastomose in the subserous tissue and then from three or four chains that accompany the uterine veins into the folds of the broad ligament. When enlarged these glands can frequently be detected as indurated nodules by bimanual examination.

tant point can be utilized as a safe guide to the abscess cavity.

Vessels and Nerves.—The vascular supply of the female pelvis is very abundant. The Fallopian tube, the ovary, the upper portion of the broad ligament, and the upper part of the uterus are supplied by the ovarian artery from the aorta. This artery at its termination anastomoses with the terminal branch

of the uterine. (See Fig. 5).

The uterine artery which is given off from the internal iliac supplies the lower part of the body of the uterus, including part of the cervix. From its point of origin it passes inward and slightly downward between the folds of the broad ligament to a point corresponding to the level of the external os. At this point it takes a sharp curve up the side of the uterus to about its centre, where it anastomoses with the ovarian artery. This artery is noted for its numerous spirals and is frequently called the curling artery of the uterus. It is a wise provision of Nature that the tortuosity in the course of this artery should exist. When the uterus becomes enlarged in pregnancy, these arteries can then accommodate themselves to the increased growth. Otherwise they would be so stretched that their lumen would become almost entirely diminished, if indeed the artery was not torn across.

The veins of the pelvis are wonderfully numerous and complex. They form plexuses that com-

one that deserves so much attention than that of the nervous supply of the female pelvic organs. The subject is but little taught in our colleges, and when it is it is very superficial and perfunctory. Not until a knowledge of the intricate coursings of these nerves and their wonderful communication with others is thoroughly understood can a physician intelligently understand the manifold symptoms that may follow as the result of inflammatory exudations or other pressure. When a woman has a persistent pain in one or other iliac region, the physician with blind preconceived opinions almost universally pronounces it ovarian, whereas if serious scientific thought were given to the matter it would readily be understood that the great probabilities are the disturbance is caused by other influences. Operative procedures would be liberated from much of the adverse criticism to which they have been submitted and many a healthy, normal ovary would yet be reposing in its quiet and peaceful nest.

It is a mistake to believe that the uterus or any other important organ of the body is independent of its neighbors. There is an intimate association between them, and when disaster befalls one the others to a certain degree are disturbed. In the case of the uterus this is particularly true. Although our knowledge of the nerve distribution in these organs is as yet fragmentary, the relation that one plexus bears to the others is fairly well established. It is to be remembered that the uterus and its appendages are originally formed from the Wolffian bodies and throughout life maintain a close affiliation with the other organs that are developed from the same mass. The hypogastric plexus supplies the uterus with nervous energy. It is situated between the two common iliac arteries in front of the sacrum. This plexus is intimately connected with the renal plexus by many filaments, and this latter organ with the solar plexus and on the right side with the great

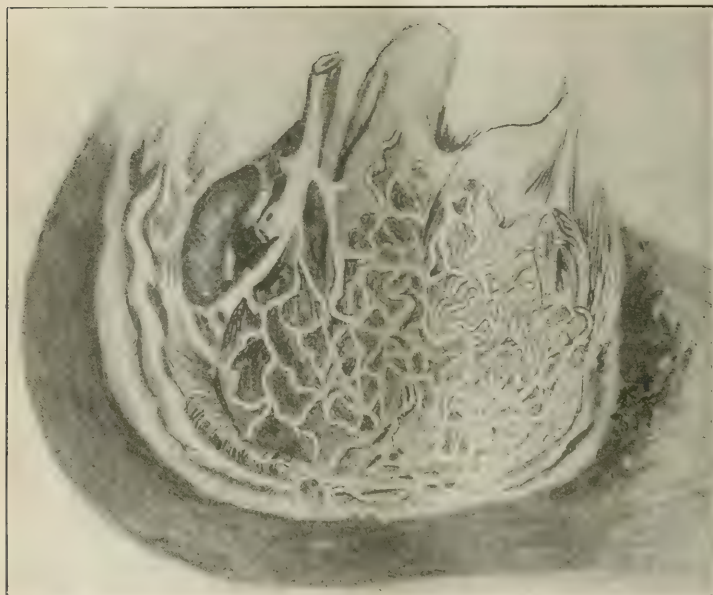


FIG. 6.—The venous supply of the pelvis, as represented by a mesial section.

pletely surround the uterus. These communicate with the vaginal and vesical plexuses below. They then pass out between the folds of the broad ligament and near the ovary they form the *pampiniform plexus*. They finally terminate in the uterine and ovarian veins. (See Fig. 6.)

Nerve Supply.—There is no subject in connection with the generative organs of more importance nor

iation with the other organs that are developed from the same mass. The hypogastric plexus supplies the uterus with nervous energy. It is situated between the two common iliac arteries in front of the sacrum. This plexus is intimately connected with the renal plexus by many filaments, and this latter organ with the solar plexus and on the right side with the great

pneumogastric nerve. The hypogastric plexus bifurcates below and forms the pelvic plexus. (Fig. 7.) This latter sends off other plexuses which supply the rectum, bladder, vagina, uterus, ovary, and tubes. Not only do they form communications with the renal and solar plexuses, but they also connect with the spinal nerves that are distributed to the hip and lower extremities. Entangle the nerves that supply the uterus, or broad ligaments by inflammatory adhesions or other conditions, and far-reaching symptoms may result. There can be little doubt that many of the so-called hysterical conditions are nothing more or less than unrecognized le-

mate result may be. Some of the most unfortunate and disastrous complications begin in a very mild manner. Indeed the patient for a long time does not realize that there is anything seriously the matter. On the other hand, an inflammation may announce

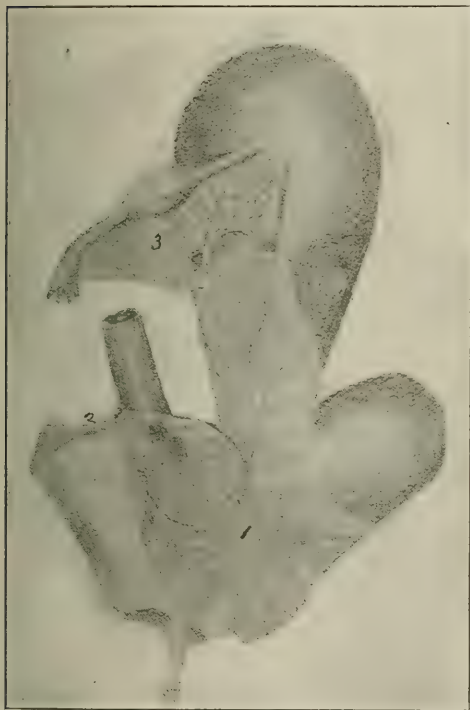


FIG. 7.—Uterine nerves. (1) Hypogastric plexus; (2) uterine plexus; (3) ovarian plexus.

sions in some part of this complicated piece of nervous mechanism.

Having briefly considered the most salient anatomical points that become involved as the result of inflammation or its sequelæ, we will now proceed to enumerate some of its most frequent causes. It will be accepted by every one that there are all grades in the severity of inflammations that may attack the generative organs. It may be acute or chronic, mild or severe. In what way so ever it begins there is no means of determining what the ulti-

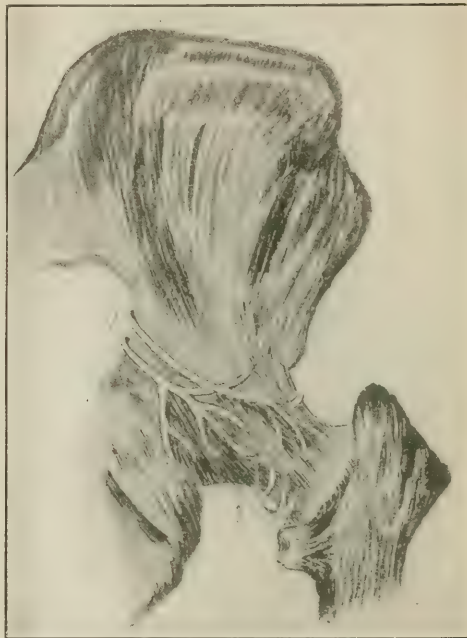


FIG. 8 Posterior aspect of the hip joint, showing (1) branches from sacral plexus; (2) filaments of obturator nerve.

itself with sudden and severe symptoms and after passing through various stages leave no untoward complications behind.

Traumatic Causes.—Operations upon the vagina or uterus are not now followed by inflammation so frequently as in the days when the importance of cleanliness was not understood. There are, however, occasions when it does occur. In certain diseased conditions that require operation it is at times impossible to have the field of operation rendered absolutely aseptic. In these conditions any slight operation may be followed by an acute attack of inflammation. The passing of a sound, the application of nitrate of silver, and intrauterine injections have been the starting-point of an inflammation that has spread along the tubes to the peritonæum and ovaries.

Gonorrhœa.—Of all the causes of inflammatory disease of the uterine appendages, there is none so frequent as that due to specific infection. The more experience one has in the treatment of diseases peculiar to women the stronger becomes the conviction

that gonorrhœal infection is to be held accountable for a large proportion of these unfortunate cases. The story is a sad one, for usually the sufferer is entirely innocent of any wrong or guilt. The trouble heretofore has been that the disease known as gonorrhœa has been looked upon as a trivial one and one that can be easily eradicated. No greater mistake could well be entertained. It is improbable that the great majority of such cases are ever cured. It is true that the acute symptoms and discharge dis-

Cold perspirations sometimes come on. This condition of affairs persistently continues to become worse until the woman is a semi-invalid and calls for medical aid.

In the more acute stage of the disease there may be a sharp inflammatory attack, accompanied by elevation of temperature and increased pulse frequency. Symptoms of pelvic peritonitis may become prominent. Should a pelvic examination be made at this time, the uterus will be found enlarged and tender, with a quantity of thick, ropy mucus coming from the os. The tubes and ovaries will be surrounded by inflammatory exudations, and very probably the knees will be found flexed upon the pelvis. It is difficult at this time to determine the size and position of the ovaries and tubes, for they are usually surrounded by a mass of serofibrinous exudation. When the acute stage has subsided and the exudations have become absorbed, the out-



FIG. 9.—Anterior aspect of the hip joint, showing (1) filaments of anterior crural nerve; (2) filaments of obturator nerve.

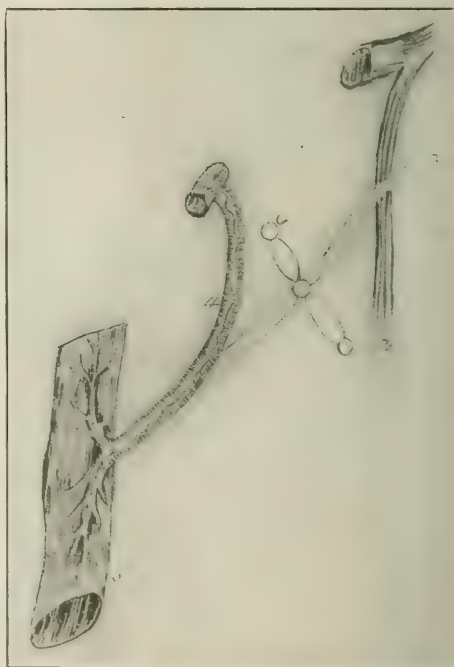


FIG. 10.—Illustrating how pain may be referred by pressure on the uterus, or appendages to the back, hip, and thighs. (1) Spinal cord; (2) spinal nerve; (3) common spinal nerve, motor and sensory; (4) visceral artery with sympathetic nerve; (5) uterus, or intestine, as the case may be; (6) ganglia of sympathetic nerve.

appear and apparently the disease has been eliminated, but should such a man indulge too frequently in wine or women, a return of his disease is almost certain. So long as he walks in the ways of moderation no evil results may follow. The excesses that too often follow after marriage rekindle the disease, and the infection of the wife is the result. The history of these cases is altogether too common. A young man in his early, impulsive days, through an indiscretion, contracts a gonorrhœa. He consults a physician and in a short time all evidence of his disease has disappeared. In a few years he marries a virtuous girl. Shortly after marriage the young wife begins to complain of vague and unfamiliar pains in the pelvis and other evidences of indisposition. Before marriage her health was good and her monthly periods came round regularly and without pain. Now this is all changed. Her menstrual periods are painful and she is obliged to go to bed. During the interval the pain does not altogether leave her and is much emphasized by walking or going up stairs. Matters do not improve. Menstruation is more profuse and is frequently preceded by severe premenstrual pain. She has lost flesh and her face indicates that she is suffering physically. There is tenderness in one or both iliac regions.

lines of the various organs can readily be determined. There always remains an enlargement of the parts involved. What has taken place is that the infection began in the vagina, ascended into the uterine cavity

and then out into the tubes. The great majority of these cases, whether they begin as a slow chronic affection or assume from the beginning an acute type ultimately develop into pus in the tubes. There is a peculiarity about gonorrhœal infection that has been mentioned by several authorities that is of great practical interest, which is its rarity of causing general peritonitis. It appears that it seldom attacks peritoneal surfaces, and limits itself principally to mucous membranes. When such an infection reaches the outer extremity of the tube, there is great liability of agglutinating the fimbriae in such a manner as to occlude the opening into the tube, and as a consequence cause permanent sterility. Another serious result of these inflammations is the destruction of the epithelium of the uterus and tubes. If the attack is of a mild character it is possible for the epithelium to regain itself, but when extensive it is seldom that it is again replaced. The permanent destruction of the epithelium of the uterus is not of so much consequence as when it is destroyed in the tubes. The possibility of tubal pregnancy depends largely upon the integrity of its epithelium. Another result of a low chronic inflammation of the appendages, whether due to a gonorrhœal infection or that arising as the result of other causes, is to be found in the permanent train of symptoms that remain. The exudations seldom are entirely absorbed, peritoneal and fibrous bands are formed or glands become enlarged and indurated. The consequence is that there remains almost constant pain in the back, in the pelvis, or down the thighs. These pains are greatly exaggerated during menstruation or after any unusual exertion.

If such a patient is submitted to an examination, the parts will be found more or less tender to pressure, and points can be found exquisitely sensitive. This part of the disease has not received that amount of attention the subject demands. Nearly every attack of inflammation, it matters not in what part of the body it may take place, has more or less fibrinous exudation thrown out. If the lymphatic vessels involved are not prepared to carry the exudate away, a certain amount will remain and become organized. Fibrous tissue in organizing always contracts and pinches the nerves to such a degree as to cause pain. This pain may be felt more particularly at the point of pressure, but frequently it may be referred along the nerves to distant parts of the body. This result is so often experienced as to be beyond dispute. The pelvic plexus is so intricate and forms such important connections with other nerves, especially those going to the hip and thighs, that it is a common complaint of these women that they have pain in these regions. The great sciatic nerve and likewise the obturator nerve are connected with the lumbar and sacral ganglia. The nerves which supply the

tubes, ovaries, and broad ligaments are also, connected with these ganglia. Should the nerves of the uterus, ovary, or broad ligament become irritated from pressure, the impulse can be conducted to the lumbar or sacral ganglia, and then on to the sciatic or obturator nerve. When such a nerve becomes irritated the expression of pain may become manifested at either its peripheral or its articular extremity. Hence it is that in these diseased conditions of the uterus or its appendages we so frequently find the patient complain of pain in the hip, in the thigh, or even in the knee joint. The sciatic nerve is distributed to the hip joint and posterior part of the thigh; the obturator sends filaments to the hip and knee joints. The same argument holds good in regard to the anterior crural nerve. These points are illustrated in Figures 8, 9, and 10.

Why it is that gonorrhœal infection is not always followed by the formation of pus would seem to depend upon the initial virulency of the gonococci, the resisting power of the tissues, and the idiosyncrasies of the individual. As already stated, all gradations of infection are observed. What ever be the reason for this variation, the invasion passes up the uterus to the tube. It may limit its force by this time, but the probability is that it will extend to the peritonæum and to a greater or less extent produce a localized peritonitis. When it has extended thus far, it uniformly attacks the serous covering of the ovary and causes this gland to become much enlarged.

While the process is limited to the tubes, the outward manifestation of pain and constitutional disturbances are limited, but immediately the peritonæum is invaded there is a great degree of pain and other evidences of serious injury. It is quite remarkable how rapidly this complication progresses. Upon making an examination of these patients twenty-four or thirty-six hours afterward, the whole uterus and its appendages appear to be encased in a firm, immovable mass of inflammatory lymph. The contents of the whole pelvis feel as if they were glued together. The gonococci have become arrested in the lymphatics and capillaries and, having found suitable soil for their multiplication, proceed to throw about the products of their metabolism. All around this virulent mass a wall of leucocytes are building a resisting membrane. The irritant produced by the cocci soaks through as far as the conditions will allow. The tissues within this area have, however, by this time, lost their power of resistance, and already are undergoing a process of coagulation necrosis. Outside of this yellowish mass in the centre, the gonococci and their products can be found in layers endeavoring to penetrate still farther out. They are, however, met by an equally determined layer of leucocytes that are opposed to further invasion. It is here that many such leuco-

cytes are overcome by the influence of the gonococci or starved for want of nourishment to sustain them. By degrees the leucocytes overcome the enemy and wall them in by a firm, strong layer of granulation. The cavity itself, by this time contains dead leucocytes, lymph, serum and liquefied matter, and we call it pus. An abscess has formed and will extend in the direction of least resistance until it finds an exit from the body unless liberated by artificial means.

By this time the patient is severely affected, constitutionally. The pulse and temperature will be elevated, the appetite almost entirely gone, with great reduction of the vital functions. There is no method of successfully treating such a condition medicinally, so far as a permanent cure is concerned. The tubes are full of pus and the surrounding tissues to a great degree involved. Fig. 11 conveys a

cautions, the peritoneal and part of the muscular coats of an intestine may be torn off, when a faecal fistula may follow in the course of a few days. Some time ago an instance of this character came under the experience of the writer. The case was that of a woman aged thirty-five years. She had contracted gonorrhœa about a year previously. The condition was a serious one from the beginning. When she was examined, she gave the history of having been continuously ill from the date of the first acute attack. Latterly she had been unable to be about with any degree of comfort and the greater part of the time had been confined to bed. The pelvis was choked up with firm inflammatory exudations, and there remained nothing to do but an abdominal section. The operation turned out to be an exceedingly difficult one on account of the rigid adhesions. The two tubes were filled with pus and



FIG. 11.—Showing the two Fallopian tubes distended with pus.

fairly accurate idea of the condition of the Fallopian tubes distended with pus. When left alone these cases gradually become worse and the patient will be confined to bed, or, if able to be about, she is in a deplorable condition. Occasionally the abscess wall forms an attachment to some of the hollow viscera or to the abdominal wall, and may thus ulcerate through and liberate its contents, but this is quite the exception. An early operation is distinctly indicated for such a complication. This should be done by abdominal section unless there are contraindications, such as evidence of the abscess pointing in some accessible spot or extreme weakness of the patient.

When the tubes are distended and but few adhesions present, the operation is not a difficult one, although there is great danger of rupturing the abscess wall and liberating the pus into the general abdominal cavity. Frequently there will be dense, firm adhesions binding down the parts so strongly that the operation may become one of the most difficult that it is possible to imagine. Sometimes the adhesions extend to the intestine and require great care in liberating. Even with the greatest pre-

cautions, the peritoneal and part of the muscular coats of an intestine may be torn off, when a faecal fistula may follow in the course of a few days. Some time ago an instance of this character came under the experience of the writer. The case was that of a woman aged thirty-five years. She had contracted gonorrhœa about a year previously. The condition was a serious one from the beginning. When she was examined, she gave the history of having been continuously ill from the date of the first acute attack. Latterly she had been unable to be about with any degree of comfort and the greater part of the time had been confined to bed. The pelvis was choked up with firm inflammatory exudations, and there remained nothing to do but an abdominal section. The operation turned out to be an exceedingly difficult one on account of the rigid adhesions. The two tubes were filled with pus and were torn in their removal. the abdominal cavity was flushed out and a drainage tube left in. The case progressed during the first twenty-four hours as favorably as could be expected under the circumstances. During the second day the pulse began to increase

and the temperature was somewhat higher than one likes to see in these cases. Besides these symptoms, tympanites began to develop, and nothing had passed from the rectum since the operation. Saline purgatives were given in small and frequently repeated doses. These had no effect. Being very desirous of having the bowels move, the nurse in attendance was ordered to give an enema of soap suds, castor oil, and turpentine. This was done without the desired result. A second one was given with a similar disappointment. The nurse reported that both enemas had been retained. Being anxious for results and thinking perhaps that the nurse had not accomplished her task properly, I took it upon myself to mix and administer an enema. One composed of the same ingredients was given without difficulty and was also retained. It was then noticed that fluid was coming from the drainage tube. The fluid was the enema. The solution of the difficulty was apparent. In separating the adherent tubes, a piece of the wall of the intestine had been removed. The abdominal cavity was full of castor oil, turpentine, and soap suds, and the future did not promise favorable results. The day following, a faecal fistula de-

veloped along the track of the drainage tube. The pulse had meantime gone to 156 and the temperature to 104 degrees F. Matters continued about the same for several days, when the more acute symptoms began to subside. The fistula remained for over six weeks, when it spontaneously repaired itself. The patient ultimately made a very satisfactory recovery, much to our relief. It illustrates how easily an intestine can be injured in those cases of firm adhesions. It also goes to demonstrate the endurance of the peritonæum under certain circumstances.

A woman going about with a pyosalpinx is in a dangerous position. There is a constant liability of the sac rupturing during some unusual exertion, and should she become pregnant, other complications supervene. Many cases put down as puerperal fever, if properly investigated, would be discovered to be ruptured tubes during the act of labor.

Although the majority of cases of inflammation and pus within the pelvis is the direct result of gonorrhœal infection, they are not all to be attributed to this cause. Miscarriages, abortions and other conditions are frequently the initial cause. The infection in these cases is usually more acute than in the gonorrhœal variety, and its method of entrance is apt to be different. The lymphatics and veins play a very important rôle in conveying noxious germs into the pelvis. It will be seen by what has already been stated in regard to the course of the lymphatics that the areolar tissue below the peritonæum and the broad ligaments will be the particular part where the most severe storm of inflammation expends its greatest force. The majority of such inflammations are acute. There are both physiological and anatomical reasons why this should be so. During pregnancy all the elements of the uterus increase greatly in activity. The muscular tissue develops in proportion to the needs of the growing fœtus and placenta; there is increased flow of blood to the organ, and the veins and lymphatics that have been lying passively dormant are in active physiological employment. There is a much greater degree of communication between the uterus and the other pelvic viscera than formerly. For a long time the belief was accepted that an infection taking place after a full time delivery, miscarriage, or abortion was due to some special unknown cause. This teaching is no longer accepted. The reasons already given, together with the further important fact that a uterus in these conditions is a bare surface similar to an open wound, are sufficient in themselves to controvert such a doctrine. The infection following the puerperal state is no respect different from that which so frequently takes the name of septicæmia or pyæmia in other parts of the body. A recently delivered woman, with her venous sinuses and greatly

developed lymphatic vessels, has greater facilities for the rapid absorption of streptococci than when the uterus and its vessels are not in active operation. (Fig. 12.) The symptoms of such an inflammation generally show themselves during the second or third day. Beginning insidiously, they gradually manifest prompt and decisive conditions. There may be a slight chill, but as frequently this is absent. The pulse generally first attracts attention. It may rise rapidly to 100 to 130 or over. The thermometer

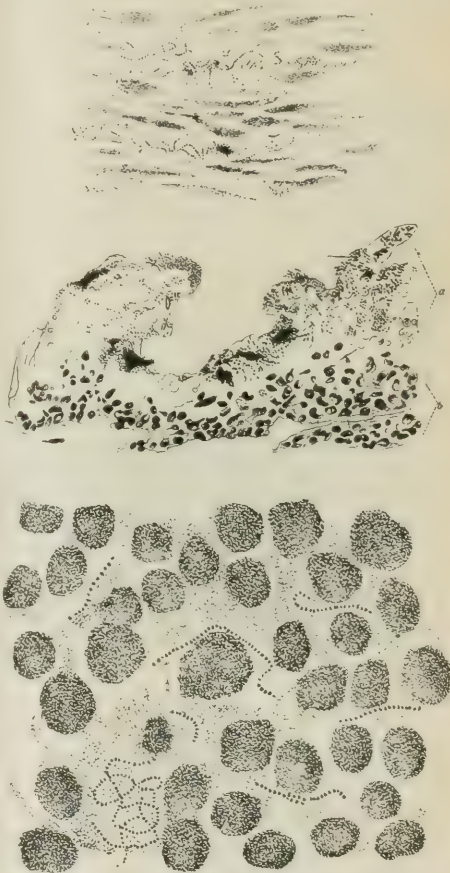


FIG. 12.—Illustrations of streptococci.

will register 102 or even 105 or 106 degrees F. In those cases, when there is a rapid absorption from a virulent source, the whole system may become overwhelmed by the intensity of the attack.

The great majority of these cases limit their power of destruction to the pelvis. Pain in one or other iliac region supervenes. This is sometimes quite intense, especially when the peritonæum becomes

involved. The pulse and temperature continue high. On making an examination by the vagina, the uterus will be found tender, swollen, and hot. Frequently the blood vessels can be felt throbbing against the finger. An exudation of greater or less extent can be mapped out and the whole pelvic organs will be to a great degree fixed. This active process continues with unabated persistency for several days, when gradual absorption takes place or the mass breaks down through a process of suppuration.

Fortunately, the former is the usual termination. The treatment of such a condition naturally suggests itself. The physician should take the utmost precaution in the way of preventive treatment by asepsis. When the uterus has become infected, the sooner active measures are taken to prevent the spread of the condition the better. Half way measures in the way of vaginal or uterine douches will not suffice. Curettage is clearly indicated. It is a difficult operation to do properly. In order to be of benefit, the curettage should be done systemati-

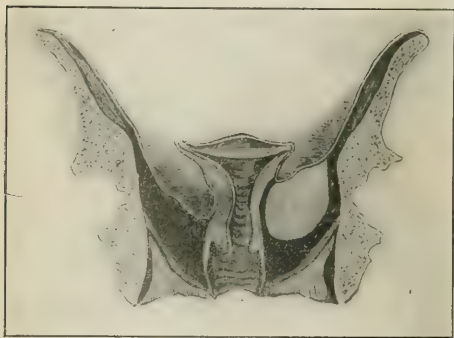


FIG. 13. An abscess below the peritoneum.

cally. Frequently one sees this operation done in such a manner that only harm results. The whole surface of the uterus should be covered in the process. For this purpose, a sharp curette is superior to a dull one, but it should always be steadfastly borne in mind that the uterus in these conditions is peculiarly soft and friable. It does not require much pressure to perforate the uterus. When the entire surface has been scraped off, the scrapings are to be washed away with a 2 per cent. solution of carbolic acid. It is then made as dry as possible by swabbing with absorbent cotton. An application of 95 per cent. carbolic acid is then to be thoroughly applied to the raw surface. Again it is washed out with a 2 per cent. solution of carbolic acid and a suitable packing of gauze left in. The packing should be removed in the course of twenty-four hours.

When the case has gone on to suppuration and an abscess has developed, an interesting problem presents itself to the attending physician. There arise demands that call for the exercise of the most deliberate judgment and sagacity that is possible to attain. When left to the workings of nature, a number of these abscesses spontaneously evacuate their contents into some of the adjacent viscera. This is not to be encouraged, for the reason that they frequently become adherent at a point high up on the abscess wall and perforate at this attachment. The consequence is that the patient gains immediate relief for the time being. The abscess cavity gradually fills up again to the level of the opening, accompanied by the usual symptoms of the formation of a fresh abscess. Again it empties its contents into the same sinus. This process may continue indefinitely and reduce the vitality of the patient to the lowest possible ebb. Occasionally an abscess points at its lowest boundary line and empties its contents and spontaneously becomes cured. This, however, is the exception. The general principle of evacuating pus wherever found applies with as great force to the pelvis as to other parts of the body. There yet remain those who advocate abdominal section for the liberation of pus, in whatever part of the pelvis it may be found. This reasoning is not scientific or surgical. Pus should be removed with the least degree of danger to the life of the patient. In the case of pyosalpinx, abdominal section should surely be the rule. When found between the folds of the broad ligament or below the peritoneum, an extra-peritoneal operation is by far the safer. There is no one rule or method of operation that can be applied and rigidly followed successfully. The successful operator is the surgeon who can determine by examination the most accessible point at which to attack an abscess with the minimum of risk to the patient. The surgeon who frees his mind from preconceived ideas and remains open to the advocacy of treating each particular case according to the complications present will meet with the greatest degree of success. Illustrations of the mistakes and disasters following in the wake of one set method of operating in these cases are altogether too frequent. A sad and pathetic instance of this came under the observation of the writer some time ago. The case was that of a young woman recently married who aborted at the fourth month of pregnancy. She was attended by her regular family physician. In the course of a few days symptoms of infection were noticed. These became quite active and there was every evidence of grave local and constitutional disturbance. The physician was aided by another who professed to have a fair knowledge of such complications. The patient showed all the symptoms of pus, and the physicians concluded that an operation was demanded. An

abdominal section was done by the usual incision in the median line. No abscess could be discovered, and the wound was sewed up. There was no relief from the operation and the patient gradually became weaker from sepsis. Another operation was performed a few weeks subsequently over the left iliac region, with a similar negative result. Again she was submitted to another operation, this time on the right iliac region, and again no abscess was found. It was then concluded that the condition was a general one with no localized abscess. The prognosis given was that the patient could not recover. The physicians withdrew from attendance and a clergyman came to read and pray with her

foundly septic. Her left leg was firmly flexed on the pelvis and could not be in the least extended without pain. The three cicatrices from the previous operations could be distinctly seen. The firm flexure of the thigh upon the pelvis suggested the idea that the abscess was situated somewhere along the line of the psoas muscle. On examination, this proved to be perfectly true. Above the left iliac crest and deeply seated, could be felt a large, firm mass that was somewhat painful to pressure. She was removed to a hospital on a stretcher the following day and prepared for an operation, which was performed the subsequent morning. An incision was made just above the iliac crest, downward and slightly in-

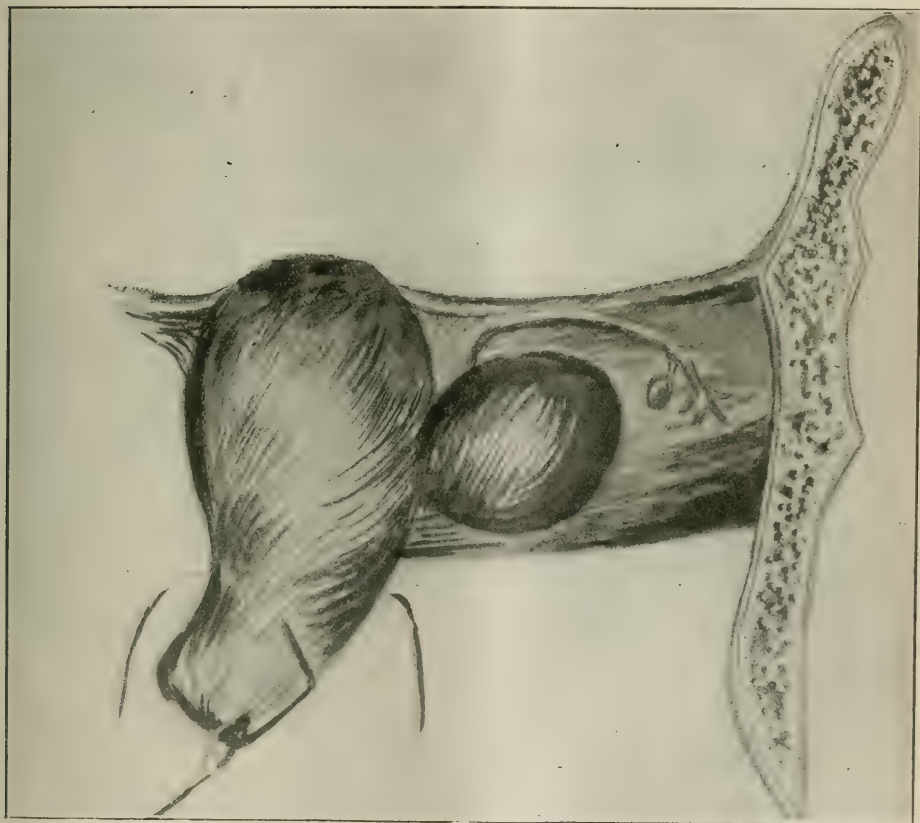


FIG. 14.—The uterus drawn slightly to one side. An incision is then made through the capsule. First step in operation.

daily. It was two weeks after the withdrawal of the physicians that the writer was asked to call upon the patient. She was in a pitiable state and verily was down in the valley and shadow of death. The pulse was then 140 and the temperature $104\frac{1}{2}$ degrees F. She was extremely weak and looked pro-

ward. After going through the muscular wall, the abscess was opened and a large quantity of very offensive pus came welling out. The cavity was washed out and packed. The temperature fell to normal during the same evening and remained so. The change in the appearance of the patient was

sudden and remarkable. In the course of three weeks she returned to her home fully recovered. The infection had burrowed up behind the broad ligament to a point corresponding to the level of the ileum. Fig. 4 illustrates the particular part where the abscess developed.

In a certain number of instances the abscess is developed in the areolar tissue beneath the peritonæum (Fig. 13). It frequently becomes attached

of operating in those cases where the abscess has developed between the folds of the broad ligament or in regions posterior to the uterus. Plunging a trocar or aspirating needle through these tissues is not considered scientific or conservative surgery. Much damage is likely to be done. Patients in such conditions are usually greatly reduced in strength and cannot stand a formidable operation like an abdominal section. Moreover, there are distinct ob-

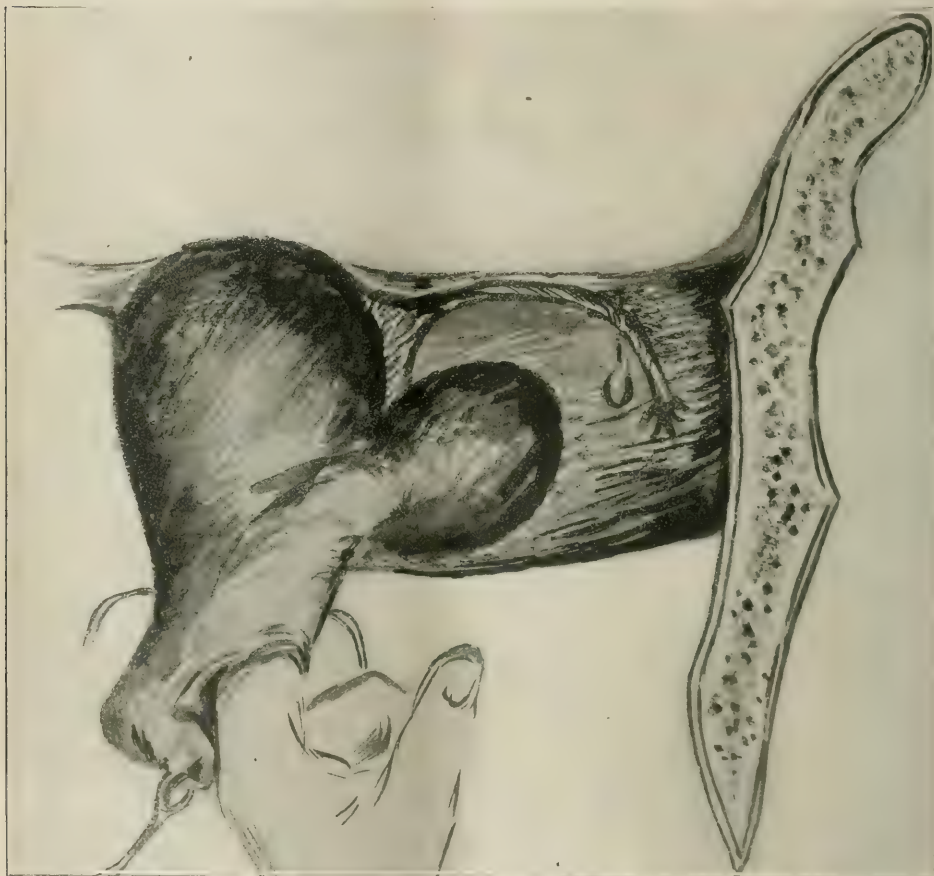


FIG. 13.—The finger is passed along the capsule into the abscess cavity. Second step of operation.

to the abdominal wall just above Poupart's ligament, and indicates a tendency to be liberated in this location. It can usually readily be determined when there has formed an attachment of the abscess wall to that of the abdomen. The part will be red, cedematous, and tender. There is absolutely no difficulty or danger in opening these abscesses in this location. It is the proper method of attacking them.

We now come to a consideration of the methods

jections to the operation of abdominal section for the relief of pus outside of the peritonæum. In the first place, there is a certain amount of shock incident to an abdominal section. There is the further and most considerable objection in the fact that nearly always the abscess wall is torn through and the pus spills over the peritoneal cavity. The writer for the last seven years has adopted certain routes for reaching pus in the pelvis that has been uniformly suc-

cessful in properly selected cases. When an abscess has developed in the folds of the broad ligament and is lying adjacent to the wall of the uterus,



FIG. 16.—The initial incision in the operation for gaining access to pelvic abscess in outer side of pelvis.

tenaculum and a scalpel. The patient is given a bath and the bowels are supposed to have been properly evacuated. An anæsthetic is administered and the patient put in the lithotomy position. The field of operation is thoroughly douched and the external parts are rendered as aseptic as is possible. In the operation to follow, advantage is taken of the fact that the uterus possesses a capsule that is of incalculable advantage as a guide to the abscess. The cervix is grasped by a tenaculum and drawn slightly to one side. An incision about three-quarters of an inch long is made through the capsule at a point indicated in Fig. 14. The index finger is gently insinuated into this opening and burrowed upward. Little difficulty is experienced in guiding the finger along underneath the capsule to any distance required. The sensation is somewhat similar to that felt in putting a finger into a wet glove. When the finger has reached sufficiently high, there will be experienced an increased resistance and a certain amount of induration due to the inflammatory exudation of the abscess. It is then gently curved in the direction of the abscess cavity, and by gentle pressure,

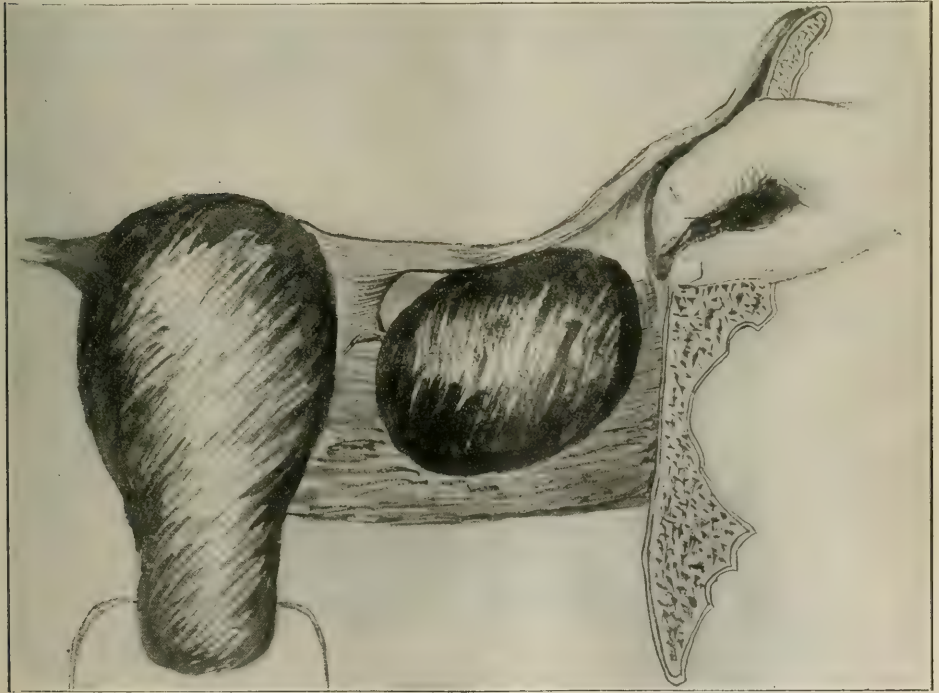


FIG. 17.—The finger is burrowing down into the abscess cavity beneath the peritoneum.

either to the side or to its posterior aspect, there is little difficulty and comparatively no danger in liberating its pus. All the instruments required are a

combined with a certain amount of scraping with the finger nail, an opening is quickly made into the centre of the abscess. The finger is withdrawn, followed

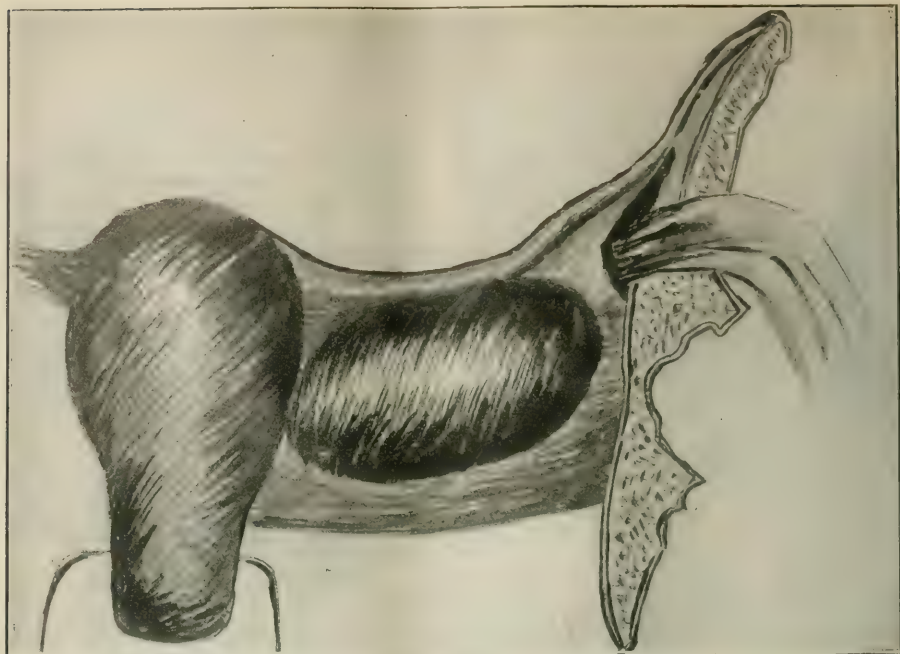


FIG. 18. Gauze drainage put into the abscess cavity after liberating pus from the side of the ileum.

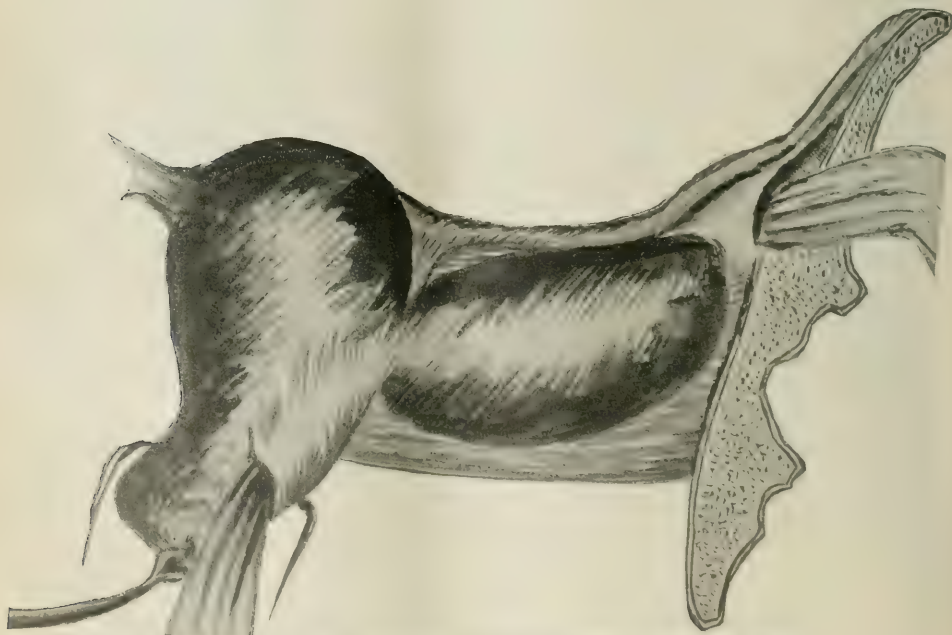


FIG. 19. An abscess extending from the uterus to the ileum and drained by combined operation.

by the pus. (See Fig. 15.) The abscess cavity can then be washed out and packed. It is remarkable how quickly all this can be done. Generally from two to five minutes is all the time necessary to gain the pus cavity. In those cases where the abscess is not formed close to the uterine wall, but rather to the outside of the pelvis and adjacent to the ileum, there is a method of liberating the pus I have adopted with success. When speaking of the distribution of the pelvic peritonæum in a former paragraph it was there shown that the pelvic peritonæum, where it ascended the side of the pelvis, was not intimately adherent to the muscles, but had a certain amount of connective areolar tissue intervening. This is of great importance to know, for it enables us to obtain access to pus in this neighborhood without opening into the peritonæum. The patient is prepared for the operation as ordinarily. The initial incision is made one inch below and a little to the inner side of the anterior superior spine of the ilium. The direction of the incision should be downward and outward. The structures are cut until the connective tissue is reached. (See Fig. 16.) The finger is then used to burrow down beneath the peritonæum and into the pus cavity. (See Fig. 17.) This can be washed out and drained as would be done in abscess cavity in any other part of the body. (See Fig. 18.)

Finally there are occasions when the abscess fills up the entire side of the pelvis from the uterus to the ileum. Generally one or other of the operations already indicated will be found all that is necessary to be done. There are cases, however, in which the double operation is better suited for speedy and more permanent relief. The operation at the side of the ilium is first performed; afterward the patient is put in the lithotomy position and the finger run up underneath the capsule of the uterus, into the abscess at the side of the uterus. The condition is then completely under the control of the physician. It can be washed out from above down through the abscess cavity into the vagina. A gauze drain can be put in the whole extent and the abscess cleaned and dressed as frequently as may be indicated. (Fig. 19.) The methods of operating in these abscesses, herein rather hurriedly enumerated, the writer has found to be exceedingly satisfactory and to reduce the mortality to the lowest possible minimum.

12 WEST FORTIETH STREET.

Fiscal Therapy.—The *Sanitarian* cites the following from the *Medical Times*: A seven-year-old child swallowed a silver half dollar, causing serious symptoms. A physician was called, who promptly administered a little mint. There was an immediate change, and before nightfall the child passed five silver dimes.

Original Communications.

FURTHER OBSERVATIONS REGARDING THE MALARIAL ORIGIN OF ZOSTER.

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In a paper entitled *Blood Examinations regarding the Malarial Origin of Zoster* (1), published April 6, 1895, I gave the results of examinations of the blood in eight zoster patients. It was shown that about fifty per cent. of them were suffering from malarial infection, as proved by the presence of the malarial parasite in the blood. Since that publication, I have continued my investigations; and in order to place them upon record, I will briefly report the results of my subsequent study. It is not deemed necessary to give detailed histories, but simply to state the age, sex, variety of the eruption, or any important symptoms. For various reasons it was impossible to examine the blood in all of the cases of zoster that came under observation.

The first occurred in a man aged forty-eight; the eruption covered the left side of the face, neck, and shoulder, extending down over the arm. Immediate examination of the fresh blood revealed the presence of the intercellular and pigmented varieties of the plasmodium. For six weeks previous to the outbreak of the eruption the patient had suffered from a number of indefinite symptoms, which his doctor had attributed to malaria.

The next case was seen in a girl aged twelve. For three months she had been sick with malarial fever of the intermittent type. The zoster was of the common intercostal form, and had been preceded by unusually severe neuralgia. Examination of the fresh blood several days after all antimalarial remedies had been stopped showed the presence of pigmented and ring-shaped malarial parasites.

Dr. E. H. Wilson, bacteriologist of the Hoagland Laboratory, kindly examined specimens of both the fresh and stained blood, and reported that he had seldom seen a more beautiful example of the plasmodium. Microscopically, there was no difference between them and some specimens of undoubted malarial blood recently obtained from Havana.

The third was in a young man, aged twenty, with a left cervicobrachial zoster of three days' duration. According to his report, for several days he had suffered from symptoms that, had it not been for the advent of the eruption, would have been diagnosed as those of intermittent fever. Blood

examinations revealed nothing special, except a decrease of the red cells.

The fourth case was one of recurrent zoster. The patient was a man, aged thirty-five, whom I had attended four years before for a severe intercostal zoster of the left side. At that time the blood was not examined. For three successive autumns he had an attack of zoster-autumnal fever. The present attack of zoster had been preceded by a return of the malarial affection. The eruption was intercostal, involving the whole of the right side, the preeruptive neuralgia had been very severe, and there was considerable cervical adenopathy. The blood contained the crescentic-shaped parasites.

Cases V, VII, XI, and XVII were in males with intercostal zoster. In all there had been symptoms indicative of malarial poisoning. The blood showed the presence of the flagellate plasmodium.

Cases VI, VIII, and IX were in children all under sixteen; the youngest was nine years old; they were from the tenement section of the city and, as a rule, were poorly nourished, and showed the effects of bad air and unhygienic surroundings. Two had left intercostal zoster; in one the eruption was on the right side of the face and neck. Nothing was found in the blood.

In Case XII the patient was admitted to the dermatological ward of Kings County Hospital suffering from the most extensive zoster I ever saw; its distribution was practically bilateral. The older and severer eruption began on the left buttock and extended almost completely around the thigh, with a few herpetic spots scattered over the upper part of the leg. A day later an intercostal zoster appeared on the right side; the inguinal glands were markedly enlarged and tender; the prodromal symptoms were unusually severe; the temperature was 104° for three days; there was considerable nausea and restlessness and the patient complained of the burning and itching of the skin of the affected parts. Examination of the blood showed the pigmented variety of the plasmodium.

For the histories of Cases XIII, XXIII, and XXV I am indebted to my assistant at the Polhemus Memorial Clinic, Dr. John J. Lyons.

Case XIII was in a girl aged seventeen, who had right intercostal zoster; temperature 102° ; cervical and submaxillary glands considerably swollen. Several careful examinations of the blood resulted negatively.

Case XXIII was that of a lad about fifteen years old; the eruption involved the left side of the face, neck, and shoulder; the boy had suffered from feverishness and malaise for several days before consulting the doctor. The crescentic and pigmented bodies were found in the blood.

Case XXV was also in a boy who had the inter-

costal type of zoster; there were no symptoms that indicated any paludism, although, on examining the blood, pigmented cells were found, which the doctor and a consulting bacteriologist considered to be true examples of the pigmented organism.

Cases XIV, XV, XVI, XVIII, and XXII, were seen in private practice. Three were in males whose ages ranged from twenty-five to fifty; the two women were past middle life. Four of the cases came from one section of the city; in fact, the patients lived on adjoining blocks. They were all observed within an interval of three months. Two had an intercostal zoster. One was gluteal; another was ophthalmic, and in the other the eruption was on the neck and occiput. All the patients gave a history of symptoms that could easily have been called malarial; but in only two, the ophthalmic and the gluteal, did the examination of the blood verify this assumption.

The remaining cases, XIX, XX, XXI, XXIV, were all seen during the past year. Three were in private patients; the other patient was from the Polhemus Clinic. In one the zoster followed the distribution of the lower lumbar nerves. Two were upper thoracic, and in the other the eruption was limited to the left auricle and side of the neck. One patient, a man aged thirty-one, had had repeated attacks of "regular chills and fever," although he had been free from them for eight months before consulting me for the zoster. The advent of the zoster had been preceded by malaise, loss of appetite, and feverishness. The blood showed the presence of the flagellate form of the plasmodium.

Of the three remaining cases, two were in males and one in a female. Examinations of the blood revealed nothing pathognomonic, except a diminution of the red corpuscles.

Summary.—Exclusive of the eight previously reported, the total number of cases examined was twenty-five. Nineteen were in males and six in females. The ages ranged from nine to fifty years. Eighteen cases occurred at the change of the seasons; six were seen in the spring and twelve in the autumn.

Although all the patients examined had symptoms suggestive of some infection, either malarial or the intoxication of some other organism, only fourteen, or about fifty-six per cent., gave positive evidences of paludism, as proved by the presence of the malarial parasite in the blood. In eleven no plasmodia were found, although two showed marked decrease of the blood cells. Fifteen of the patients were afflicted with intercostal zoster; two had the eruption on the face, neck, and shoulder; in two it was over the gluteal region; two others had it over the neck and occiput. In another the side of the face and neck was involved; one was

of the ophthalmic variety, another was over the lumbar region, and another began on the neck and extended down the arm. One case was bilateral, and one was an instance of recurrent zoster. Three patients had enlarged glands, and in one the glands were tender as well as swollen. In each of those that had adenopathy the plasmodium was found.

A very careful examination of both dermatological and neurological literature for the past twelve years gives but little light upon the question of the malarial causation of herpes zoster. While nearly all writers admit that this poison may produce this particular cutaneous eruption, only four adduce any personal observation in support of that view. Colombini (2) reports a case of universal zoster in which the blood contained the plasmodium. McDonnell (3) gives the history of a young man who had malarial fever for four summers; the last attack was accompanied by zoster. He thinks that on close inquiry it will be found that many patients suffering from zoster have recently had old-fashioned chills and fever. According to his experience, the intercostal form is most common in malarial subjects. While it would be safe to conclude that the case he cites was probably, or at least possibly, influenced by the malarial toxæmia, still, his deductions lack weight, because positive proof that this infection was present is lacking.

Riesman (4) reports a case of a man suffering from typhomalarial fever accompanied with a severe facial zoster. Powell (5), of Assam, British India, states that the significance of herpes is now recognized in Assam, and it is believed by the natives that if the eruption appears during the disease (malarial) it is a sign that the attack of the primary infection is over.

Cases have been seen where the zoster was the only manifestation of the paludal infection. Such reports as these are of considerable value, for they show that the intoxication with the malarial organism does produce certain manifestations on the skin; but it is to be regretted that three of the observers were contented with the inference that the cases reported were due to malaria when they could have easily verified their suspicion by examining the blood for the specific organism; if the parasite had not been found, the value of their observations would not have been lessened. The consensus of opinion of many observers is that there is a true herpes zoster, an infectious disease, caused by some specific organism the nature of which is yet undetermined.

Wasilewsky (6) in 1892 reported the occurrence of a number of epidemics of zoster, and, reasoning from the symptoms, and the fact that it rarely attacked the same individual twice, he strongly inclined to the belief that it was a disease of infectious

origin. Landouzy (7) considers herpes zoster to be a specific infectious eruptive fever, one attack rendering the subject immune. Hay (8) and Grindon (9) also strongly uphold the theory of infection. They lay great stress upon the presence of adenopathy, the marked prodromal symptoms, and the high preeruptive fever.

In a recent article by Head and Campbell (10) the pathology of zoster has been more accurately discussed than ever before; they infer that the herpetic lesion is due to some unknown infective agent which in some manner selects the posterior root ganglia and produces marked inflammatory changes, which in turn irritate the nerve filaments, and eventually the eruption appears upon the skin. Many attempts have been made to isolate organisms that have an ætiological bearing on the disease, but so far very little of importance has been accomplished.

Peffer (11) maintains that protozoa are always found in the affected skin of true zoster. Hartzel (12) corroborates Peffer's statements, but adds that the same bodies are also found in other infectious cutaneous inflammations, such as variola, varicella, etc. Gilchrist (15), however, combats the theory, and declares that the protozoa are nothing but disfigured nuclei of the epithelium cells.

Colombini discovered the *Staphylococcus pyogenes aureus* in the contents of the blister; it is doubtful if this finding is of any value in clearing up the ætiology of zoster, for the presence of this particular organism could easily be accounted for from contact contamination of the vesicular contents.

Hay professes to have found cocci and spores in a smear made from an enlarged gland in one of his cases of zoster, but, as he says, "little importance could be attached to these, as other vegetable bodies were also discovered." In addition, he also found many minute round refractile bodies (microorganisms) in sections from the same enlarged lymph node.

It can be seen from the foregoing that a specific organism of herpes zoster has not yet been discovered. In the endeavors to find the ætiological factor of this disease the blood has also undergone very careful scrutiny. Leredde (14) found nothing pathognomonic, except a marked diminution of the white corpuscles, and after the disease had progressed for a week or more there was an increase of the eosinophiles. Colombini and myself have found the malarial parasite.

After carefully examining all the theories pertaining to the ætiology of zoster, one is reduced to the conclusion that there is great uncertainty regarding the cause of the disease. We do know, however, that a zoster-like skin eruption often accompanies lesions of the nerves or the root ganglia;

that poisoning from coal gas, arsenic, and the like, may be followed by a zosteroid eruption. The same variety of skin lesion is sometimes noted during the course of tuberculous consumption. Head and Campbell made an autopsy in a case of lymphosarcoma involving the posterior nerve ganglia where zoster had been one of the symptoms.

We are also beginning to believe that there is an infectious disease that always manifests itself upon the skin in a characteristic manner. If this disease is due to something that causes an inflammation of the nerve ganglia, and a consequent irritation of the nerves running from them, why could not malarial infection produce this nerve inflammation as well as it does many other nervous disturbances?

While the number of cases reported is not sufficient to establish the aetiology for a large class, still, it will be seen that nearly forty per cent. of all cases of zoster occurring in my practice during the last nine years were undoubtedly in some way influenced by malarial toxæmia. Reasoning from the foregoing, it seems possible that malaria could be found to be an aetiological factor in many of the so called epidemics of zoster.

It is not the intention of this paper to assert that this special organism is the only causative agent in the production of this neurocutaneous disorder, for it is undoubtedly true that many different varieties of bacterial intoxication could bring about the same effect. It is only maintained that the *Plasmodium malariae* should be considered one of the causes in a disease that is so aetiologicaly uncertain.

Note.—Since writing this paper, I have received a reprint from Dr. Martin F. Engman, of St. Louis, entitled *The Report of Eighteen Cases of Various Eruptions Associated with Malarial Infection*, published in the *Medical Bulletin of the Washington University*, January, 1902. It is a report of eighteen cases of various skin diseases in which examination of the blood demonstrated the presence of the malarial plasmodium. Six of the cases were urticaria, five zoster, three pompholyx (one of these followed an attack of zoster), two erythema multiforme, one multiple spontaneous gangrene (Osler), and one an anomalous eruption. This contribution is a valuable corroboration of my observations, for excepting mine and the two quoted above, this is the first report that has positively proved that malaria exerts an influence on certain skin diseases, as demonstrated by the finding of the plasmodium.

47 HALSEY STREET.

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SOME OF THE THERAPEUTIC USES OF THE X RAY.*

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The extravagant and oftentimes unwarranted claims made by the group of enthusiasts who first take the field in championship of new therapeutic measures have rarely borne the test of experience, and some disappointments probably await those of us who expect the x ray to cure all forms of human ill. Nevertheless, an even conservative estimate of the significance of the almost uniformly favorable reports of the use of the x ray in the treatment of certain pathological conditions must suggest the possibility, if not the probability, that we see the dawn of a brighter era in therapeutics.

In the x ray we have a new and as yet imperfectly understood force, a new form of energy which is neither electricity nor light, although produced by the one and closely related to the other. This "radiant energy" possesses the power of modifying the vital activities of living cells and tissues, a fact which is in no way surprising when we have in mind the universal law that all forms of force mutually affect one another and are transformable one into the other, the every day manifestations of the action of heat, light and chemical energy upon living cells

* Read at the meeting of the Medical Association of the State of Alabama at Birmingham, April 17, 1902.

offering familiar illustrations. Whether the x rays of Röntgen are transverse or arrhythmic vibrations of the luminiferous ether we need not pause to consider, nor is it needful that we here discuss the relation of the x rays to the Becquerel and the ultra-violet rays. Whatever their nature and source, they do without question influence the growth and nutrition of cells. It is this effect upon cellular metabolism which gives the x ray its value in the cure of disease, and not its destructive action (of which the so-called x ray burn is an example) or any supposed germicidal power.

It is not my purpose to review the entire subject of the use of the Röntgen rays in curative medicine. I wish only to make a brief preliminary report of my own limited experience, and to bring the matter before the association for comment and discussion.

The first case in which I tried the x ray was one of long standing carcinoma of the face, in a gentleman of middle age who had previously tried almost every known treatment without success. The growth, which had commenced at the side of the nose, had been removed by surgical operation; had recurred and been again excised; had again recurred and been burned out with caustics by a "cancer specialist;" had again recurred and been unsuccessfully treated by a much advertised method of hypodermic injection. The patient when I first saw him was worn out by long suffering and the use of morphine, to which latter he had resorted for relief from unendurable pain. He was emaciated, cachectic, in a state of melancholic despondency, and altogether a very unfavorable subject for treatment of any kind. The destructive action of the malignant disease, together with the numerous unsuccessful operations, had resulted in a deep, ragged hole in the left side of the face with entire destruction of the left half of the nose, part of the upperlip, and all of the soft parts of the cheek in an area of three by four inches, exposing the malar and superior maxillary bones and the roots of several of the upper teeth. There were continuous and distressing pain and an abundant and very offensive discharge.

The carcinomatous area was treated by exposure to the rays generated in a medium vacuum Crookes tube for ten minutes every other day, the surrounding healthy parts being protected by a metal screen. After about two weeks the patient volunteered the information that his pain had left him entirely and that he was able to sleep without morphine.

Shortly thereafter he noted that the offensive discharge was growing less abundant. Within a month this discharge had entirely ceased; there was no bad odor, no pain whatsoever, and the edges and deeper portions of the ragged cavity were beginning to show healthy granulations. The healing

process thus instituted has progressed steadily to the present time. The exposed bone has been entirely covered by new and healthy tissue. The edges of the cavity have closed in considerably, and the previous infiltration and hardness of surrounding parts been replaced by seemingly normal tissue. The present condition is that of a fairly healthy ulcer which is steadily healing. The patient has gained in weight, lost his cachectic look, become cheerful and confident of recovery, and voluntarily abandoned his morphine habit. If no further improvement should be obtained, his condition is a hundred times better than it was four months ago, when this treatment was commenced. The marked improvement under the x ray, following the conspicuous failure of the measures previously tried, has been more than satisfactory.

The second case which I to report is one of apparent cure of an epithelioma of the face. The disease began several years ago as a small, hard nodular mass on the side of the nose. After remaining dormant for some time it commenced to grow, and the patient, becoming alarmed, consulted Dr. Matas, of New Orleans, who diagnosed the growth as epithelioma and advised immediate operation. This was agreed to, and the growth excised by Dr. Matas. Microscopical examination after removal confirmed the diagnosis, the structure proving to be that of a squamous epithelioma. Within a year the disease recurred in the scar left from the operation. The gentleman returned to New Orleans and Dr. Matas again excised the growth, this time supplementing the cutting operation by the liberal application of chloride of zinc. The result was a deep, unsightly cavity in the face, with destruction of the entire upper half of the nose and such erosion of the frontal bone as to leave an opening into the frontal sinues.

Some two years later the patient noticed upon the skin of the face, beneath the left eye and near the edge of the scar left from the operation above spoken of, an indurated nodular mass. This increased in size and presented at the time I first saw it the characteristics of a squamous epithelioma. It was firm, had a reddish base, was adherent to the subcutaneous tissues, but had not ulcerated, and was only about $\frac{3}{4}$ of an inch in its greatest diameter. The x ray was used daily for two weeks, with ten minute sittings; the treatment was then interrupted for a week; then recommenced and continued almost daily for three weeks longer. There was scarcely a perceptible reaction for three weeks after the treatment was begun. Then the growth was noted as being softer and more freely movable, and somewhat shrunken. Within the next week all of the hard outer portion of the nodule dropped away. A week later, six weeks after treatment was commenced,

the entire nodule came away, leaving a healthy, pink, inconspicuous scar, which scar is now, three months later, of the same color as the surrounding tissue and scarcely discoverable. No microscopical examination of this growth was made, the gentleman wisely preferring not to have any portion of it excised. The history of the case and the nature of the original growth, taken in connection with the appearance of the last described nodule, leave scarcely a doubt that it represented a recurrence of the epitheliomatous disease.

I have under treatment at the present time a gentleman who had an epithelioma of the face removed by operation, then, after recurrence, by escharotics. There remained an unsightly contracting scar at the left side of the nose which had drawn up the corner of the mouth, causing much disfigurement. In the center of this scar tissue the growth had recurred as a small destructive ulcer, attended by much pain and some discharge. The treatment has thus far given entire relief from the pain, stopped the discharge, and removed the "drawing sensation" from the scar. There has also been instituted a healthy healing process in the ulcer, which has nearly but not quite closed over. The case has been treated eleven times only, and the treatment covering a period of about four weeks. The ultimate result should be favorable.

I have also under treatment a case of lupus of the face and nose in which, after ten sittings, the nodules are shrinking and the ulcerated surface healing over satisfactorily. The curative effect of the x ray upon lupus is a fact already most thoroughly established by the work of numerous users of this agent, so I hope for recovery in this instance.

A specific effect in relieving pain has been attributed to the x ray, with ample confirmatory evidence. Its quite remarkable influence in stopping the pains of carcinoma has already been alluded to. I have also known one application to dissipate a facial neuralgia, and in a second case to effectually remove intense intercostal neuralgic pain. Many similarly favorable reports of the x ray influence in curing headache and functional nerve pains of all kinds are finding their way into medical literature.

With other conditions than those above mentioned I have thus far had no experience, but if we may credit the reported favorable results of numerous conservative workers in the field of x ray therapeutics, the following are also cured or greatly benefited by this treatment: Certain diseases of the skin including eczema, psoriasis, and acne; keloid growths; birth marks; hypertrichosis; carcinoma mammae and some forms of sarcoma. Many other conditions have been cited by one or more physicians as curable by means of the x ray, concerning which we may not unreasonably ask for corroborative

evidence before accepting the results as proved. Among these are the alleged cures of pulmonary tuberculosis, osteosarcoma, gastric carcinoma, and other deep-seated malignant growths.

The prominence of the cures of epithelioma, lupus, etc., can only be demonstrated by time. Recurrences have thus far been infrequent, but not unknown.

The advantages possessed by the x ray treatment are certainly of good result in suitable cases; the inconspicuous scar and absence of subsequent contraction in the scar tissue; absence of pain; entire absence of danger.

Its disadvantages are the time and great care required to properly carry out the treatment and the necessary cost of the apparatus. The disadvantages are many times over-balanced by the advantages. It is scarcely to be doubted that in this method of treatment we have the best means of relieving the forms of malignant and other cutaneous diseases above mentioned which has yet been introduced, the only therapeutic measure approaching it in excellence of results being the closely related Finsen light treatment.

The time during which the sittings should be prolonged, the frequency of the sittings, the forms of apparatus used, the proper vacuum for the Crookes tubes, and the methods of protecting the surrounding healthy parts are of interest only to practical users of the x ray, and will not be touched upon here. I will only state in conclusion that all of my work has been done with a motor-driven static machine and moderately low vacuum German tubes.

105 ST. JOSEPH STREET.

A CASE OF FOREIGN BODY IN THE MALE URETHRA,

By J. EDWARD HERMAN, M. D.,
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A married man, sixty years of age, called at my office early one morning and informed me that he had a pin in his urethra, such as ladies use to fasten on their hats. He had been in the habit of introducing this into his urethra, button end foremost. The previous night it slipped from his fingers and the entire hat pin disappeared from view, and he had found it impossible to recover the end of the pin. His efforts to extract it only drove it still farther along the urinary canal.

On examination, I found the head of the hat pin, which was about six inches long, in the perineum, and the point of it embedded in the tissues of the penis near the glans. The head of the pin could not be forced along any farther from the place where it lay, and it was not possible to make the point advance from the meatus, for it had left the cavity of the urethra.

The reason for reporting this unpleasant case, is

to put on record the method I adopted for extracting this foreign body. Under the circumstances attending its presence, it did not seem advisable to extract the pin by cutting down on it and extracting it through the perineum, head end foremost, as the consequences of this operation might have exposed the man's unfortunate sexual perversion to his family. The procedure by which I removed the pin was as follows: I grasped the head of the pin, which could of course be easily felt in the perineum, and made counterpressure on it by pushing the penis in a downward and backward direction, so that the point of the shaft of the pin emerged near the corona on the dorsum of the glans. Then, obtaining a firm hold on the point of the protruding pin with a stout artery forceps, I made firm traction, and finally extracted the shaft of the pin until further removal was impossible, because the pin's head, which was of porcelain and of about the size of a shoe button, prevented the withdrawal of the hat pin. Then, reversing the direction of the shaft of the pin, so that I could make the head, which was still in the urethra, point away from the man's body, with the aid of the increased room afforded by an incision which enlarged the meatus, I was enabled to push the pin forward through the natural opening head end first.

383 EVERGREEN AVENUE.

Therapeutical Notes.

Chloride of Gold in Tuberculous Lesions.—Brière (*Semaine médicale*, xxii., 17) reports that gold chloride is of value in local tuberculous conditions, such as adenitis, cold abscesses, etc. He uses a solution containing sixteen grains of gold chloride in two ounces of water. From four to sixteen drops of this solution are injected into the abscess, etc., once or twice a week. Adenitis has been arrested in about twelve injections and, in other classes of cases, the results obtained have been thus far very satisfactory.

Internal Administration of Lactic Acid for Pruritus.—M. Du Castle (*Journal de médecine et de chirurgie pratiques; Revue médicale du Canada*, July 16th) on administering lactic acid to a child the victim of generalized pruritus, to cure its digestive troubles, found that the pruritus rapidly disappeared. Since then, he has administered the remedy for pruritus to many children, and also in cases of senile pruritus, with great success. In one case of an obese woman with vulvar pruritus of four years' standing, but not glycosuric, a fortnight's treatment caused its disappearance, and the patient had had no return two years later. For little children the dose is from ten to sixteen drops of a one-per-cent. solution, in divided doses through the twenty-four hours. This can be raised when the remedy is well borne. For adults a daily dose of one gramme (fifteen drops), well diluted.

Carbolic Acid and Camphor in the Treatment of Wounds.—Chlumsky, of Cracow (*Časopis Českých Lékařů*, 1902, 4.), has used the following method of treating infected wounds for some time with very good results. He mixes pure carbolic acid and

camphor in equal parts, and paints the mixture upon the surface of the wound. The mixture is not at all caustic, and smells of camphor. The treatment of erysipelas with this combination is particularly efficacious. The temperature falls even after the first or second day of the treatment, and the swelling and redness diminish. Infected wounds are washed with the mixture and the excess is taken up with absorbent cotton. In some severe cases compresses saturated with the mixture were placed upon the wound, and yet no poisoning resulted. The wounds became cleaner and the fever abated very quickly. The only inconvenience was the fact that the skin became parchment-like after a few applications, and desquamated slowly afterwards.

For Lumbago and Articular Rheumatism, Robinson (*Merck's Archives*, April) says that lumbago readily yields to a vigorous application of the following ointment:

R Camphor chloral	1 drachm
Salicylic acid	1½ drachm
Menthol	20 grains
Capsicum, powdered	1 drachm
Oil of mustard	8 drops
Lanolin	4 drachms
Petrolatum, enough to make.....	2 ounces
M. S. Apply with friction three times daily.	

Sometimes the oil of Tiglium (croton) is substituted for the oil of mustard. The author has not come across a single case of genuine lumbago or rheumatic pains in the large muscles which has failed to yield to this combination. Strange to say, in joint rheumatism it is not very effective. It sometimes even aggravates the pain. In the latter condition the following application the author describes as excellent:

R Menthol	1 drachm
Salicylic acid	2 drachms
Methyl salicylate	1 drachm
Alcohol, enough to make.....	1 ounce

Paint the joints briskly with a camel's hair brush, cover with absorbent cotton and oiled silk, and bandage snugly, but not tightly.

So efficient has this combination been in his hands, that the author has been able in the large majority of cases of articular rheumatism to dispense entirely with internal medication. The salicylic acid and methyl salicylate are rapidly absorbed and their presence is soon demonstrable in the urine. After a few applications the epidermis begins to peel off, and the application should be stopped for a day or two, and an emollient ointment, such as that of zinc oxide, should be applied. The methyl salicylate is only efficient in acute rheumatism, and is practically useless in chronic cases. In subacute and chronic rheumatism the best results are obtained with a thirty-three-per-cent. ichthylol or a twenty-per-cent. ichthylol-glycerin ointment or solution, aided by the persistent long-continued administration of ichthylol and potassium iodide. Unfortunately, no matter what treatment we may adopt, some case of chronic rheumatism will baffle the utmost efforts of the best men in our profession.

The Hetol Treatment of Tuberculosis. By Dr. O. Amreni (*Lancet*, July 12th).—The author reports the results of the treatment of thirteen cases of pulmonary tuberculosis with hetol (the sodium salt of cinnamyllic acid) as advised by Lauderer. The beginning dose was one milligramme, given by intravenous injection every third day, and increased by one milligramme after two injections of a similar dose until ten milligrammes were reached.

Of the thirteen cases success was obtained in four; but as all the patients were undergoing a cure at great altitudes at the same time, it is impossible to say whether the good results were caused by the injections or not. No harmful influence was apparent, yet the author never could see any positively good effect which could not be accounted for by the climatological, hygienic, and dietetic treatment.

Modes of Administering Sodium Cacodylate.—Martinet (*Presse médicale*, 1901, 70) gives the following details about the administration of this preparation of arsenic: Sodium cacodylate occurs in the form of white, odorless crystals of a weak acid taste, which are insoluble in ether, but easily soluble in water and alcohol. It contains 54 per cent. of arsenic by weight, but in spite of this fact lacks the toxicity of arsenic almost entirely. Armand Gautier, who, in conjunction with Dauvois, introduced it into therapeutics, gives the following tests for sodium cacodylate: (1) It must not give rise to a precipitate upon the addition of a mixture of lime and baryta water. (2) On addition of hydrochloric acid the solution of sodium cacodylate must not give a precipitate with hydrogen sulphide or yellow arsenic sulphide. The presence of these two reactions shows that the solution of cacodylate is not free from arsenious and arsenic salts. Sodium cacodylate, according to Gautier, should not be given otherwise than by subcutaneous injection, for which the following formula may be used:

℞ Sodium cacodylate, pure..... 6 parts
Carbolic acid in alcohol..... 10 per cent.
Carbolic acid in alcohol, 10 per cent..... 3 drops to the ounce
Distilled water, enough to make.....100 parts
M. Sterilize. Begin with small doses, i. e., a third of a grain, and gradually increase to 1½ grain.

Injections are prepared daily for from eight to twelve days, and an interval of eight days is then allowed to elapse before beginning a new series of injections. The administration of iodine increases the effects of sodium cacodylate. If it is impossible for some reason or another to give these injections, the author recommends the administration of sodium cacodylate by the rectum or mouth. In these cases, the breath of the patient has the disagreeable odor of garlic. For internal administration we may use the following:

℞ Sodium cacodylate.....0.5 grammes (7½ grains)
Distilled water enough to make.....100 grammes (3 ounces)
One or two teaspoonfuls are to be taken in a large amount of water or other fluid during the meals.

Or the remedy may be given in pill form, thus:

℞ Sodium cacodylate.....0.02 gramme (⅓ grain)
Benzoinof each 0.01 gramme (⅓ grain)
Licorice powder.....
Alcohol, 95%..... 1 drop
M. Make one pill. Take one during each meal.

The rectal administration of sodium cacodylate is as follows: From one to two teaspoonfuls of a ½ or 1 per cent. solution of the drug in water are mixed with one or two tablespoonfuls of boiled water, and, if necessary, one or two drops of tincture of opium are added. This mixture is injected daily by the rectum for eight or ten days; then an interval of a few days is allowed to elapse.

For the Vertigo of Arterio-sclerosis.—M. Huchard, according to M. J. Vires (*Gazette des hôpitaux; Revue médicale du Canada*, July 9th), recommends the taking, morning, noon, and night, of a tablespoonful of the following:

℞ Potassium iodide..... 3 grammes (45 grains)
Distilled water.....300 grammes (10 ounces)
M.

The use of iodide in such fractional doses does not need to be suspended save at rare intervals.

If there is any tendency to anginal attacks, a tablespoonful of the following should be given three times daily:

℞ Solution of glonoin, 1 per cent..... 40 to 60 drops
Distilled water.....300 grammes (10 ounces)
M.

For use during an attack of angina order amyl nitrite for inhalation.

If tachycardia is the dominant feature, give each day two or three of the following pills:

℞ Extract of *Convallaria majalis*.....0.10 grammes (1½ grain)
Sparteine sulphate.....0.05 grammes (¾ grain)
M. ft. pil i.

Or one or two subcutaneous injections of one cubic centimetre (fifteen drops) of the following solution:

℞ Sparteine sulphate.....0.50 grammes (7½ grains)
Sterilized water.....to 10.00 cubic centimetres (150 minims)
M.

If the strength notably diminishes, give daily for a week, two teaspoonfuls of the following mixture well diluted:

℞ Fluid extract of kola.....9 drachms
Fluid extract of coca.....6 "
M.

If the patient complains of deficient appetite administer fifteen drops of the following mixture before each meal:

℞ Tincture of nuxvomica.....
Tincture of gentian.....of each 2 drachms
Tincture of calumba.....
M.

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SIR FREDERICK TREVES ON APPENDIX
OPERATIONS BETWEEN ATTACKS.

Last week we ventured to dissent somewhat from certain views regarding McBurney's point expressed by Sir Frederick Treves in his recent Cavendish Lecture on Some Phases of Inflammation of the Appendix (*West London Medical Journal*, July). It is with all the more satisfaction, therefore, that we now heartily endorse much that he had to say in a subsequent portion of his lecture, bearing upon operative intervention. Perhaps he is rather too unfavorably inclined toward an operation during an acute attack, stating that the risk to life probably entails a mortality of over twenty per cent., but it is to his convictions regarding the operation during periods of quiescence that we shall at present restrict our attention.

It appears that so long ago as in September, 1887, Sir Frederick presented before the Royal Medical and Chirurgical Society a paper in which he suggested that cases of recurring appendicular inflammation should be treated by removal of the appendix during the absence of acute manifestations. He now informs us that since that time he has removed the appendix in over a thousand quiescent cases, and with only two deaths. Such an experience must be held to go very far in support of the plan of intervening between attacks. If, he says, an attack has been attended by the formation of an abscess which has healed, removal of the appendix may be deferred indefinitely, for by the occurrence of suppuration the patient, in all but a very small percentage of cases, is cured of his trouble, but on the recurrence of symptoms after the abscess has closed, the operation

is certainly to be advised; also, complications arising from the abscess itself may call for surgical intervention. Incidentally he cautions the surgeon against too readily accepting in any given case the statement that the abscess has burst into the intestine, for in more than one instance material discharged from the rectum and supposed to be pus has proved to be decomposed and long retained mucus proceeding from catarrh of the large intestine.

THE CONSUMPTIVE AS A MEMBER OF SOCIETY.

The establishment of the proposition that tuberculous disease is communicable from one person to another created in many persons an utterly groundless dread of association with consumptives, and there is reason to fear that the feeling has not been overcome to any great extent. There would, indeed, be danger of its being still more exaggerated and more widely disseminated as a consequence of organized attempts to secure returns of tuberculous disease and to teach people how to avoid infection were it not for the tact and kindness with which the promoters of these endeavors went about their work, as is revealed more particularly with regard to the Charity Organization Society's committee on the prevention of tuberculosis.

The committee's enlightened view of the work in which it has engaged is well set forth in an editorial in the society's official organ, *Charities*, for June 21st. The committee takes pains to emphasize the fact that the movement is not in any sense one against consumptives or one that will in any way be permitted to increase the hardships of their lot, which are already great. The committee deprecates the tendency in some quarters to exaggerate the danger of casual contact with tuberculous persons, and records its belief that there is no occasion for any panic or public apprehension on account of the presence of consumptives in a community, provided a reasonable degree of prudence is exercised. The idea of completely isolating all consumptives is declared to be utterly impracticable and absurd, and their undue restraint as to moving about from place to place is also opposed, since it would make it more difficult for them to find employment, no matter how conscientious they might be in the disposal of their sputum.

It is undoubtedly within the legitimate sphere of a board of health's work to take sharp measures for the prevention of indiscriminate spitting, and they cannot be too thoroughly carried out. Nevertheless, the campaign against consumption must be almost entirely one of education; we are therefore gratified to find that the Charity Organization Society's committee is so completely of that opinion. It is but a minimum of precaution that is required to protect the community against tuberculous infection; having taken that degree of precaution, let us by all means refrain from tormenting the consumptive and putting obstacles in his path.

"ELECTROCUTION" AS A THERAPEUTIC AGENT.

Our esteemed contemporary the *Australasian Medical Gazette*, in its issue for June 20th, has an original article by Dr. William R. Fox, with the startling title, The Cure of Rodent Cancer by Electrocution. There can be little doubt that "electrocution" would prove a most efficient cure for "all the ills the flesh is heir to," including "that dread distemper men call life," although in some ills doubtless, most people would think that this was preeminently a case in which "the remedy was worse than the disease." A careful perusal of the article, however, sets our mind at rest as regards the dread that this might be a veiled attempt to popularize the idea of euthanasia; it is the growth, not the patient, that is to be "electrocuted, in fact, and converted into a piece of dead tissue, a slough, which rapidly separates, leaving a cavity covered with healthy granulations." The author says: "There are thus two ways of increasing the current, first by decreasing the resistance, that is, by bringing the needles closer together, and second by increasing the voltage, that is by employing a larger number of cells. In one of these ways, or both, any desired current may be obtained. Dr. Parsons employed the form of battery known as Stohrer's, in which the number of cells in use may be increased by pushing the sledge along to the required point. Having placed the needles in position, a current of about 40 or 50 volts is switched on and the milliamperemeter

read. Since contact is only kept up for one or two seconds, it is well to have a milliamperemeter of the 'dead beat' variety, which will give a reading instantly. Less than 300 to 400 milliamperes is useless, and if the instrument shows less than this the voltage must be increased by using a greater number of cells, until the current necessary to destroy the tissue is obtained. This may also be effected by having a rheostat in the circuit and gradually taking it out. The current should only be kept on for one or two seconds, and then interrupted. It is then reversed, and again sent through in the opposite direction for one or two seconds. It is requisite to produce a certain effect, and the current must be increased until this is obtained. The effect required is made evident to the operator by a striking change in the appearance of the soft tissues between the needles. When the current has been made sufficiently large these instantly change color. All circulation in them ceases, and they become of a yellowish white color; they are, in fact, dead. When this change is clearly apparent, one needle is withdrawn and reinserted a similar distance on the opposite side of the other needle, so as to take up a fresh piece of tissue continuous with the first, and this is destroyed in the same manner. This process is continued until the growth is completely encircled."

The author anticipates the possible objection that electrolysis is the cause of the destruction of the growth, and insists that the result is due to a localized "electrocution." He has himself successfully used 1,000 milliamperes in the operation—under an anæsthetic, of course. The nerves being also completely devitalized, no pain follows the operation.

The author's method is clearly feasible, since it has been successfully followed more than once; but clearly, also, its further investigation should, for the present at least, be left in the hands of competent electrotherapeutists, until we know what hidden dangers may lurk in its performance. And above all we would suggest a change of name; for when once a word has attained so well established a signification as the objectionable term "electrocution," it is not well to enlarge its sphere of application.

A "NOVEL" PREGNANCY.

Pregnancy, though often an incident in a novel, has rarely if ever before been made its *motif*. Yet such is the case in Mrs. Frances Hodgson Burnett's book *The Methods of Lady Walderhurst*, which title might fitly receive as a sub-title, *A Study in the Physiology and Psychology of Pregnancy*. And, on the whole, a very good study it is. The sweet and lovely character of the young bride whose whole thought is concentrated, during the absence of her husband on a diplomatic mission, in preserving the unborn heir which is, she imagines, the sole interest of his life, not only against ordinary dangers, but against the machinations of the unscrupulous heir presumptive, must surely be a good lesson to all to whom the idea of antenatal physiology is as yet somewhat vague. The story is told reverently and skillfully, and whoever else may read it or leave it unread, we think that to the physician, at least, it will prove intensely interesting.

A NEW VIRGINIA JOURNAL.

We have received the first number of the *Old Dominion Journal of Medicine and Surgery*, a large octavo of seventy-four pages, edited by Dr. Greer Baughman and published in Richmond. It appears to be the official organ of the Alumni Society of the Medical College of Virginia. We presume the new journal is to be a monthly, but we find in this initial number no statement as to that point. The typographical appearance is excellent, and we find the contents worthy.

POISONING BY COCA-COLA.

The vogue which the use of coca-cola has obtained of late as a drink at the ubiquitous soda fountain, renders the report of a case of poisoning thereby, by Dr. I. W. Preston in the *Virginia Medical Semi-Monthly* for July 11th, of general interest. The subject was a robust colored woman, who had drunk in quick succession five glasses of the beverage. Dr. Preston describes her condition as follows:

"Her first symptom was a consciousness of 'feeling foolish about the head,' as she expressed it. On sitting down to the dinner-table, she could not eat, and on attempting to reach her bed, found she could not walk. On reaching her, some five hours later, she was in bed in the sitting posture. Her face betokened great mental anxiety and distress, though she complained of no pain. She was evidently unable either to move without assistance, or to control her muscular or nervous system, the larger muscles

being in a state of constant unrest—something between a choreic movement and a tremor. Pupils were normal; pulse about eighty beats to the minute, full and strong; respiration but little affected. Eructations were frequent, but no vomiting. A most noticeable symptom was her frequent desire to urinate and the increased quantity of urine. There was no perceptible effect upon the skin secretion."

Hypodermics of morphine followed by potassium bromide and chloral brought the patient round. This condition may probably be suggestive and explanatory in some cases of sudden and obscure nervous phenomena during the summer season; and it will be well to bear the matter in mind.

THE CHARAKA-SAMHITA.

The task of translating this ancient medical text book, undertaken by Avinash Chandra Kaviratna, who has already edited the original texts of the Charaka-Samhita and Susruta-Samhita, proceeds apace, as is evidenced by Part xxviii, which has recently reached us. The present part contains the conclusion of the doctrine on the subject of the puerperal state and the treatment of the new-born child, and the division Indrigasthanam, which expounds the premonitory indications of dissolution before that state actually sets in. Charaka is said to have been the official physician to King Ranishka, somewhere about the first century A. D., and this Samhita, or collection, forms part of the Ayurveda, or Veda on medicine.

It has always been held in great esteem, and was rendered into Arabic about the end of the eighth century, and often quoted by the Arabian school (especially by Avicenna, Rhazes, and Serapion), which played such an important part in European medicine down to the seventeenth century. The likeness between many of the precepts of Charaka and those of Hippocrates is very marked, and it is quite possible that early Indian medicine may have been greatly influenced by that of Greece, or it may be that both are the offspring of a still more remote common source.

The present is the first part that has been issued from the newly established printing press of the author, and by comparison with preceding parts shows marked typographical improvement. The study of the ancient classics of medicine of every time and place is not only fascinating of itself, but fraught with great possibilities in the way of increased breadth of view; for a perusal of them, more than anything else, must cause us to marvel on realizing to how great an extent much of modern medical knowledge has been anticipated in the "wisdom of the ancients."

A NEW CUBAN JOURNAL.

Two numbers of the *Revista Médica Cubana* have reached us. It is an octavo semi-monthly edited by Dr. Alberto S. de Bustamante and published in Havana. The contents seem to indicate that the new journal is destined to be of great value to the profession in Cuba.

A HINT TO THE COMMISSIONER OF STREET CLEANING.

We have been pleased to notice during this rainy summer the frequency with which the street sweepers disposed promptly of puddles after a shower by sweeping the water into the gutter, but we have regretted to observe that it was not done in all instances, whence we infer that when it is done it is as the result of the individual sweeper's sense of the fitness of things. Our suggestion to the commissioner is that he make it a matter of routine duty, whereby he would do away with many a mosquito-breeding pool.

PROFANITY AND THE TELEPHONE.

There has lately been going the round of the newspapers an account of a St. Louis physician's having been fined for swearing by means of the telephone, although he is said to have explained that he was not swearing at "central," but at "the system." Useful as it is, the telephone is frequently made needlessly irritating, especially to physicians. This, we believe, is not so much owing to "the system" as to the selfishness, or at least thoughtlessness, of the people who send calls. A common example of this is seen in the order to an office boy to call up a person, followed by a request that the one called up "hold the wire," whereby the man called up is made to lose time in order to save the time of the other individual. This practice is an imposition and well calculated to call forth imprecations.

HEMIPLEGIA AS A COMPLICATION OF MEASLES.

Quite exceptional must be the occurrence of hemiplegia in the course of measles. An instance is reported by Alessin (*Spitalul*, 1902, No. 8; *Centralblatt für innere Medicin*, July 5th). A girl, nineteen years old, always previously healthy, was attacked with measles. On the fifteenth day of the disease, without any disturbance of consciousness, she was seized with total paralysis of the left side. Half an hour later there were tonic muscular contractions of that side, but they did not last long. The paralysis,

however, continued unabated for nine days, and then slowly disappeared. The reflexes of the affected side were almost wholly in abeyance. It is suggested that there may have been a cerebral hemorrhage.

ARSENIC AS A CAUSE OF CANCER.

The *Polyclinic* for July contains an interesting article on the possible ætiological relation of arsenic to cancer. A suggestion having been made that possibly arsenic plays a part in the causation of cancer, various suggestive illustrations have been dragged to light. The prevalence of "chimney sweep's cancer," always attributed to the irritation caused by the soot, will be remembered, and now Dr. Solomon Smith points out that soot contains arsenic. The mere question of irritation, as pointed out by Dr. Shadwell, would involve potters and coal miners also as equally favorable subjects for cancer with chimney sweeps; but they are not so, but quite the reverse, judging from the statistics of the British registrar general. After sweeps, come in order London innkeepers, brewers, inn servants, commercial travelers, and maltsters. Has arsenical beer anything to do with this class? "Cancer houses" may perhaps be explained by the presence of arsenical wall papers, especially when the prevalence of the practice of overpapering instead of stripping the walls is borne in mind—a practice which has been shown to act deleteriously upon the health of the inmates in the way of arsenical poisoning, due, it is supposed, to the combination of the arsenic with the paste used in attaching the papers.

In the same number of the *Polyclinic*, Mr. Jonathan Hutchinson records A Case of Arsenic Cancer in which there would seem to be at least the probability of a causal relation between the cancer and the therapeutic administration of arsenic. This leads us to a further suggestive illustration in the coincidence of the increasing prevalence of cancer during the past half-century with the increased medicinal administration of arsenic. According to investigations by Mr. Cornelius Hanbury, of Allen & Hanburys, London, arsenic occurred in 1861, once in 81 prescriptions; in 1874, once in 56; and in 1901, once in 14 prescriptions registered as having been dispensed by their house.

Reference is made by the writer of the editorial to the work done on the question in this country, and especially to the essay by Dr. M. B. Hartzell, published in September, 1899. It is clear that the hypothesis deserves widespread observation, for while it may be a mere coincidence, there is undoubtedly *prima facie* evidence to justify its further investigation. Are the Styrian arsenic eaters unduly subject to cancer?

News Items.

The Woman's Medical Journal has been appointed the official organ of the Iowa State Society of Medical Women.

Changes of Address.—Dr. Frank W. Jelks, from St. Louis to Hot Springs, Arkansas; Dr. Henry Reiter to No. 455½ Henry street, Brooklyn.

The Skene Sanatorium Company of Brooklyn has been incorporated with a capital of \$25,000. William N. Snyder, George Drury and Burr B. Mosher are named as directors.

A Congress on the Hygienic Treatment of Milk, will be held at Hamburg, Germany, from the 2d to the 10th of May, 1903. Discussions will be had on all questions covering the proper collecting and handling of milk supplies.

A Free Modified Milk Dispensary.—Through the liberality of the Smith, Kline & French Co., a free dispensary has been opened at Chambers's drug store, Surf avenue, Coney Island, for the free distribution of milk in a modified form to the children of the poor. Physicians of the city are provided with prescription blank books, which are furnished by the firm named, on request.

The Fox River Valley Medical Association met at Marinette, Wisconsin, on Tuesday, July 22d. Papers were read by Dr. V. P. Marshall, of Appleton; Dr. C. J. Combs, of Oshkosh; Dr. P. J. Noer, of Menominee; Dr. N. I. Tibbitts, of Peshtigo, and Dr. C. L. Ellwood, of Menominee. The scientific meeting was followed by a banquet at the Hotel Marinette.

The Health Department of Milwaukee.—Dr. Otto Fiedler has been appointed chemist to the department. Some time since Dr. Fiedler was appointed under an emergency clause city food analyst to fill the vacancy caused by the promotion of Dr. Bennett as registrar of vital statistics, and having passed the required civil service examination, he has now been officially appointed to the position.

The Leper Colony at Honolulu.—Many applications from physicians, who profess a desire to study leprosy, living in the various states of the Union, are said to have been received by the health authorities for the position made vacant by the removal from office of the resident physician at the leper settlement. It is reported that the appointment is likely to be given to Dr. Clarence A. Good, of the University of Michigan.

The Northeastern District Medical Society of Michigan was announced to hold its summer session at Mt. Clemens, on Thursday, July 31st. The programme included papers by Dr. G. C. Clancy, of Port Huron; Dr. F. H. Smith, of Mt. Clemens; Dr. C. B. Stockwell, of Port Huron; Dr. T. A. McGraw, of Detroit; and Dr. W. P. Derck, of Marysville. The following named physicians are officers of the society: Dr. G. S. Ney, Port Huron, president; Dr. William Blake, Lapeer, vice-president; and Dr. A. H. Cote, Port Huron, secretary and treasurer.

The Fourth District Branch of the New York State Medical Association under the presidency of Dr. Charles A. Wall held its eighteenth annual meeting at Chautauqua on Wednesday, July 23d. The programme included papers by Dr. Alfred T. Livingston of Jamestown, Dr. Wisner R. Townsend of New York, Dr. Frederick Holme Wiggin of New York, and Dr. Grover W. Wende of Buffalo. The election of officers resulted in the choice of Dr. J. W. Morris of Jamestown, president; Dr. Bernard Cohen of Buffalo, vice-president; Dr. William Irving Thornton of Buffalo, secretary, and Dr. Joseph Burke of Buffalo, treasurer.

Long-Distance Cursing.—A physician in Missouri has, according to the daily press, been fined \$5 and costs for swearing over the telephone at an operator. The judge who imposed the fine held that "crimes committed at long distance, such as the hurling of oaths at a person in another jurisdiction, by means of the telephone" were amenable to the laws in the jurisdiction in which the offense was committed. The judge also held that profanity had no sufficient provocation and was never excusable by the plea of self-defense. Probably the learned judge had never had any personal experience with the average telephone switch-board "operator."

A Proposed New Free Hospital for Children, for Milwaukee.—A number of women connected with the Children's Free Hospital have applied for a grant of land in Lincoln Park on which to erect new buildings. The city recently deeded a site on this property for an infant's home, and it is argued that the city might as well grant another site for a charitable institution supported by the endowment of beds by private individuals and without expense to the city. The proposed new building will cost from \$20,000 to \$25,000, of which a fund of \$8,000 has already been raised.

Typhoid in Pittsburg, Pa.—According to press reports, there was during a period of nearly five months, from December 28, 1901, to May 24, 1902, excluding the week ending February 22, 1902, a total of 1,115 cases of typhoid fever, due, it is assumed to the water supply. A proportionately greater number of cases occurred in the districts supplied with water from the Allegheny river than in that which gets its supply from the Monongahela river. In the first named district the cases have been in the ratio of four to each one thousand of its inhabitants, while in the last named district the ratio was but two cases in each one thousand of its inhabitants.

The Amalgamation of Michigan Medical Societies.—After several months of friction between the Wayne County Medical Society, with a membership of nearly three hundred, and the Detroit Medical Society, whose membership is five hundred, as to which society should relinquish its name and join the other body, in order that the combined societies might obtain recognition by the Michigan State Medical Society, the societies have come to an agreement. After a heated discussion at a meeting held on Friday, July 25th, the suggestion of Dr. J. J. Mulheron that the members of the De-

troit Medical Society join the Wayne County Medical Society and that the organization then apply for membership in the state society, was agreed to.

The Death Rate of Boston.—The total number of deaths reported to the board of health for the week ending July 26th was 224, against 208 the corresponding week last year, an increase of 16 deaths, and making the death rate for the week 19.92. Of this number 113 were males and 111 females. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 21 cases and 3 deaths; scarlet fever, 25 cases and no deaths; typhoid fever, 13 cases and no deaths; measles, 24 cases and 1 death; tuberculosis, 19 cases and 31 deaths; smallpox, 7 cases and 2 deaths. The deaths from pneumonia were 7, whooping-cough 5, heart disease 16, bronchitis 5 and marasmus 3. There were 15 deaths from violent causes. The number of children who died under 1 year was 69; the number under 5 years, 94. The number of persons who died over 60 years of age was 35. The deaths in public institutions were 72.

The Health of Chicago.—Statement of mortality for the week ending July 26, 1902, compared with the preceding week; and with the corresponding week of 1901; estimated 1902 mid-year population 1,820,000:

	July 26, 1902.	July 29, 1902.	July 27, 1901.
Total deaths; all causes.....	520	519	617
Death rate per annum, in 1,000. .	14.90	14.86	18.29
By sexes:			
Males.....	308	308	339
Females.....	212	211	278
By ages:			
Under 1 year.....	140	136	190
Between 1 and 5 years.....	59	61	77
Over 60 years.....	72	92	98
Principal causes of death:			
Acute intestinal diseases.....	108	100	175
Apoplexy.....	12	12	5
Bright's disease.....	26	14	17
Bronchitis.....	9	23	2
Consumption.....	52	54	51
Cancer.....	16	21	29
Convulsions.....	11	13	14
Diphtheria.....	4	10	8
Heart diseases.....	35	30	25
Nervous diseases.....	25	36	37
Pneumonia.....	24	30	29
Typhoid fever.....	12	10	13
Scarlet fever.....	6	6	—
Suicide.....	12	12	0
Violence (other than suicide).....	35	35	32
Stroke.....	1	2	18
Whooping cough.....	8	7	0
Measles.....	2	6	8

The Charity Organization Society's Committee on Tuberculosis makes an appeal for contributions of money to carry out the work which it has undertaken. The committee states that not less than \$10,000 is needed to meet the expenses necessarily incurred in investigating the relations between tuberculosis and the overcrowding of infected tenement houses and unwholesome occupations; the publication of leaflets and pamphlets and the giving of lectures for the promulgation of the fact that the disease is communicable and preventable; the encouragement of movements for suitable public and

private sanatoria, both for advanced and for incipient cases in adults and children and the relief of indigent consumptives by the providing of suitable food and medicine. The committee will strive not only to ameliorate the condition of the large class of consumptives but in this way to benefit the public as a whole. The work of the committee is not intended to be a temporary matter, but its continuance will depend upon the encouragement and support it receives from the public.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending July 26, 1902:

DISEASES	Week end'g July 19.		Week end'g July 26.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	74	13	61	17
Scarlet fever.....	173	16	133	8
Cerebro-spinal meningitis.....	0	0	0	0
Measles.....	21	8	151	9
Diphtheria and Croup.....	281	36	219	22
Small-pox.....	28	4	11	3
Tuberculosis.....	245	100	253	135

Public Health and Marine-Hospital Service Reports:

The following cases of small-pox, yellow fever, cholera, and plague have been reported to the surgeon-general during the week ending July 26, 1902:

Smallpox—United States.

California.....	Sacramento.....	July 12-19.....	3 cases.	
Illinois.....	Belleville.....	July 12-19.....	4 cases.	
"	Chicago.....	July 12-19.....	5 cases.	
"	Joliet.....	July 12-19.....	15 cases.	
Indiana.....	Indianapolis.....	July 5-12.....	12 cases.	
Kentucky.....	Covington.....	July 12-19.....	11 cases.	
Massachusetts.....	Boston.....	July 12-19.....	8 cases.	
"	Cambridge.....	July 12-19.....	7 cases.	2 deaths.
"	Everett.....	July 12-19.....	3 cases.	
"	Lowell.....	July 12-19.....	3 cases.	
"	Melrose.....	July 12-19.....	1 case.	
"	Newton.....	July 12-19.....	2 cases.	
"	Somerville.....	July 12-19.....	13 cases.	1 death.
Missouri.....	St. Louis.....	July 12-19.....	11 cases.	
Nebraska.....	Omaha.....	July 12-19.....	3 cases.	
N. Hampshire.....	Nashua.....	July 12-19.....	2 cases.	
New Jersey.....	Hudson county.....	July 12-19.....		
"	Jersey City in- cluded.....	July 13-20.....	3 cases.	2 deaths.
"	Newark.....	July 12-19.....	7 cases.	2 deaths.
New York.....	New York.....	July 12-19.....	15 cases.	3 deaths.
Ohio.....	Cincinnati.....	July 11-18.....	4 cases.	
"	Cleveland.....	July 12-19.....	32 cases.	6 deaths.
"	Dayton.....	July 12-19.....	3 cases.	
"	Hamilton.....	July 12-19.....	2 cases.	
Pennsylvania.....	Eric.....	July 12-19.....	2 cases.	
"	Johnstown.....	July 5-19.....	14 cases.	1 death.
"	McKeesport.....	July 5-12.....	4 cases.	
"	Philadelphia.....	July 12-19.....	13 cases.	3 deaths.
"	Pittsburgh.....	July 12-19.....	10 cases.	2 deaths.
Rhode Island.....	Providence.....	July 12-19.....	3 cases.	
Washington.....	Facoma.....	July 2-10.....	1 case.	
Wisconsin.....	Green Bay.....	July 12-19.....	3 cases.	
"	Milwaukee.....	July 12-19.....	2 cases.	

Smallpox—Foreign.

Austria.....	Vienna.....	June 28 July 5.....	3 cases.	
Belgium.....	Antwerp.....	June 27 July 5.....	1 case.	4 deaths.
Canada.....	St. John.....	July 2-19.....	1 case.	
China.....	Hongkong.....	July 2-19.....	1 case.	1 death.
Columbia.....	Panama.....	July 2-14.....	4 cases.	
France.....	Marseilles.....	June 1-30.....	6 deaths.	1 death.
"	Paris.....	June 21-28.....		
Gr. Britain.....	Glasgow.....	July 4-11.....	2 cases.	
"	London.....	June 28 July 5.....	58 cases.	13 deaths.
Greece.....	Athens.....	June 28 July 5.....	1 case.	
India.....	Calcutta.....	June 14-20.....	1 case.	1 death.
"	Karachi.....	June 14-20.....	3 cases.	2 deaths.
"	Madras.....	June 14-20.....		1 death.

Italy.....	Palermo.....	June 25-July 5.....	18 cases.	4 deaths.
Mexico.....	Vera Cruz.....	July 5-12.....	1 case.	1 death.
Russia.....	Moscow.....	June 21-28.....	10 cases.	4 deaths.
".....	".....	June 28-July 5.....	4 cases.	".....
".....	St. Petersburg.....	June 21-28.....	10 cases.	1 death.
Spain.....	Corunna.....	June 28-July 5.....	".....	1 death.

Yellow Fever.

Colombia.....	Panama.....	July 7-14.....	3 cases.	1 death.
Costa Rica.....	Port Limon.....	July 3-10.....	".....	1 death.
Mexico.....	Vivarado.....	July 7.....	Epidemic.	".....
".....	Corloaba.....	July 7.....	Present.	".....
".....	Vera Cruz.....	July 5-12.....	22 cases.	9 deaths.

Plague.

China.....	Hongkong.....	May 24-June 14.....	194 cases.	101 deaths.
India.....	Calcutta.....	June 14-21.....	56 deaths.	".....
".....	Karachi.....	June 15-22.....	20 cases.	16 deaths.

Cholera—Insular.

Philippine Islands.....	Manilla.....	May 25-June 7.....	132 cases.	118 deaths.
".....	Provinces.....	May 25-June 7.....	1018 cases.	729 deaths.

Cholera.

China.....	Hongkong.....	May 24-June 14.....	53 cases.	49 deaths.
India.....	Calcutta.....	June 14-21.....	31 deaths.	".....
".....	Karachi.....	June 15-22.....	45 cases.	37 deaths.
Japan.....	Karatsu.....	June 22.....	41 cases.	21 deaths.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending July 26, 1902:

BAKER, N. W., Acting Assistant Surgeon. Ordered to the Naval Hospital, Norfolk, Virginia.

BISHOP, L. W., Assistant Surgeon. Detached from the Naval Brigade and ordered to the *Celtic*.

GRIFFIN, W. E., Assistant Surgeon. Detached from the Naval Hospital, Yokohama, Japan, and ordered to duty at Olongapo, Philippine Islands.

GUTHRIE, J. A., Passed Assistant Surgeon. Detached from Port Isabella and ordered home via the *Solace*.

HALLOWAY, J. H., Acting Assistant Surgeon. Ordered to the Naval Hospital, Boston.

RUSSELL, A. C. H., Surgeon. Detached from duty as a member and recorder of the board of medical examiners at the Naval Laboratory, New York, August 25th, and ordered to the Naval Museum of Hygiene and the Medical School, Washington, for duty as a member and recorder of the board of medical examiners.

SEAMAN, W., Assistant Surgeon. Detached from the Naval Hospital, Yokohama, Japan, and ordered to the *Monadnock*.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending August 2, 1902:

BAKER, DAVID, First Lieutenant and Assistant Surgeon, detailed as a member of the examining board, appointed to meet at Fort Leavenworth, Kansas, vice BIRMINGHAM, HENRY P., Major and Surgeon, relieved.

BAKER, FRANK C., First Lieutenant and Assistant Surgeon, will report in person to the commanding officer of the Sixteenth Infantry, in camp at Presidio, for duty with and to accompany that portion of the regiment under orders to proceed to Fort McPherson, and then rejoin his station.

BIRMINGHAM, HENRY P., Major and Surgeon, ordered to Omaha, Nebraska, for duty in connection with the inspection relating to the hospital corps and nurses serving in that department.

CARR, LAWRENCE C., Major and Surgeon, will proceed to the Philippines on the transport *Sherman*, to sail July 16th.

COLLINS, GEORGE L., First Lieutenant and Assistant Surgeon, recently appointed, will proceed to Fort Warren, Massachusetts, for duty.

DAVIS, WILLIAM THORNWALL, First Lieutenant and Assistant Surgeon, recently appointed, will proceed to Fort McHenry, Maryland, for duty.

DEVEREUX, THOMAS, First Lieutenant and Assistant Surgeon, recently appointed, assigned to duty at Fort Snelling, Minnesota.

HANSELL, HAYWOOD S., First Lieutenant and Assistant Surgeon, assigned to duty at Fort McPherson, Georgia.

HESS, LOUIS T., First Lieutenant and Assistant Surgeon, relieved from duty at Fort Bayard, New Mexico, and to proceed to San Francisco for transportation to the Philippine Islands for duty.

HOFF, JOHN VAN R., Lieutenant Colonel and Deputy Surgeon-General, is granted leave for one month to take effect on or about August 1, 1902.

KEAN, JEFFERSON R., Major and Surgeon, will avail himself of the leave of absence granted him in S. O. 93, April 19, 1902, H. Q. A.

KIERSTED, HENRY S., First Lieutenant and Assistant Surgeon, will proceed to Fort Miley, California, for duty.

MONCRIEF, WILLIAM H., First Lieutenant and Assistant Surgeon, will proceed to Fort Getty, South Carolina, for duty.

MORSE, CHARLES F., First Lieutenant and Assistant Surgeon, recently appointed, assigned to duty at Fort Ethan Allen, Vermont.

MOSELEY, E. B., Lieutenant Colonel and Deputy Surgeon-General, Chief Surgeon, Department of Colorado, will visit the following named posts for the purpose of carrying out certain instructions given him by the department commander: Forts Wingate, New Mexico; Apache, Whipple Barracks, Huachuca, and Grant, Arizona; Douglas, and Du Chesne, Utah; Washakie, D. A. Russell, and Mackenzie, Wyoming; and Logan, Colorado.

NEWGARDEN, GEORGE J., Captain and Assistant Surgeon, will proceed to Hot Springs, Arkansas, for treatment.

PAINTER, GEORGE L., Captain and Assistant Surgeon, the leave granted him is extended one month.

PURNELL, HARRY S., First Lieutenant and Assistant Surgeon, recently appointed, will proceed to Columbus Barracks, Ohio, for duty.

ROCKHILL, EDWARD P., First Lieutenant and Assistant Surgeon, will report in person to the commanding general, Department of California, for duty in that Department.

SMITH ALLEN M., Captain and Assistant Surgeon, is detailed as a member of the board of medical officers to meet at West Point, New York, July 25, 1902, vice Captain GEORGE M. WELLS, Assistant Surgeon, relieved.

WADHAMS, SANFORD H., First Lieutenant and Assistant Surgeon, will proceed to the Philippine Islands on the transport *Sherman*, to sail July 16th.

WALES, PHILIP G., Captain and Assistant Surgeon, will take charge of the office of the chief surgeon of the Department of Colorado, during the temporary absence of EDWARD B. MOSELEY, Lieutenant Colonel and Deputy Surgeon-General, Chief Surgeon.

WARD, JOSTAH, M., Captain and Assistant Surgeon, will report to the commanding officer U. S. troops on board the transport *Sherman*, for duty during the voyage to the Philippine Islands.

Public Health and Marine-Hospital Service:

Official List of Changes of Station and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service, for the Seven Days ending July 24, 1902:

STONER, G. W., Surgeon. Detailed as inspector of un-serviceable property at the Purveying Depot, New York.

BANKS, C. E., Surgeon and Medical Purveyor. Granted leave of absence for four days from July 21st or 22d.

PECKHAM, C. T., Surgeon. Granted leave of absence for two days from July 10, 1902, under paragraph 181 of the Regulations.

- HEISER, V. G., Assistant Surgeon. Upon being relieved at Quebec, Canada, by Assistant Surgeon W. C. BILLINGS, to proceed to Manila, P. I., and report to the chief quarantine officer for duty.
- HEISER, V. G., Assistant Surgeon. Bureau order of July 17, 1902, relieving Assistant Surgeon HEISER from duty at Quebec, Canada, and directing him to proceed to Manila, P. I., for duty, is amended so that he shall report at Washington, *en route* to Manila.
- KING, W. W., Assistant Surgeon. Granted leave of absence for eighteen days from July 17th.
- MCLAUGHLIN, A. J., Assistant Surgeon. To proceed to Ocean City, Chincoteague and Watchapreague, Maryland, for the purpose of making physical examinations of keepers and surfmen of the Life Saving Service.
- BURKHALTER, J. T., Assistant Surgeon. Relieved from duty at the Gulf Quarantine Station, and directed to proceed to the Brunswick Quarantine Station, assuming command.
- McCoy, G. W., Assistant Surgeon. Upon being relieved from duty at San Francisco, by Acting Assistant Surgeon W. C. RUCKER, to proceed to Manila, P. I., and report to the chief quarantine officer for assignment to duty.
- KENAN, SPALDING, Acting Assistant Surgeon. Granted leave of absence for four days from July 22d.
- BILLINGS, W. C., Assistant Surgeon. Relieved from duty at the Immigration Depot, New York, and directed to proceed to Quebec, Canada, relieving Assistant Surgeon V. G. HEISER, and reporting to the Commissioner of Immigration for duty under his direction.
- FRANCIS, EDWARD, Assistant Surgeon. To proceed to Point Pleasant, N. J., for the physical examination of crews of the Life Saving Service.
- WARREN, B. S., Assistant Surgeon. To proceed to Atlantic City, N. J., for the physical examination of crews of the Life Saving Service.
- HICKS, W. R., Acting Assistant Surgeon. Granted leave of absence for five days from July 14th.
- STEVENSON, J. W., Acting Assistant Surgeon. Granted leave of absence for twenty-one days from July 18th.
- MAQUIRE, E. S., Senior Pharmacist. Granted leave of absence for thirty days from June 7th.
- RICHARDSON, S. M., Senior Pharmacist. Relieved from temporary duty at Washington, and directed to rejoin his station at St. Louis, relieving Junior Pharmacist N. C. W. STEPHENSON.
- ROGERS, EDWARD, Senior Pharmacist. Granted leave of absence for twenty-eight days from July 12th.
- SOUTHARD, F. A., Senior Pharmacist. Granted fifteen days' extension of leave of absence from July 22d.
- STEPHENSON, N. C. W., Junior Pharmacist. Upon being relieved from duty by Senior Pharmacist S. M. RICHARDSON, to proceed to Louisville, and report to the medical office in command for duty and assignment to quarters.

Boards Convened.

Board convened to meet at Baltimore, July 17, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Assistant Surgeon General L. L. WILLIAMS, chairman; Passed Assistant Surgeon J. A. NYDEGGER, recorder.

Resignation.

Junior Pharmacist W. C. PHILLIPS resigned, to take effect July 26, 1902.

Births, Marriages, and Deaths.

Married.

BECKWITH—NUTTER.—In Montreal, Canada, on Monday, July 14th, Dr. W. H. Beckwith, of Halifax, N. S., and Miss Flora M. Nutter.

HEIBERT—PENNER.—In Greta, Winnipeg, on Thursday, July 10th, Dr. G. Heibert, of Winnipeg, and Miss Helene Penner.

McGANN—MULLETT.—In Albany, on Tuesday, July 22d, Dr. Thomas McGann and Miss Elizabeth Shea Mullett.

MEGARREE—DICKSON.—In Philadelphia, on Monday, July 21st, Dr. George Lewis Megarree and Miss Helen Wright Dickson.

RIGBY—RORKE.—In Buena Park, Chicago, on Saturday, July 20th, Dr. Edward D. Rigby, of Milwaukee, and Miss Regina Marion Rorke.

ROLLER—KAST.—In Philadelphia, on Tuesday, July 22d, Dr. Benjamin Franklin Roller, and Miss Augusta Leslie Kast.

RUCKER—GUEQUIERRE.—In Milwaukee, on Saturday, July 19th, Dr. William Colby Rucker and Miss Annette M. Guequierre.

SUTTER—MABEE.—In St. Louis, on Tuesday, July 22d, Dr. Otto Sutter and Miss Florence A. Mabee.

Died.

COGIN.—In Ghent, Virginia, on Wednesday, July 23d, Dr. W. W. Coggin, in the sixty-sixth year of his age.

ENOS.—In Kankakee, Illinois, on Thursday, July 17th, Dr. Emmet Enos.

FANNING.—In New York City, on Sunday, July 20th, Dr. Abram Mills Fanning, in the thirty-eighth year of his age.

GREGORY.—In Crystal Falls, Michigan, on Monday, July 21st, Dr. L. M. Gregory, in the seventy-fifth year of his age.

GRISSOM.—In Washington, on Monday, July 28th, Dr. Eugene Grissom, in the seventy-first year of his age.

HUNT.—In Nevada City, California, on Thursday, July 17th, Dr. R. M. Hunt, in the seventy-fifth year of his age.

IMPERATORI.—In New York City, on Thursday, July 24th, Dr. Carlo Imperatori, in the sixty-ninth year of his age.

NORTON.—In Jordan, Kentucky, on Thursday, July 17th, Dr. J. H. Norton.

PARSONS.—In Indianapolis, on Friday, July 18th, Dr. James L. Parsons, in the sixty-first year of his age.

PENDLETON.—In Glen Luta, West Virginia, on Saturday, July 12th, Dr. Elisha Boyd Pendleton, in the eighty-third year of his age.

RICHARDSON.—In Brattleboro, Vermont, Dr. John H. Richardson, in the seventy-fourth year of his age.

RICHTER.—In Atlantic City, N. J., on Wednesday, July 16th, Dr. Washington Richter, in the sixtieth year of his age.

RINEHART.—In Hot Springs, Arkansas, on Wednesday, July 16th, Dr. C. W. Rinehart.

THOMPSON.—In the Adirondacks, on Tuesday, July 22d, Dr. John Thompson, of Albany, in the sixty-fifth year of his age.

BRANCH.—In St. Paul, on Tuesday, July 15th, Dr. U. Branch, in the fifty-fifth year of his age.

MATHERSON.—In Brooklyn, on Tuesday, July 22d, Dr. Seraphine Matherson, in the fifty-seventh year of her age.

POPE.—In Washington, on Monday, July 21st, Dr. G. W. Pope, in the seventy-second year of his age.

BATES.—In St. Louis, on Sunday, July 20th, Dr. Julian Bates, in the seventieth year of his age.

MARTI.—In Kiel, Wisconsin, on Saturday, July 20th, Dr. Jacob Marti.

WELFLEY.—In Shenandoah City, Virginia, on Sunday, July 20th, Dr. Henry C. Welfley, in the forty-sixth year of his age.

WILKINSON.—In New Orleans, on Monday, July 21st, Dr. J. B. Wilkinson, in the eighty-fifth year of his age.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Diphtheria Associated with Scarletina. By Dr. I. A. Schabad (*Roussky Vrach*, June 8th).—A study of a number of cases in which scarlatina was associated with diphtheria, as manifested by the presence of the Klebs-Löffler bacillus in the secretion from the tonsils, shows that the following clinical appearances may be present in such cases: In some cases the changes found in the throat were sufficiently characteristic for diphtheria, *i. e.*, there were whitish pseudomembranes covering the tonsils, and in some instances the uvula and the soft palate. The submaxillary glands were enlarged, or the submaxillary region was infiltrated with exudate. There was a purulent or sanguineous discharge from the nose in some cases and in three instances albumin was found in the urine. Laryngeal involvement was noted in one case, and in all there was severe prostration and high fever. The clinical appearances of some of these cases were so typical of diphtheria, that antitoxine was administered without waiting for the bacteriological examination. There was, however, a number of cases in which clinically one would not have expected the presence of the diphtheria bacillus, but in which the germ was found on bacterial examination. The coatings of the tonsils were not pseudomembranous in these cases, but consisted of pasty, friable deposits, such as are seen in necrosing scarlatinal angina. In some cases there were follicular spots, instead of extensive deposits over the tonsils. In these doubtful cases the submaxillary glands were not enlarged, or were only slightly swollen. There were no manifestations on the part of the nose or throat, and there was neither albumin in the urine nor an excessively elevated temperature. The author agrees with Variot that one-half of all the cases of scarlatina in which there is a tonsillar pseudomembrane cannot be pronounced as complicated with diphtheria by mere clinical examination. The course of these complicated cases is usually a severe one. Of nine cases, five died within the first week, the other four recovered. It is to be noted that most of those in whom clinical symptoms of typical diphtheria were present died, while most of the others recovered. The question arises as to whether the diphtheria bacillus may not act as a saprophyte in some cases of scarlatina. The prognosis is worse if the symptoms are typical of diphtheria. The virulence of the diphtheria bacilli found in scarlatina cases does not seem to influence the course of the disease, for, in a number of cases terminating fatally, the germ was found to be non-virulent. In the cases in which there were lesions typical of diphtheria, the tonsillar affection was undoubtedly due to diphtheria associated with scarlet fever, though the bacilli were non-virulent. On the other hand, the cases which did not show typical diphtheritic lesions might well have been simple cases of scarlatina in which there happened to be diphtheria germs on the tonsils, just as may be found in a certain proportion of healthy people. In these, therefore, the tonsillar affection may have been "diphtheroid," not diphtheritic. It appears, therefore, that patients with scarlatina are sus-

ceptible to diphtheritic infection even through the action of germs of slight virulence. (*To be concluded.*)

The Causation and Prevention of Phthisis. By Dr. B. Bramwell (*Lancet*, July 12th).—In the second of the series of lectures upon this subject, the author states that for the production of phthisis three factors are usually necessary, *viz.*: 1. The introduction (either directly into some part of the respiratory passages, or indirectly into the lung tissues through, for example, the gastro-intestinal tract) of the tubercle bacillus or its spores. This is essential. 2. The presence in the respiratory tract of a suitable nidus for the development and growth of the tubercle bacillus or its spores. It is probable that this is usually necessary unless the dose of the poison is very large. 3. Defective vital resistance, in other words inability of the tissues, more especially of the respiratory tissues with which the tubercle bacillus and its spores first come in contact, to resist the development of the tubercle bacillus or its spores, after they have been implanted in the suitable nidus (usually an abraded, unhealthy, or catarrhal condition of some part of the respiratory tract). The resisting powers of the tissues against the invasion of the tubercle bacillus—the vital resistance—varies in different individuals (probably being greater in persons who do not, than in others who do, inherit a strong tendency to phthisis) and in the same individual at different times, in accordance with age, condition of health, etc.

If the above propositions are well founded, the main points to which attention must be directed, in order to prevent the development of phthisis in the individual, are as follows: 1. To prevent the introduction of the tubercle bacillus or its spores into the body and, in the case of phthisis especially, into the respiratory tract. 2. To prevent the production or development in the respiratory tract of the local conditions which form a suitable nidus for the development of the tubercle bacillus (unhealthy condition, abraded surface, retention of secretions, etc.). 3. To raise the resisting power of the tissues as a whole, and of the respiratory tissues in particular, so that they may be able to destroy and to evacuate the tubercle bacillus after it has been introduced and lodged in the suitable nidus (an abraded or unhealthy part of the respiratory tract).

The Cause of Inequality of the Pupils in Cases of Thoracic Aneurysm. By Dr. R. C. B. Wall and Dr. E. W. A. Walker (*Lancet*, July 12th).—The explanation which ascribes the inequality of the pupils at times occurring in thoracic aneurysm to interference with the sympathetic is unsatisfactory on both anatomical and physiological grounds. Alterations in vascular conditions may be associated with alterations in size of the pupils, high arterial tension being associated with small pupils, and low arterial tension with large pupils. The physical explanation of this phenomenon is probably to be found in the spiral structure of the vessels of the iris. Local inequalities of blood-pressure may therefore be associated with inequalities of the pupils as evidenced by the following facts: 1. Enlargement of pupils is frequently associated with diminution of the temporal and radial pulses on the same side of the body. 2. Obstruction of the carotid artery

on one side of the neck is associated with enlargement of the pupil upon the same side. Digital-compression of the carotid brings about enlargement of the pupil upon the same side. The author therefore concludes that inequality of the pupils associated with thoracic aneurysm is usually due to inequality of blood-pressure in the ophthalmic arteries, resulting from the abnormal vascular conditions.

An Epidemic of Dengue Fever. By Dr. F. O. Stedman (*British Medical Journal*, July 12th).—During the last three months of 1901, a somewhat widespread epidemic of dengue fever was prevalent in Hong Kong. It commenced among the Chinese, but the Parsee community suffered the most severely. A considerable number of Europeans was attacked, but the proportion was small compared with the total white population. The disease was chiefly prevalent down in the city proper; few cases were seen on the high levels. The epidemic commenced about the middle of October and began to subside early in December as soon as colder weather set in. The incubation period was very short—not more than one or two days at the most. There is no doubt that dengue is highly infectious, yet the author saw few cases of direct infection. Very few doctors contracted the disease. The onset is quite sudden; a person is seized with pains in the joints and limbs, and with fever, so that he must immediately take to his bed. There may be an actual rigor, and occasionally vomiting. The pains are usually very severe, and are felt in the back and joints; especially characteristic are pains in the wrists and ankles and the small bones of the hands and feet. In a few cases the onset is accompanied by an initial erythematous rash, most marked on the face; this soon fades and is gone in a few hours. The temperature rises rapidly and may reach 104° F. The next morning it remits two or three degrees, but rises again in the evening. The pains also subside considerably after the first twenty-four hours. The fever lasts for two or three days; with its subsidence all the symptoms disappear. Two days after the temperature reaches normal the terminal rash appears, accompanied by some return of the fever and pain. This terminal rash is the most characteristic feature of the disease; it consists of small, dusky-red macular spots, each being about the size of a split pea. The spots appear all over the body, even on the palms of the hands and the soles of the feet. The rash is accompanied by œdema of the skin and lasts about twenty-four hours, being followed by a fine branny desquamation. After the rash has gone, convalescence is established in many of the cases; but in some there are various sequelæ. The first, and most troublesome, is the liability to relapses of fever, which do not seem to be a return of dengue, but attacks of malaria. The author has found malarial parasites in several cases. In many cases a complete return to health is delayed by a recrudescence or a continuance of the pains in the joints. These are unaccompanied by fever, but, as in the original attack, are most frequent in the small bones of the hands and feet. Catarrhal complications are rarely seen after dengue. There is little difficulty usually in making the diagnosis; in the absence of the rash the cases are likely to be taken for non-catarrhal influenza. The disease being undoubtedly due to a specific infection, will run its course regard-

less of treatment. Sodium salicylate will relieve the pain and keep the temperature down. Massage and the administration of potassium iodide are sometimes useful.

Glandular Fever.—M. Grattery and M. Merigot de Treigny (*Journal des praticiens*, July 5th) report three cases of this disease. The infection seems to arise in infants in an angina of the nasopharynx and the disease seems to represent a retention by the glands of the toxines; the glandular system, as well as the nasopharynx, in children being very susceptible. In one of the instances, three persons in the same family were attacked by the angina, but an infant was the only one to develop the glandular fever. In adults the effects of the infection are usually evanescent and insignificant.

Aneurysm of the Ascending Arch of the Aorta Treated by Serum Gelatin Injections.—M. Louis Spillmann (*Gazette hebdomadaire de médecine et de chirurgie*, July 6th) records the case of a syphilitic man forty-two years of age, who entered the hospital with a typical aneurysm of the ascending aortic arch. He was placed on antisyphilitic treatment and in three months received fifty subcutaneous injections of 50 cubic centimetres each of serum gelatin. Two years later he returned to the hospital with an aggravation of his pain, weakness, and dyspnoea, and died in a few days. The autopsy disclosed the fact that the aneurysm was almost entirely obliterated, its sac being filled with stratified clots. The author believes that the coagulating effect of the gelatin mixture was the chief determining factor in bringing about the stratification and the clotting in the aneurysm.

Widal's Reaction in Weil's Disease.—Dr. Theodor Eckardt (*Münchener medizinische Wochenschrift*, July 8th) records two cases which ran the typical course of Weil's disease, in which the serum reaction and agglutination of Widal was very pronounced in dilutions of one to ten up to one to 1,000. It was very rapid in the stronger dilutions. The reaction began early and persisted for a long time. Eckardt thinks that possibly a persistent icterus and marked nephritis, which were present in both cases, speak against an abortive form of typhoid fever; the author draws no other conclusions, however, than that these two cases which presented the clinical picture of Weil's disease throughout, gave a marked Widal reaction and that they furnish the ground for further study and consideration.

Identity of Human and Animal Tuberculosis.—Professor Disselhorst (*Münchener medizinische Wochenschrift*, July 8th) has conducted a number of experiments in this direction and finds that the ox is not susceptible to human tuberculosis, but is exceedingly so to bovine tuberculosis. The reaction of the ox, therefore, to the latter form of the disease, can be used as a means of diagnosis. A calf which received subcutaneous injections of the bacilli of human tuberculosis, showed no local or general reaction, especially no swelling of neighboring lymph glands; injected with the bacilli of bovine tuberculosis, however, in from seven to ten days, there was a febrile movement which became continuous. The site of injection and the neighboring lymph glands became markedly swollen and in ten days were twice their

normal size. Purulent infiltration and perforation of the skin at the site of injection followed. Loss of appetite, cough, dyspnoea and rapidity of breathing came on rapidly, followed by death from bovine tuberculosis.

A Case of Syphilis of the Heart with Considerable Dilatation of the Pulmonary Artery. By Professor K. E. Wagner and Dr. G. I. Kviatkovsky (*Rousky Vrach*, June 15th.)—This case was noteworthy because the heart was so extensively involved in the syphilitic process, the lesions consisting of gummata and interstitial changes, including alterations in the pulmonary arteries. The symptoms complained of were: weakness, general malaise, and dyspnoea and palpitation increasing on exertion, cough, and oedema of the extremities. The initial lesion of syphilis appeared four years before admission, and the patient had never received any treatment for syphilis. There was nothing very striking on physical examination of the heart, and the pulse was 90, tense, and not very large. The diagnosis of disturbance in the cardiac compensation was made, and the history of syphilis pointed to the possible origin of this disturbance. The area of dullness of the heart was enlarged, owing, probably, to the accumulation of serum in the pericardium (hydropericardium). The treatment consisted in the administration of digitalis, caffeine, etc., and potassium iodide. A considerable improvement in the subjective symptoms took place, but a diastolic murmur, which appeared and disappeared at intervals, and which was audible in the second right interspace, was noticed. The patient died suddenly after having complained for a time of pain in the region of the heart. On autopsy the entire heart was found affected with syphilitic lesions. The lesions found consisted chiefly of diffuse and localized deposits of granulation tissue, passing in places into characteristic gummata, of endarteritis, and of patches of myocarditis which bore the distinct characters of syphilitic muscle changes. The pulmonary artery was markedly dilated, 12 centimetres in diameter, its walls from 6 to 7 millimetres in thickness.

The Periodicity of Hemicrania in the Male.

—Dr. D. Fraser Harris (*Edinburgh Medical Journal*, July) points out that protoplasm is essentially rhythmic in the discharge of its functions. The phases of anabolism and catabolism alternate incessantly in the cycle that constitutes life. These rhythms may be better marked in one tissue than in another—may have phases alternating at very different rates—but that protoplasmic activity is fundamentally rhythmic there can be no doubt. The functional monthly periodicity in the female involves every important organ or system. The vascular system goes through a monthly rhythm in respect of fullness and rate of pulse and rise of blood pressure; the monthly temperature curve is highest a few days before "the illness," while urea is diminished and uric acid increased during the flow. The author believes that there must be something in the male to correspond to this rhythmic waxing and waning of metabolic intensity. To prove this theory, the author adduces the record of the headaches of Mr. "X." who has suffered more or less for the last twenty years from hemicrania. The regular

periodicity of the attacks is remarkable—three attacks a month usually—and the author notes that the headache of the middle of the month coincides in point of date with that period of the month, when, according to Van Ott, of St. Petersburg, a very large number of women are menstruating.

Two Cases of Localized Necrosis of the Lung, with Recovery.—Dr. J. Mitchell Clarke (*Bristol Medico-Chirurgical Journal*, June) makes use of the term "localized necrosis" rather than "localized bronchiectasis," believing that, in the latter term, undue stress is laid on what is only subsidiary and not the main part of the pathological process. Some irritant, generally of bacterial nature, lodges in a bronchus, sets up inflammation, with ulceration of the bronchial wall, and through this attacks the neighboring lung tissue. In this there starts a patch of localized inflammation, which, if very intense, leads to necrosis of a small portion of lung or to the formation of an abscess in it. In one case a question arises as to whether the patient had diphtheria, or had contracted diphtheria of the wound? Neither hypothesis is tenable, but the author points out that in gangrene of the lungs an organism is found which, morphologically, exactly resembles the diphtheria bacillus. The absence of neuritis and of any affection of the kidneys or heart, is against infection by the true diphtheria organism. The membranes were thin and soft, never tough or fibrous. They were moderately adherent to the raw surface.

The Nervous Affections of the Heart.—Dr. G. A. Gibson, F. R. C. P. Ed., (*Edinburgh Medical Journal*, July) notes that the most interesting phenomenon in angina pectoris is of recent observation. The condition of the sensibility of the skin, tested objectively, has in recent years yielded most interesting results. The observations of Mackenzie and Head have led to a new era in the investigation of the affection. Over considerable areas of the surface of the body, corresponding with more or less accuracy to the regions in which pain is subjectively felt, there is an exaggeration of sensibility. This hyperaesthesia is most commonly over the upper intercostal nerves, but it may be ascertained to be present over part of the neck and arm, as well. The tenderness may be discovered by the application of varying degrees of pressure with a blunt or a sharp instrument, or by gently pinching the skin with the finger and thumb. In some instances after pain and tenderness have been present for a considerable time, the latter is succeeded by diminution of sensibility. The author emphasizes the absurdity of the common phraseology which would divide the affection into true and false, and he hopes that the term pseudo-angina will, before long, be banished from modern medicine. The author prefers a classification based upon a subdivision of the different varieties of pain, organic and inorganic. The inorganic varieties fall into toxic and neurotic classes. The toxic class embraces chemical or microbic influences. Tobacco and alcohol are often concerned, but tea is an extremely rare cause of painful cardiac symptoms. Among the microbic factors, influenza is certainly the most powerful, but malaria, diphtheria, and typhoid fever also furnish instances. In every real instance of neurotic angina pectoris, it will be found that there is some cardiac weakness.

SURGERY AND ANATOMY.

Massage and Movement in Phlebitis.—M. Marchais (*Presse médicale*, July 2nd) says that strict immobilization should be the rule during the period of fever and for ten to twelve days after it has reached normal. Passive movements are then begun for four days, the patient being instructed not to assist or to resist. After four or five days, the patient may make the movements himself. Massage, especially effleurage, is then started in the affected limb, and is finally exercised over the entire limb. The hip movements are not to be begun until the fifth day. The author believes that passive and active motion are of more importance than massage.

Tendon of Achilles for Covering Amputation Stump.—Dr. Wilms (*Centralblatt für Chirurgie*, July 5th) recommends covering the amputation surface of the tibia with the tendon of Achilles as conduce, to a perfect stump. It is elastic and, lying between the bone and the skin, forms a soft cushion which adds to the prosthetic possibilities. It is applicable, of course, only to low amputations.

New Instrument for Suturing Fistulæ or Wounds in Restricted Space.—Dr. F. Frommer (*Berliner klinische Wochenschrift*, June 30th) describes and illustrates an instrument which consists of a long sound-like staff which has attached to it a movable needle pointing backwards. The needle can be made to occupy firmly any desired position by turning a screw at the distal end of the staff and is, at the same time, visible. It is especially useful in repairing fistulæ of the rectum or vagina or in the suturing of inaccessible wounds.

Leucocytosis in Appendicitis. By Dr. C. J. N. Longridge (*Lancet*, July 12th).—The author's article is based upon the results of blood examinations in twenty cases of appendicitis. A progressive increase in the number of leucocytes may be taken as evidence that the inflammatory lesion is developing in severity and may be reaching the stage of pus formation. Of even more importance than the quantitative count is the qualitative count of the leucocytes; in almost every case the multinuclear elements are increased out of proportion to the other elements. This fact alone is of the greatest significance. There may be no leucocytosis in cases of appendicitis under the following conditions: (1) The mild catarrhal variety; (2) fulminating appendicitis, where the resistance of the patient is too feeble to react to the toxæmia; and (3) where an abscess is of some standing and is thoroughly walled off.

OBSTETRICS AND DISEASES OF WOMEN.

Purulent Infiltration of the Cervix in Puerperal Sepsis.—M. Chéron (*Presse Médicale*, July 9th) reports a case in which the woman, delivered by a midwife, died four days after admission. The autopsy disclosed a destruction of the cervix by a purulent infiltration with a normal uterus without any contents of a pathological nature. There was a thrombosis of the veins of the broad ligament. Diagnosis *intra vitam* was impossible; had it been made, a radical operation might have resulted in recovery.

Clinical Significance of Movable Retroflexion of the Uterus.—Dr. E. Wormser (*Münchener medizinische Wochenschrift*, July 1st and 8th) concludes his elaborate paper by affirming that an uncomplicated retroflexion of the uterus produces in most women no disturbances, and therefore requires no treatment, except during pregnancy. The complaints of most women suffering from this condition are based, as a rule, upon two causes. They arise either from complications which are frequently not demonstrable, or they are the expression of a more or less extensive disturbance of the nervous system. In either event the retroflexion itself is blameless. The treatment should therefore be directed toward the complication or the nervous complaint, and an attempt to correct the position of the uterus should be made only when the former efforts are unavailing.

Puerperal Eclampsia.—Dr. Walter L. Watt (*Glasgow Medical Journal*, July) considers the relative advisability of induction of premature labor or of immediate delivery. The supporters of these methods allege that, with the emptying of the uterus, the fits will cease. Clinically, this is opposed to facts, since uterine contractions directly excite the convulsive attacks, and the effects of pregnancy on the maternal organism by no means disappear immediately after delivery. It would seem better not to induce labor unless all other means of checking the convulsions have failed. In such cases, probably, the most satisfactory course, where there is only a slight dilatation of the os, would be to use the method of Krause—i. e., to pass slowly one or two large rubber catheters, well sterilized, deeply into the uterus. This is easily done, and, above all, causes the least possible irritation to the maternal organism. A point worthy of notice is the rapid dilatation which often occurs during a vapor bath, due, probably, to the almost complete relaxation: cases are even on record of delivery during the course of such a bath. If, however, labor comes on spontaneously, the best plan would be to shorten its duration as much as possible. Apply the forceps and deliver the child as soon as the necessary conditions are present, but always under deep anesthesia.

As for venesection, the author believes that it is contraindicated in most cases on account of the resulting increased tendency to heart failure, which is already very great. Its only justification would be in the case of a strong plethoric woman with over distention of the right heart. Even here, he believes, free diaphoresis, with saline subcutaneous injections would be of less danger and of equal value, and would serve the same ends.

Instrumental Perforation of the Uterus.—Dr. A. Schulze-Vellinghausen (*Centralblatt für Gynäkologie*, July 5th) concludes, from microscopic examination of the perforated uterine area, that instrumental perforation does not take place because of atrophy, anæmia, tuberculosis, softening or malignant degeneration of the uterine tissue, although these are usually regarded as the most frequent causes of perforation of the nonpuerperal uterus, but that certain changes in the uterine muscle also predispose to this accident. Force is not necessary to bring about a perforation, as the uterine sound, most gently introduced, has been known to produce it. In reporting two cases, he gives the minute histology of the uterine muscle in the perforated areas.

Folliculoma Malignum Ovarii.—Dr. Sigmund Gottschalk (*Berliner klinische Wochenschrift*, June 30th) describes what he considers to be a new form of malignant growth of the ovary. It occurred in a woman forty-eight years of age, who had no thyroid enlargement, but who presented an ascites. The growth was of the size of a fist. The author excludes an aberrant thyroid growth, as well as growths from the endothelium or connective tissue in his description.

Vaginal Removal of Tubal Pregnancy.—Dr. P. Strassmann (*Berliner klinische Wochenschrift*, June 23rd and June 30th) says that ease of performance, reduction of shock, and the choice of removing a foetus or a tubal pregnancy by the natural (vaginal) route, lead him to prefer this method to laparotomy which he considers justifiable only when the diagnosis is in doubt. An intact, unruptured tubal pregnancy in the early months, he would always remove by way of the vagina. Laparotomy may be performed in cases of severe hemorrhage in the patient's home when assistance is not at hand and the operation must be done immediately to save life. The vaginal route permits also the simultaneous repair of the perineum or of a prolapse, or other genital anomaly or injury.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

The Subcutaneous Injection of Cinnamate of Sodium: A New Departure in Therapeutics. By Dr. L. Drage and G. T. Morgan, D. Sc.—(*Lancet*, July 12th.) The injections into veins of sodium cinnamate produces a general leucocytosis, not by depriving the blood of a certain amount of liquid, but by stimulating the simpler lymphocytes to transformation into multinuclear cells and intermediate forms. Such a drug would most likely be of avail in the repair of tissue damaged by inflammatory, tuberculous, or cancerous processes, because it is the leucocyte of one kind or another which is at once the agent of destruction and repair. The author uses a ten-per-cent. solution of sodium cinnamate in glycerin, injecting not more than thirty minims at a time, and not oftener than twice a week; usually only one or two injections are required. The salt dissolves easily in glycerin, and the preparation is more reliable than the emulsions hitherto employed. The author reports three cases in which the patients were greatly benefited by its use: viz., advanced pulmonary tuberculosis, cancer of the pancreas, and chronic inflammatory trouble of the middle ear respectively.

On Some Indications for the Use of Physiological Serum. Dr. Luigi Fornaca and Dr. Ferdinando Micheli (*Riforma Medica*, May 9th) call attention to the various uses of physiological serum, and to the results obtained by them in various conditions by subcutaneous injections of physiologic serum (normal salt solution) in doses varying from 10 to 50 cubic centimetres. The authors observed that the injections mentioned were followed in some instances by slight rises of temperature. For this reason they could not be used as tests for tuberculosis, as had been supposed, for the rise of temperature usually appeared without any tuberculous lesions. The therapeutic effect of the serum in acute

febrile diseases is generally followed by a febrile reaction. If given in doses of from twenty to fifty cc., the febrile reaction is not so marked as if administered in larger doses. After two hours the patient begins to feel chilly, and then the temperature rises to 38° or 39° C. (102°-104° F.), which lasts for a few hours, and is accompanied by corresponding rises in pulse and respiration. This reaction was not constantly obtained, but occurred in the majority of instances. Patients became accustomed to the injections after a while, so that the reaction no longer took place. The therapeutic results attained were very good. In the convalescents in whom these injections were used, the nervous symptoms disappeared speedily instead of lingering on, as they do after acute fevers. The general nutrition was improved, and the nervous system stimulated, the functions of the principal organs are improved. In pneumonia these injections favor the absorption of the exudate and the disappearance of both objective and subjective symptoms. In a number of cases of anæmia the authors obtained very satisfactory results with subcutaneous injections of salt solution, without any other therapeutic measures, although there were also cases in which this treatment failed.

Preliminary Note on the Chemical and Therapeutic Properties of *Lacnantes Tinctoria*. By J. A. Gardner, H. R. D. Spitta, M. B., and Dr. A. Latham (*Lancet*, July 12th)—*Lacnantes* consists largely of a resinous substance or substances and some body which is precipitated by lead subacetate and is soluble in water. Further, so small a dose as five cubic centimetres of an aqueous solution of the material obtained by alcoholic extraction of the plant is sufficiently powerful to kill guinea-pigs, whilst doses varying from one to three cubic centimetres of the same solution do not exert any inhibitory action upon the progress of tuberculosis but rather seem to hasten it.

Treatment of Furuncles.—M. P. Desfosses (*Presse médicale*, July 9th) says that, when it is not possible to abort a furuncle, a prolonged hot bath, when the furuncle is favorably situated, will soon mitigate the pain. Hot compresses of bichloride of mercury, one to 2,000, covered with oiled skin or rubber tissue and changed four or five times daily, will relieve pain and hasten suppuration. Incision the author regards as the proper treatment when the furuncle has reached its full development. A deep incision with a bistoury or a crucial incision may be made, according to circumstances. As to general treatment, saline purges may be useful, while arsenic, the alkalies, and intestinal antiseptics are recommended. Brewer's yeast, in doses of a teaspoonful three times daily, acts very well and sometimes prevents the formation of new furuncles, but its effect is not always constant. Prophylactically, frequent washings of soap, with alcohol and minute attention to the cleanliness of the skin, are advised.

PHYSIOLOGY AND PATHOLOGY.

The Anomalies of Metabolism in Alcoholics.—Professor A. B. Poehl (*Roussky Vrach*, June 8th) does not agree with Fokker, Munk, and Riess, whose researches tend to show that in alcoholism, the elimination of nitrogen from the organisms is diminished. The methods used by these observers

were such as to make a conclusion impossible as to the ratio between the amount of nitrogen in the urea and the amount of nitrogen in the total urine eliminated. These authors conclude that alcohol diminishes the destruction of albumin, and therefore acts as a preserver of the body-tissues. Poehl's experiments have shown that alcoholism alters the ratio between the nitrogen of the urea and the nitrogen of the urine (the so-called coefficient of Robin-Poehl) in the sense of a diminution of the relative amount of urea, and consequently diminishes the oxidation of the tissues. The relative preponderance in the urine of nitrogen-containing intermediate bodies indicates an increase in the amount of compounds of uric acid, xanthin, kreatinin, etc., i. e., shows a lowering of the intensity of oxidation in the organism. Alcohol therefore lowers the power of oxidation of the protoplasm. Another important effect of alcohol is its inhibition of the power of eliminating waste products from the cell protoplasm. The effect of this is the retention in the organism of nitrogenous products of decomposition. The diminution in products of nitrogenous metabolism observed in the urine of alcoholics is admitted by everybody, but it has been interpreted wrongly, namely as producing a saving in the waste of proteids in the tissues, while in reality the effect of alcohol may be compared to the prevention of removing the sewage from a house. The effect of alcohol on the body-cells is to cause a self-intoxication by preventing the escape of effete materials. Small amounts of alcohol increase the elimination of uric acid, while large quantities tend to diminish this elimination.

On the Gastric Digestion (Particularly the Secreting Power of the Stomach) in the Insane.

—Dr. A. I. Iustchenko (*Rousky Vrach*, June 8th) says that the data which he collected from literature show that the question as to the disturbances in the digestive function in the insane is by no means solved. There are a number of articles on the subject, but the authors often are found to disagree, as the investigations have heretofore been carried on without any system. Melancholia is the mental disease in which the gastric function has been investigated most thoroughly up to the present time. But while some authors found that the digestive power of the stomach was increased in this malady, many others found that it was deficient. Differences of opinion also exist as regards the digestive power of the stomach in other forms of insanity, and it is only in paranoia that all agree that the stomach remains normal. The chief difficulty in these investigations lies in the fact that insane patients do not easily consent to having the stomach-tube passed, while a forced introduction of the tube may aggravate the psychical derangement. The connection between psychical processes and gastric secretion has been pointed out by Pavloff and his pupils, but as yet many questions in this line are unsolved. In the physiological sense, digestion is a complicated reflex of the psychic state known as hunger. Pavloff divides the act of digestion into two phases; namely, the first, or psychical phase (appetite), and the second, or chemical-reflex, stage. The integrity of the chemical reflex (i. e., the efficiency of the response of the gastric cells to the stimulus on the nerve-endings of the mucosa produced by the presence of

food), depends upon the integrity of these nerves or nerve endings. There may be a supersecretion, induced by the overworking of these nerves, or a defective secretion, induced by their being tired out. The changes in the gastric function of the insane should be studied in the light of these physiological data, brought out by Pavloff. (*To be continued.*)

On the Properties of the Arterial and Venous Walls.—Dr. J. A. MacWilliam (*Proceedings of the Royal Society*, June 19th) notes that *post-mortem* contraction is well marked in all arteries,

pulmonic as well as systemic, and is powerfully influenced by mechanical stimulation. Cooling to a few degrees above zero favors the development of contraction in an exposed artery. Exposure to the air also seems to play a part in inducing and favoring *post-mortem* contraction. The importance of the presence or absence of *post-mortem* contraction need hardly be insisted on with regard to the measurements of arteries made after death to ascertain the size of the lumen, the thickness of the wall, tunica media, etc. The length of an artery is increased by contraction. The duration of obvious contraction is about five or six days, when the artery is kept in an ordinary room. Suprarenal extract has a marked influence in inducing arterial contraction even at relatively long periods after the death of the animal, e. g., from twenty-four to forty-eight hours or longer. An excised portion of artery placed in a watery decoction (made with normal saline solution) of suprarenal medulla speedily goes into strong contraction, persisting for a day or two; at length the contraction passes off. Thin-walled arteries are, of course, more effectively contracted. Tap-water was used as well as normal saline, and, while both tap-water and normal saline, by themselves, have a very appreciable effect in inducing *post-mortem* contraction, these effects are much more transient than those produced by suprarenal extract. Freezing prevents *post-mortem* contraction. *Post-mortem* contraction may be removed by freezing, immersion in potassium sulpho-cyanide solution, exposure to ammonia vapor, heating, kneading, rubbing, and stretching. The author adduces evidence in favor of the conclusion that *post-mortem* contraction of arteries is a true persistent contraction, very different in many respects from the rigor mortis of skeletal muscle. As to the relation of the cubic capacity of an artery to internal pressure, the author finds that when completely relaxed arteries are subjected to equal increments of internal pressure they do not respond by equal increments of cubic capacity; the increase in volume is greatest at first and successively diminishes as the pressure is raised—the distensibility of the vessel is greatest at the first rise above zero. The same holds good in the case of veins. In contracted artery, when the internal pressure is raised step by step, by equal increments, the artery at first yields relatively little and the augmentation of its volume is slight. Successive rises of pressure cause increasing amounts of expansion, and, in the case of a thick-walled and strongly contracted artery, the increasing expansion may go on up to very high pressures, the muscular resistance being more and more overborne by the successive increments of in-

ternal pressure. The expansion is very gradual, in marked contrast to what is seen in a fully relaxed artery. Roy's well-known conclusion, that the maximum distensibility of an artery was found at pressures corresponding, more or less exactly, to their normal blood-pressure, was probably based on the fact that he was dealing (unwittingly) with arteries in *post-mortem* contraction. In cases of exhausting diseases in man there is reason to believe that *post-mortem* contraction is very slight in amount or absent. The author's experiments indicate that in the intact arteries of men and animals, there is much less pulsatile expansion in a contracted artery than in a relaxed one; and in a relaxed artery expansion is much more extensive when the blood-pressure is low. Further, elongation occurs markedly in the relaxed artery as compared with the contracted one.

Cytological Evolution of Primary Tuberculous Pleurisy.—M. E. Saquépée (*Gazette hebdomadaire de médecine et de chirurgie*, July 10th) has made a study of the cytological elements found in a case of tuberculous pleurisy from punctures made during ten successive days. He finds that the disease is characterized by a predominance of lymphocytes and uninuclear cells, and that the cytological formula is different or may be different later in the disease than in its inception. A certain number of endothelial cells is always found, preceded usually, however, by lymphocytes. The ultimate destiny of the endothelial cells is not known.

Bacterial Virulence.—Professor R. Pfeiffer and Dr. E. Friedherger (*Berliner klinische Wochenschrift*, June 23rd) have studied this question with experiments on cholera vibrios, and conclude that with these bacteria there are virulent and non-virulent generations which can be distinguished by the number or degree of the affinities of their haptophoric groups. The former have from five to ten times greater affinity than the latter. The immunizing effect is, for the same reason, dependent upon the degree of virulence of the immunizing culture. Analogous conditions, no doubt, hold true, for typhoid and plague bacilli. The virulence of these species no doubt rests upon their combining properties with the amboceptores complementary to them.

On the Antitoxic Power of the Organism and of the Tissues in General Against Certain Poisons.—Dr. Gaetano Angelici (*Riforma medica*, May 16th) says that the question as to the influence of tissue cells in the neutralization of certain poisons, *e. g.*, strychnine, nicotine, arsenic, tetanus or diphtheria toxins, etc., is by no means settled. The experiments of Czylharx and Donath showed that when one of these poisons was injected in fatal doses mixed with some tissues of the body, such as the liver, nerve tissue, muscle tissue, etc., and the injection was made below a ligature placed on a limb, the animal did not become poisoned. The supposition of one set of observers is that the tissues mixed with the poison neutralize it at the site of injection, so that it does not get into the body with its full virulence. Other observers assume that the interference with the absorption of the poison injected under the conditions mentioned, in other words the mechanical interference produced by the presence of the tissue injected with the poison, is

responsible for the absence of poisoning seen in these animals. The poison is absorbed very slowly in fractional doses, and therefore does not have the toxic effect which it would exhibit under ordinary circumstances. The author thinks that neither of these hypotheses is correct. He thinks rather that the slowness of absorption under the conditions described gives the liver and other antitoxic tissues of the body opportunity to counteract the amount of poison absorbed as fast as it enters. This does not exclude the possibility that the injection of certain tissues of the body with poisons may neutralize their action, under proper conditions.

American Medical Association.

SECTION IN SURGERY AND ANATOMY.

Third Day, Thursday, June 11th.

(Continued.)

Essentials in the Construction of Hospitals for Great Cities.—Dr. A. J. OCHSNER, of Chicago, said that conditions of modern life had made impractical the present form of hospital building, which was essentially that devised by Billings twenty-five years ago, and was exemplified in the world-renowned Johns Hopkins Hospital. In every other class of buildings great changes had been made, but hospital construction had been notably stationary. We now knew, what formerly was only dimly apprehended, that it was the presence or absence of germs which insured the failure or success of a hospital. Twenty-five years ago plans were laid, on the keen observations of Billings and others, for the separation and segregation of variously afflicted patients. How much better should we be able to plan for this all-important factor now that we knew *why!* The need of great cities was very different from that of smaller towns. In the first, land was scanty and costly, the air of the lower strata was germ-laden and reverberated with all sorts of sounds and noises. None of these conditions obtained in the smaller cities. The advantages of a small, compact, high building, facing north and south, fitted with every known sanitary and hygienic contrivance were, first, that at least two hours a day of the precious time of the visiting surgeon or physician were saved—few realized that this was about the price he paid in patrolling a big pavilion hospital. Secondly, pure air and sunlight. Thirdly, hospitals could be built in the populous portion of the city, so that the transportation of patients might be reduced to a minimum. Because of its compactness the expense of running the hospital was much less. The author then showed the plans of the Augustana Hospital, of Chicago, which had been constructed upon the lines he had outlined.

Anatomy for the Practitioner.—Dr. C. M. JACKSON, of Columbia, Mo., spoke of the great need of post-graduate work in normal and pathological anatomy. Inasmuch as there were but comparatively few out of the great mass of the profession who had free access to the medical schools, some way should be opened for the home study of practical anatomy. He had written to the secretaries of all the States and Territories, to ask just what was

the actual status of the practitioner relative to obtaining dissection material, and had had replies from all but three. He had been, on this basis, able to classify the States into three types (1) those having no statutes whatever touching on dissection; (2) those in which dissection was legal in medical schools only—to this class belonged New York; (3) those in which general practitioners were allowed all material not needed by the medical schools, provided they gave a suitable bond or other guarantee that no illicit use should be made of the bodies. It was of great interest to know that these three classes of States were about equal. One of the best possible uses to which medical unification could be put would be to pass laws by its aid in every State, so that all bodies left to the commonwealth for burial might be used in the furtherance of anatomical knowledge. He then gave in detail the various preserving methods. First, on the method of general embalming: phenol, glycerin, and alcohol in equal quantities, injected during a period of an hour or more to the extent of about seven quarts, formed an admirable technics. Should one desire to make sections of the body, it could be done with an ordinary big butcher knife after injection with fifty per cent. formalin followed by decalcification for three weeks in five per cent. hydrochloric acid. For the preservation of individual parts, five per cent. formalin was the most satisfactory solution, but it decolorized. This could be overcome by the use of a double solution, which preserved the parts beautifully if they were shielded from the light. He suggested that the County Medical Associations would do well to support anatomical museums—not mere repositories of medical and surgical curiosities, such as filled the old museums, but active libraries as it were, of the pathology of every day surgery and medicine.

Anatomical Treatment of Fractures of the Femoral Neck.—Dr. C. E. RUTH, of Keokuk, Ia., said that he had some new specimens which were so positive in their evidence that the section would not have any opportunity to "turn him down" this year as it had done at St. Paul's. Inasmuch as six per cent. of all fractures occurred in the neck of the femur, the importance of improving the present mode of treatment could not be doubted. With Buck's extension, or plaster, or any other known contrivance, it was recognized by all that shortening of even an inch or more was to be considered a good result. He wished to urge upon the members a method which was very old but the value of which had not as yet been recognized. It consisted in applying the ordinary Buck's extension, after having first flexed the thigh on the hip and having made vigorous extension. A large piece of starched felt was moulded to the inner aspect of the thigh from perineum to knee. About this a sling was cast and extension of about ten pounds was placed upon it. The direction was out ten degrees and forward about forty degrees. This established traction in the direction of the femoral neck. He gave conclusions based on the results of treating forty cases by this method of Maxwell. In sixteen, there was absolutely no shortening, in eleven but half an inch. Nine of the patients treated were over eighty years of age, and all had recovered and six had regained the power to walk.

Treatment of Fracture of the Neck of Femur.—Dr. C. E. THOMSON, of Scranton, presented a report of seven cases in which firm osseous union was well marked, as shown by restoration of function, skiagraphs, and post-mortem specimens. He said that the whole profession was agreed that the injury was a severe one, being, in the vast majority of cases, fatal, or production of chronic invalidism. Furthermore, of so little value was even the modern treatment, that most text books on surgery either condemned or faintly praised operative intervention. His results, so indisputably far above the average, were obtained by driving a stout silver nail in the direction, and through the centre, of the neck of the femur. He had found it most convenient to make a bone flap and thus dispose of the thick trochanter major, and subsequently to hold it in place by a smaller nail driven in parallel to the first. He would operate in every case of non-union which had resisted all conventional methods of treatment. He had found age to be no contra-indication and he urged that because the patients were old they were the more worthy of our best efforts.

The Treatment of Fracture of the Patella by Subcutaneous Purse-string Suture.—Dr. JOHN B. ROBERTS, of Philadelphia, advocated treating this injury by an encircling suture of chromicized catgut or silk, passed around the fragments in the coronal plane. This was done subcutaneously by means of a long needle, so as to draw the fragments of bone together by a purse-string ligature. He said that the method did not invade the knee joint or the prepatellar bursa and entailed little or no risk. It was preferable to Barker's method, in which the ligature was passed through the joint in the sagittal plane and might cause septic synovitis, if there was any fault in the aseptic technics.

The method described might not be new, but it was worthy of general adoption. It needed no special instruments, it might be performed by any physician who knew how to be aseptic in his work, it allowed the patient to go on crutches in a few days, and it gave perfect physiological use of the knee-joint after treatment was concluded.

Dr. LEVINGS, of Milwaukee, recommended a free and open incision in the treatment of these fractures, because, singularly enough, fracture of the patella was always followed by a very free extravasation of blood, and the whole joint cavity was found filled with clots. He would, however, delay operating till after the fifth day.

Dr. BECK, of New York, said that, in the event of there being much separation of the patellar fragments, the simple suture through the soft parts would not suffice to coapt them. He much preferred the method of Stimson.

Dr. MAXWELL, of Keokuk, said that he was glad to have originated so important a device as lateral traction in cases of hip fracture. It occurred to him to introduce it in the case of a woman who could not be made comfortable in the ordinary Buck's extension.

Acquired Non-Malignant Stricture of Rectum; Causes, Symptoms, and Treatment.—Dr. W. DUFF BULLARD, of New York, said that a careful and comprehensive study of a long series of cases had convinced him that syphilis had very little to do with

strictures of the rectum. Instead of being syphilitic, they were distinctly, in the great majority of instances, traumatic in origin. This was supported by the well-known and absolutely unexplained fact that antisiphilitic treatment was of absolutely no use whatsoever in these cases. Ground for credence in his theory was also found in the greater prevalence of non-malignant stricture in women. Their rectums were subjected to an infinite variety and number of traumatizations—the chronic constipation from which they suffered, and the accidents of childbirth, being striking examples. As strictures were almost always ushered in by long-continued ulceration proper treatment of this primary disorder by the general practitioner would do much to make their aftermath less plentiful.

Dr. Means, of Columbus, thought it of importance, in cutting through the external sphincter, to sever it obliquely after the fashion of a tenotomy, rather than transversely.

The Surgery of Rickets.—*Dr. HENRY LING TAYLOR*, of New York, said that fully fifteen per cent. of all orthopaedic cases had their origin in this little understood disease. The races that suffered most from it were those whose sins against the laws of health was most flagrant. Pott's disease was the disorder from which it should be most carefully distinguished; important points were that the rachitic kyphos was usually round and might be obliterated by manipulation. The author gave in detail the various methods of correcting rachitic deformities of the extremities, and said that, although the Grattin osteoclast was a wonderful and valuable instrument, osteotomy was a more favorite operation in New York.

Two Successful Operations for Brain Tumor.—*Dr. JOSEPH RANSHOFF*, of Cincinnati, said that he thought he held the record for cerebral tumor removals. In 1893 he had operated on a case and removed a large gliosarcoma; the patient had remained well ever since. His other case demonstrated to him the fallacy of the old teaching that operations on tuberculous cerebral deposits were contra-indicated. The small size of this solitary tubercle accounted for the remarkable absence of general pressure symptoms. As soon as slightly marked Jacksonian epilepsy developed, he operated, and he wished to be put on record as saying that it was the *minor*, and not the *major*, indications which, when followed by operation, led to successful extirpation of tuberculous cerebral masses.

The Surgery of the Heart.—*Dr. B. MERRILL RICKETS*, of Cincinnati, O., said that injuries and surgery of the heart had, until recently, been classed as anomalies. This one fact showed how little confidence there had been in successfully dealing with the heart surgically. At one time simple needle puncture of the heart was thought always to result in instant death. Experimental physiology and surgery showed what could be done and how to do it. It was the basis upon which heart-surgery, especially, had been placed. Twenty-five dogs were used in the experiments. Penetrating and non-penetrating wounds of the heart were made, and were closed with sutures of different material. Interrupted silk sutures were

found to be the best. No special aseptic precautions were taken, as all pathological conditions were desired. The pericardium might be entirely removed without death resulting. Either one of the coronary arteries might be ligated at its base without producing death. In a certain class of cases it was best to suture the pericardium to the chest wall that drainage might be more perfect.

It was ideal to suture during systole, but one should be satisfied to secure perfect suturing in systole or diastole. Even though the auricular was thinner than the ventricular wall, it might be sutured with equal success. Owing to this difference in thickness, the percentage of penetrating wounds of the auricles was much greater than that of those of the ventricles. Knotting of the sutures should be firmly secured, otherwise they might become united by the constant action of the heart. The sutures should pass through the bottom of the wound when non-penetrating, and through the endocardium when penetrating. If not in the latter the wound might become enlarged from within. Sutures should not be made tight enough to cut the heart tissue.

The mortality was less in wounds of the right, than in those of the left auricle and ventricle. Bleeding was more severe in wounds from sharp instruments than when due to bullets.

The author arrived at the following *conclusions*. 1. Injuries and diseases of the heart have resisted surgery longer than almost any of the tissues or organs of the human body. 2. They, however, no longer offer such resistance but find themselves subject to attack on the same surgical principles as other parts of the body. 3. Experimental surgery teaches one to reason from animal to man. 4. Aneurysms, foreign bodies, ossification, together with abscess, syphilis, and gangrene possess features which will have a great bearing upon, and will greatly influence, the future surgical work on the heart. 5. The application of surgical principles in certain cases of aneurysm of the heart will, no doubt, be accomplished by suture of electrolysis, or the injection of gelatin or something of a similar character. 6. The removal of a certain class of foreign bodies, whether they have formed within or have entered from without, should, and no doubt will, be accomplished. 7. That a cardiac abscess should be incised and drained there can be no doubt. 8. Tumors of a pedunculated character on the external surface of the heart can and should be removed. 9. Pedunculated tumors within the cardiac chambers can also be successfully removed. 10. Parasitic cysts (animal or vegetable), when upon the external surface of the heart or in its wall, should be incised and drained. 11. Mitral stenosis, hypertrophy, and dilatation of the heart will sooner or later find complete or partial relief within the domain of surgery. 12. Injuries involving the myocardium are subject to the same surgical principles as injuries to other important organs of the human body. 13. Lacerated or incised, penetrating or non-penetrating wounds of the heart should be sutured. 14. Suturing or any other surgical procedure should not be discontinued because the heart ceases to pulsate. The work can and should be completed within a much shorter

time on a quiescent heart. 15. All means should be resorted to, while the suturing of the myocardium is being completed, to reestablish the heart's action. 16. Drainage of the pericardial sac is necessary in many cases of injury of the heart. 17. Exploratory incision of the pericardial cavity and its contents has been shown both by experimental research and by operations upon the living human body to be exceedingly rational, valuable, and justifiable. 18. Exploration of the heart itself, by puncturing it with a needle or knife to locate a foreign body or to detect pathological conditions within the myocardium or its chambers, will, at no far distant day, be found useful and necessary, and be recognized as an accepted surgical procedure. 19. Why should these conclusions be fallacious when it has already been shown that nine of the twenty-seven cases of heart wounds treated by suture have recovered?

Dr. Ricketts's paper was accompanied by seven-ty illustrations.

Fracture of the Lower End of the Radius. Illustrated by Lantern Slides.—Dr. CARL BECK, of New York, said that as this injury represented about 85 per cent. of all fractures, its intelligent treatment was of paramount importance. A new era had come with the advent of the x ray. There could be no well-defined and dogmatic treatment for such fractures; a study of hundreds of cases had forced upon him the conclusion that they were as unlike each other as it was possible to be. There were certain great types of these fractures which, in general, responded to certain types of treatment, but inasmuch as no one could positively diagnose the true condition, save by the x ray, it should be the rule of all surgeons to make use of this positive method of diagnosis after the setting of each fracture.

Fourth Day, Friday, June 13th.

Traumatic Rupture of the Abdominal Viscera.

—Dr. D. W. EISENDRATH, of Chicago, referred to the general lack of knowledge of this class of injuries and to the necessity of earlier diagnosis and operation. Traumatic ruptures were more frequent than gunshot and stab wounds put together. Rupture of the kidneys and intestines formed 60 per cent. of abdominal injuries. Next came the liver and spleen. The mechanism of the injury had much to do with which organ was involved; hence it was necessary to inquire exactly what was the nature of the force. This might be said to act either directly or indirectly. Indirect force applied over a parenchymatous organ was very apt to rupture it. If over a circumscribed area, such as the intestine or bladder, it would more probably be ruptured. Indirect force, such as falls on the feet, buttocks or head, might seriously affect the liver and kidney.

The rupture might be caused by tearing, bursting, or most frequently, by direct crushing. Small tears might heal temporarily, or lead to death from anaemia. Ruptures of the small intestine, especially the ileum, were the most frequent in the alimentary tract. The symptoms and diagnosis were at times very deceptive. In general it was possible to make an early diagnosis between simple contusion and genuine injury. The general and local injuries must be considered; the former, those of shock and an-

æmia, while the latter were divided, for convenience, into those of the alimentary tract, of the genito-urinary system, and those in which symptoms of internal hæmorrhage predominated. The chances of spontaneous recovery were very slight and varied according to the viscus affected—intestines, 7 per cent.; kidney, 30 per cent. Since 1896 the percentage of recovery had been greater because of earlier diagnosis and intervention. It was much better to do many useless laparotomies than to have one death without operation.

A Study of the Relative Merits of the Various Methods of Intestinal Anastomoses.—Dr. R. C. COFFEY, of Portland, Oregon, had practised these various methods on over six hundred cadavers and twenty times on living pigs, because the intestine of this animal most closely resembled that of the human being. For speed the Murphy button gave the best results; the Maunsell method the worst; in accuracy, the Connell and Halsted methods. In the Connell continuous suture the ligature had been found in the lumen of the gut two months and a half after operation. The O'Hara forceps was dangerous and should never be used. The crushable cone was good. The Murphy button was best for rapid work but was likely to be retained as a foreign body in the intestine. The author advocated the use of a cone made of a potato or turnip, through which two long pins were passed at right angles transfixing the overlapped ends of the gut. This, he thought, was easy and simple. The great objection to the Connell and Maunsell operations was the ease with which they could be forgotten and the difficulty of understanding them from cuts and descriptions. By the author's method, the vegetable cones could be crushed and passed on as soon as the sutures were in place.

Dr. Connell, of Leadville, in discussing the last paper said he realized that the continuous suture was apt to remain *in situ*. He had advocated leaving the last knot in the lumen of the gut to prevent leakage. The surety of the operation was greater if all the intestinal coats were included in the sutures. Two layers of sutures increased the time of operation and the liability to gangrene.

Dr. Martin Tinker, of Baltimore, said that Dr. Halsted's bag was especially useful in those cases where the intestine was dilated below the point of suturing, and contracted above it, which was very frequent in intestinal anastomosis.

Dr. J. B. Bullitt, of Louisville, agreed with Dr. Eisenrath that there should always be an operation in any case of rupture of an abdominal organ as soon as this was feasible.

Dr. Muir, of Boston, believed that any sort of a suture would hold in the intestine provided the abdominal distention was kept down after operation.

One Thousand Personally Conducted Cases of Ethyl Chloride Narcosis.—Dr. MARTIN W. WARE said that the effectiveness of ethyl chloride having been demonstrated, the brute force of numbers must needs carry conviction as to its safety. Under the author's supervision ethyl chloride had been applied in 1,000 cases without a fatality, and he had been able to collect 12,476 instances of its use with but one clearly proved death.

The author used a mask of his own devising and exclusively employed a pure product of ethyl chloride ("Kelene"), which was the only preparation provided with an automatic cut-off. This feature offered the great advantage of instantly controlling the stream, and by delivering the same intermittently we could readily avoid overdosage and incidentally exercise economy.

Success following the use of ethyl chloride neither more nor less than other anesthetics. It gave about 95 per cent. of satisfactory anesthetics which occurred in from a few seconds in children to three minutes in adults. The "hoar frost" that formed on the gauze of the mask was not a deterrent factor unless it became so dense as to intercept all air.

Children and young adults comprised 75 per cent. of the instances in which ethyl chloride was successfully used. In 6 instances the author had encountered alarming symptoms, all due to respiratory difficulties—falling back of the tongue, asphyxia due to over-dosing and the exclusion of air—but every time restoration was promptly effected by artificial respiration. The pulse was at all times accelerated but without depression of tension. Transient vomiting occurred in a fair number of instances. On three occasions the author had used ethyl chloride for periods of forty, forty-five and fifty minutes, respectively, but expense might militate against its use for prolonged anesthesia.

The present position of ethyl chloride might thus be summarized: It is relatively a safe anesthetic. The danger point is not as readily or as suddenly reached as with chloroform, neither does it carry with it the remoter dangers of ether, and if asphyxial phenomena set in they are easily remedied by artificial respiration.

Proficiency in the giving of ethyl chloride requires the experience necessary for all anesthetics. The speedy onset of the anesthesia, the good color during the narcosis, and the fairly constant relaxation, as well as the prompt recovery from the anesthetic, stamp it as ideal for ambulatory practice. No physician of experience can depreciate the safety of nitrous oxide, with its record of but 2 deaths in 10,500,000 cases, but even at its best the apparatus is cumbersome, expensive, and beyond practical control for estimating the gas, and the patients become cyanotic and rigid. All these objections are at once overcome by ethyl chloride.

Medullary Narcosis.—Dr. A. W. MORTON, of San Francisco, said that he had used this procedure in over six hundred operations. Sixty had been for regions above the diaphragm. Four excisions of the tongue had been successfully done. The ages of the patients varied from eight to eighty-six years. In only one case was it necessary to employ general anesthesia and this was not because the patient suffered pain but from nervousness. One case resulted fatally, but death was not attributable to the drug, as the patient was in a comatose condition, with a pulse of 120, at the time of the injection. The dose was from three to four tenths of a grain for a strong individual. A glass syringe was advised for the injection. The cocaine was sterilized by subjecting it to a temperature of 300° F. for fifteen minutes and then keeping it in sterile bottles until the time for utilizing it. When the required amount

was placed in the glass syringe, it was allowed to dissolve in the withdrawn cerebrospinal fluid. Anesthesia of the whole body was produced by very rapid injection of the cocaine. The anesthesia lasted from one hour to as long as five hours in one case. Few disagreeable symptoms had been noticed following the procedure.

New officers were elected as follows: Chairman, Dr. James E. Moore, of Minneapolis; secretary, Dr. John C. Munro, of Boston.

Letters to the Editor.

GASTROPTOSIA THE CAUSE OF SYMPTOMS ERRONEOUSLY ATTRIBUTED TO NEPHROPTOSIA; A REPLY TO DR. EDEBOHLS.

NEW YORK, July 16, 1902.

126 East Twenty-ninth Street.

To the Editor of the New York Medical Journal:

Sir: In this answer everything as much as possible shall be avoided that is of no interest to the profession. Many times the discovery of an error causes a useful confusion, useful because through this confusion the way to the establishment of truth is prepared.

It is the opinion of quite a number of medical men that there has existed and still exists with many of us an exaggeration in regard to the importance of floating kidney. This question as it stands at present I have demonstrated in a paper entitled Floating Kidney Idolatry.¹ The statements made in this paper have not only not been contradicted, but have met with general approval, judging from a number of letters addressed to me.

This article, Floating Kidney Idolatry, was preceded by a number of papers read before the Clinical Society of the New York Post-graduate Medical School, and published in the *Post-graduate*, treating on gastroptosis (two papers read respectively on May 1, 1901, and May 1, 1902), before the American Gastro-enterological Association, the first entitled Atonia Gastrica,² the second being the one of which the letter of Dr. Edebohls treats.

All these papers culminated in the one question: Is nephropexy in case of floating kidney, as it is practised wholesale at present, a legitimate operation?

This question had been introduced at the International Congress at Moscow in 1897 by Israel, and it is certain that Dr. Edebohls with his large experience in nephropexy is the best man to contribute something of value towards the solution of this question, especially if he will try a method of treatment which I maintain will make nephropexy unnecessary in at least the majority of cases.

Dr. Edebohls writes: "I challenge Dr. Rose to point out where I have stated or indicated that I find movable kidney in almost every woman that presents herself for examination, or that I consider a movable kidney absolutely pathological in every case, invariably requiring nephropexy."

¹ Medical Standard, February, 1902.

² N. Y. Med. Journal, May 11, 1901 (and also in German translation in *Deutsche Praxis*, Munich.

With pleasure I consent that Dr. Edebohls did not make this statement or indication about almost every woman examined by him, but I have not accused him of having made such a statement. It was I who said so, but I did not dream that anyone would take this *verbatim*. And, after all, it is not much out of the way. First, since the statistics of Dr. Edebohls were published the methods of examination for floating kidney have been perfected to such a degree that almost every woman will be on the list. Second, since Dr. Edebohls, in his own letter, says that twenty per cent. of all women have movable kidney or kidneys, I presume that, of the remaining eighty per cent. without movable kidney, very few may present themselves for examination.

As to the other challenge, I can only refer Dr. Edebohls to Dr. Bazet, whom I have quoted.

It is true, Dr. Edebohls quotes from his own writings: "He (the surgeon) must not, of course, perform nephroxy when the movable kidney or kidneys produce no symptoms," but since everything that lives changes constantly (in fact, nothing is constant in this world but the change), it is not impossible that Dr. Edebohls in his enthusiasm may have said somewhere, sometime, what Dr. Bazet attributes to him, otherwise Dr. Bazet could not have spoken so positively.

Dr. Edebohls gives me the opportunity to answer another letter of his, addressed to me and published in the *Medical Record*, by saying: "In conclusion I may add that this is not the first time that I have been wantonly misquoted by Dr. Rose (*vide* Edebohls, Questions of Priority in the Surgical Treatment of Chronic Bright's Disease, *Medical Record*, April 26, 1902). Such repeated carelessness, if not worse, on the part of Dr. Rose must tend to cause distrust and suspicion of all other statements contained in his writings."

The letter, Question of Priority, etc., is the most elaborate autopanegyric I ever have seen in medical literature. I was asked if I would answer it, but I thought it unnecessary, for anyone who knows the history of surgical treatment of Bright's disease can judge how correctly I had presented the matter and how Dr. Edebohls, without himself being aware, had confirmed all my assertions. For Dr. Edebohls's information, I will point out a few sentences and leave the judgment to those who take interest in this controversy. Dr. Edebohls, in said autopanegyric, says: "I was the first to observe and publish the curative effects of nephroxy upon kidneys affected with chronic Bright's disease."

The now famous publication of Reginald Harrison in the *Lancet* for January 4, 1896, A Contribution to the Study of Some Forms of Albuminuria Associated with Kidney Tension, and their Treatment, was an event of historical importance. In this paper we learn that in the year 1887 Reginald Harrison operated on a man who suffered from chronic albuminuria, and this was the first case from which the medical world learned that nephrotomy, or to be more exact, incision of the renal capsule, would under certain circumstances cure Bright's disease. It is the incision of the capsule, and by no means the additional pexis, upon which the relief from albuminuria depends.

But Dr. Edebohls writes: "The proposition to treat chronic Bright's disease by operation was first made by the author (Edebohls). But had not chronic Bright's disease been cured by operation as early as 1887? It is through Edebohls, the autopanegyristes, that we learn now that he was a pioneer. But to make such a great claim on the strength of having added the absolutely unessential pexis, at least unessential so far as the cure of Bright's disease is concerned, is that not what the Germans call *Sand in die Augen streuen*?"

I confess that I erroneously accused Dr. Edebohls of not having quoted the article of Harrison, but my error is certainly excusable, because I did not see the quotation where it was to be expected, that is, in front and first of all, but quite hidden away and without being mentioned as deserving of special interest.

Since Dr. Edebohls has mentioned this controversy about the priority, he might have mentioned a former dispute we had together in which I said Napoleon with one stroke of the pen wiped a dynasty out of existence, but Dr. Edebohls surpassed Napoleon by wiping out a fact established in literature.

If this dispute between Dr. Edebohls and myself can serve to promote the question at issue in regard to nephroxy and place the merits of the real pioneer, Reginald Harrison, in the proper light, it will have done good service.

A. ROSE, M. D.

Book Notices.

Webster's International Dictionary of the English Language. New Edition. Prepared under the Supervision of NOAH PORTER, D.D., LL.D., with a Supplement of Twenty-five Thousand words and Phrases. W. T. HARRIS, Ph.D., LL.D., Editor in Chief. Springfield, Mass.: C. & G. Merriam Co., 1901.

Accuracy in the use of speech is nowhere more important than in medicine, and practitioners generally will find a modern unabridged dictionary, such as that mentioned, of really great interest, as well as a valuable book of reference. It may be of interest to physicians to recall that Webster, the first of American lexicographers, distinguished himself by compiling an interesting and complete *History of Pestilential Diseases at Every Period of The World*, which was published early in this century in Philadelphia. The present edition of the dictionary not only has been completely revised, but contains an appendix of 25,000 words and phrases recently introduced into the language, thus making the volume a most complete and useful one.

Compend of General Pathology. By ALFRED EDWARD THAYER, M. D., Assistant Instructor in Gross Pathology, Cornell Medical College, etc. Containing 78 Illustrations, several of which are printed in Colors. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xv-17 to 322. (Price, 80 cents.)

This little compend has been prepared to simplify the subject of general pathology for the use of stu-

dents. The general plan is the same as that followed in the larger text-books. The matter is divided into disease in general, disorders of development, disordered blood supply, constitutional and local disorders of metabolism, inflammation and repair, neoplasms, animal and vegetable parasites, and infectious diseases. Then follows a chapter on the method of post-mortem examination, the usual laboratory technics for fixing, embedding, and staining sections, and about fifteen pages are devoted to bacteriological methods, including the preparation of culture media, inoculation of animals, and the ordinary staining methods. The last chapter, on tables and statistics, gives the average weights and dimensions of normal organs, the metric system, etc., arranged in tabular form. Thus it will be seen that the scope of the work is quite large, and of necessity much has been accomplished in the way of condensation.

The descriptions are clear, brief, and to the point, and numerous hints are included which a good teacher would be likely to give to his student. The illustrations for the most part are well executed, many of them being old acquaintances, some of them original. Altogether the book covers the ground creditably and may be of benefit to those for whom it is intended.

Syphilis. A Symposium. Special Contributions by L. DUNCAN BULKLEY, A. M., M. D.; FOLLEN CABOT, Jr., M. D.; LOUIS A. DUHRING, M. D.; PROFESSOR FOURNIER, M. D.; EUGENE FULLER, M. D.; E. B. GLEASON, M. D.; WILLIAM S. GOTTHELL, M. D.; ROBERT H. GREENE, A. M., M. D.; NORMAN B. GWYN, M. D.; ORVILLE HORWITZ, M. D.; EDWARD L. KEYES, M. D.; G. FRANK LYDSTON, M. D.; D. J. MCCARTHY, M. D.; THOMAS G. MORTON, M. D.; BOARDMAN REED, M. D.; A. ROBIN, M. D.; J. D. THOMAS, M. D. New York: E. B. Treat & Company, 1902. Pp. 3 to 120. (Price, \$1.)

This collection of essays on some of the salient features of syphilis, by many eminent syphilographers, originally appeared in the *International Medical Magazine*. The tendency of the articles is to present an authoritative point of view as to the unusual manifestations of syphilis, *e. g.*, unrecognized chancre, syphilis of the stomach, and the communicability of syphilis by the wet nurse. On the other hand, syphilis of the glands, bones, and joints is conspicuous by its absence.

A Laboratory Guide in Elementary Bacteriology. By WILLIAM DODGE FROST, M. S., Instructor in Bacteriology, University of Wisconsin. Illustrated. Second Revised Edition. Madison, Wisconsin: Published by the Author, 1902. Pp. x-355.

This book has been written for the use of the students in the University of Wisconsin, and is intended as a guide to assist the student in his earliest efforts in this branch of science. Many useful directions are given in laboratory technics as well as in the care and use of apparatus. The general plan is the outlining of the methods used in the performance of the fundamental exercises in bacteriology. Blank pages have been inserted for notes and drawings. A book of this sort without the assistance of an instructor

would not lead the novice very far, but as a guide for the student, particularly when other practical assistance is at hand, it must be recognized as a valuable help in his work and convenient for reference.

BOOKS, ETC., RECEIVED.

Treatise on Diseases of the Skin. For the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M. D., Ph. D., Clinical Professor of Dermatology in the Jefferson Medical College and Woman's Medical College, Philadelphia, etc. With 220 Illustrations in the Text and 26 Full-page Lithographic and Half-tone Plates. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 7 to 1115. (Price, \$6.)

Atlas and Epitome of Abdominal Hernias. By Dr. George Sultan, First Assistant in the Surgical Clinic, in Göttingen, Prussia. Authorized Translation from the German. Edited by William B. Coley, M. D., Clinical Lecturer on Surgery, College of Physicians and Surgeons, Columbia University, etc. With 119 Illustrations, 36 of them in Colors. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 9 to 227. *Saunders's Medical Hand Atlases.* (Price, \$3.)

Mother and Child. By Edward P. Davis, A. M., M. D., Professor of Obstetrics in the Jefferson Medical College, Philadelphia, etc. Philadelphia: J. B. Lippincott Company, 1902. Pp. 3 to 264. (Price, \$1.50.)

The Johns Hopkins Hospital Reports. Volume X. Nos. 3, 4 and 5.

Emergency Report on Surra. By D. E. Salmon, D. V. M., Chief of the Bureau of Animal Industry, and C. Wardell Stiles, Ph. D., Pathologist of the Bureau of Animal Industry. Bulletin No. 42.

Miscellany.

Vaccine as a Remedy for Grippe.—Dr. Kiefer, in the *Physician and Surgeon* for January, says that Dr. Gram, registrar of the Buffalo Health Department, having noticed the decided influence of vaccine in this direction, has done some experimentation along that line. In Buffalo a fierce epidemic of grippe had been raging, and at the same time the health officers were carrying on a general vaccination. Dr. Gram noticed that, in those affected, the grippe disappeared simultaneously with the manifestations of the vaccination. He then experimented on himself and others having the disease, and found invariably that the attack was aborted and the patient left free from the usual consequent debility and other distressing sequelae.

Semi-monthly Evacuations.—Dr. Lucien Lof-ton records, in the *Virginia Medical Semi-monthly* for June 27th, the case of a robust and hearty man, aged sixty years, who has only two evacuations in thirty days, although he eats regularly three square meals a day. No physical or mental derangement exists. He has been afflicted this way for the past seven years, and has never suffered any inconvenience whatever, not even a headache. No enlargement of the abdomen or liver was found, and he has never been jaundiced. He reports the semi-monthly evacuations not unusual in amount, and without any offensiveness. The man is not particular regarding his diet. From two to five grains of calomel and soda will move him two or three times, while Epsom salts taken in large quantities, produce little effect. There is present no indication of Glénard's disease. A rectal examination recorded no abdominal condition of the lower intestine or sphincter

ani. Repeated examinations of his urine showed no bile pigment present. Repeated restrictions in the man's diet, together with large and frequent draughts of water, did not appear to improve his condition in the least.

The Superior Person as an Obstacle to Progress.—Under the foregoing heading, the editor of the *Practitioner* in the issue for May has the following trenchant remarks: "In every generation the superior person represents the priggish narrowness of mind which thinks that what it does not know is not knowledge, and looks with disdainful suspicion on anything that does not bear upon it the seal of a fine old crusted academic orthodoxy. To mention only modern instances, it was the superior person who drove Semmelweis to a madhouse; who laughed Boddington and Henry McCormac to scorn when at different times they suggested the open-air treatment of consumption; who derided the notion of the infectivity of phthisis as a superstition, and shrugged his shoulders when Villemin demonstrated its truth; who jeered at the laryngoscope as 'a physiological toy'; who spoke of anæsthesia as a passing craze; who demanded that deaths after ovariectomy should be made the subjects of coroners' inquests; who hinted that much learning had made Pasteur mad and denounced Lister as a fanatic; who treated Laveran as an ignorant pretender, and Manson as a dreamer. And as the superior person has been, so will he be."

Conjugal Malarial Fever.—Dr. Lindsay Peters (*Johns Hopkins Hospital Bulletin*, June) reports the case of a child born at term during a malarial paroxysm of the mother. After reviewing the literature, the author says that since it is well proved that many varieties of bacteria are able to pass from the maternal to the foetal circulation, it is *prima facie* likely that "a minute organism possessing the active amoeboid motility and penetrating power of the malarial parasite, should be able to do so." The mother had been cured once of tertian fever. The attacks recommenced in the spring of 1898, she being at the time pregnant, but again disappeared under treatment, to return on the day of confinement. On the third day the mother had a chill and a temperature of 104° F. An examination of fresh blood specimens the next day showed typical, half grown, tertian malarial organisms. The baby was a healthy boy. Blood from the ear showed no organisms on the first two days. On the fiftieth day after birth the child was seen and found to be sick, pale, unwilling to suck, anæmic, and yellowish. The lower border of the spleen could be felt. The next day, a specimen of blood was pale, watery, and coagulated very slowly. Three malarial parasites of the tertian type were found—one small, extracellular, pigmented form, and two half grown intracellular forms containing light brown dancing pigment. Quinine removed the anæmia and other symptoms in a few weeks. The child was reported to have "got cold and had fevers" from the second week after birth. In infants well marked chill is said to be rare, and to be replaced by "cold hands and feet, blue lips and nails, sometimes slight general cyanosis, pallor, drowsiness, and prostration." From these considerations the author concludes that the affection was not recent, but had been acquired *in*

utero, or very soon after birth. The latter was considered highly improbable, and the author inclines to the view of intra-uterine infection.

Traveling Consumptives.—Dr. A. L. Benedict (*Medical Times*, July) in an article on this subject says that it is scarcely possible for a tuberculous individual, however conscientious and intelligent, to avoid being a source of public danger when traveling. Like everyone else, he is liable to intercurrent sicknesses that render him unable to be careful, and it is practically impossible to arrange for the disinfection of sputum, feces, cuspidores, towels, handkerchiefs, and bedding on trains and boats. From the standpoint of his own welfare, railroad traveling is too dusty, and subject to too great changes of temperature, too much nervous fatigue and too little opportunity for care in dietetics, to be desirable, except as a means of reaching his destination. Enough has been said by various writers regarding the futility and cruelty of arousing false hopes of climatic benefit in the minds of advanced consumptives. The principle should be carried out in all cases, to place the consumptive in a position of comparative isolation, in as perfect a climate as possible, and to keep him there till well or until death supervenes. Until tuberculosis has been demonstrated to be a constitutional and not an infectious disease, the provision of special cars for travel is a wise one.

The general, underlying principles upon which all details of the prophylaxis of tuberculosis depend, are:

1. The main issue, so far as any controversy is concerned, is as to the infectious nature of tuberculosis. All scientific authority, at present, teaches the existence of the tubercle bacillus and its ability to become infectious immediately upon being implanted in a tissue that is not especially resisting. There is no semel-incidence or recognizable immunity.

2. From the sanitary standpoint, it makes no difference whether ordinary contact and atmospheric radiation from a patient is liable to produce this or any other germ disease. "Contagion," as opposed to non-contagious infection, is purely a distinction of clinical convenience, except in regard to gonorrhœa, and possibly a very few other infections to which very definite and easily avoidable modes of implantation are necessary.

3. Under present teachings, the only possible excuse for neglecting precautions against the spread of tuberculosis, is its ubiquity, but this is the best possible reason for doing our utmost toward its control.

4. The methods feasible at present, not to mention attempts at controlling animal tuberculosis, are:

- (a) The exclusion of all alien tuberculous individuals.
- (b) The forced segregation of tuberculous paupers.
- (c) Restriction of sanitariums for advanced cases to non-populous localities.
- (d) Provision of special sleeping-cars and portions of steamers on all routes frequented by consumptives.
- (e) The securing of voluntary segregation of non-pauper consumptives, so far as our influence can reach.

- (i) Systematic enforcement of ordinances forbidding expectoration and requiring municipal disinfection of infected houses, embalming or cremation of corpses, etc.

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DIAGNOSIS IN ABDOMINAL LESIONS.*

BY THOMAS H. MANLEY, M. D., PH. D.,
NEW YORK.

MR. PRESIDENT AND GENTLEMEN:—At the outset it is needless to say that I am fully sensible of the honor conferred by inviting me to address you this evening, and while selecting the title of my subject, I am aware that in submitting anything special on the lesions of the abdomen in the city of Pilcher, Fowler, Butler, and several other distinguished practitioners is like bringing coals to Newcastle. Indeed, nothing of that kind will be undertaken, my only aim being to present but a few brief observations on that highly interesting and important topic, the diagnosis of some of those lesions of the abdomen which frequently come within the domain of surgery.

In this instance a broad interpretation will be given to the word "diagnosis," embracing within its meaning the clinical history, the symptoms, and signs.

It will be my purpose, as far as possible, to illustrate pathological conditions by various clinical cases, for the reason that the nude skeleton of mere didactic description possesses but an indifferent interest or attraction to seasoned graduates, unless clothed and vitalized by a brief reference to some of those cases which reflect the character of the text.

With the vast proportions of the subject selected and the narrow compass of time allotted, anything like an analytical consideration or a proper classification of it will be impossible. Neoplasms and various pus formations within the peritonæum will be passed over.

STRUCTURE AND FUNCTION.

The abdominal cavity is bounded above by the diaphragm, which exercises an incessant pumping action on the abdominal organs, below and posteriorly by osseomuscular structures, and anteriorly by the musculotendinous girth. The greater number of the important abdominal organs and structures are *intra-peritoneal* more or less completely.

The abdominal cavity is the great laboratory of all the great processes of digestion; it is a closed sac

in the male, but in the female there is a direct communication externally through the Fallopian tubes. Passing through this large cavity is the alimentary canal, with one large diverticulum for the reception and reduction of food at the beginning, and another at the lower terminus to receive and expel the detritus and residuum of digestion, the large intestine.

Tightly packed away in loops and coils, and doubled on itself, is the small intestine. These coils of intestine are acted upon by pneumatic pressure from within and without, they are lined internally by a glandular structure highly charged with blood.

This segment of the alimentary canal is abundantly supplied with absorbent vessels and ganglia as well as with large leashes of nerve fibres from the sympathetic system. In order that the various loops of intestine may smoothly glide over each other, we discover a peculiar glairy structure forming the outer coat; it is not altogether unlike the integumental investment of an eel.

For centuries the anatomical and physiological characters of this serous membrane have been sedulously studied by several of the greatest master minds of our profession, but even now they are not well understood.

Wagner found, after a careful estimate, that the gross area of the peritoneal surface equalled 34,682 square centimetres in a female of medium build.

Of the glandular organs, the pancreas and spleen are intraperitoneal, the kidney is extraperitoneal, and the liver is but partly invested. Some anatomists would have us deny the evidence of our own senses and regard the cæcum as an intraperitoneal organ. The presence of the omentum and its sacculations greatly confuse the study and description of the peritoneal membrane, and hence it is quite impossible to master its anatomical relations from any description in the text books.

Within the abdomen, passing into, out of it, and through it, are the vast digestive and vascular conduits, besides a large number of small canals, or passages, leading into various receptacles.

DEVIATIONS AND LACK OF UNIFORMITY IN VOLUME.

NO DEFINITE RELATIONS OF THE ABDOMINAL VISCERA.

Those who would acquire a thoroughly practical knowledge of the varying characters and structural

*Read before the Brooklyn Medical Society, New York, December 27, 1901.

relations of the abdominal viscera in both sexes, and their manifold pathological changes, must make numerous dissections and be a frequent visitor to the morgue. This becomes necessary because of the great frequency of deviations, lack of symmetry and definite relations, even in the healthy state; in several diseased conditions, disordered relations are sometimes so great and bewildering as to confuse any practitioner without a broad anatomical knowledge and experience. A practical knowledge of topographical anatomy of the abdomen, verified by frequent dissection, is of incalculable assistance to us in physical diagnosis.

MEDICAL AND SURGICAL LESIONS OF THE ABDOMEN.

One may well inquire if at the modern rate of encroachment by aggressive surgery there is anything left for the physician in abdominal diseases. To this query we may respond that the great preponderance of abdominal diseases, both of a functional and organic character, is now and forever must remain within the domain of internal medicine; and, further, that of the great number of intra-abdominal pathological lesions, but a small proportion of them demand the drastic resources of sanguineous intervention, either for alleviation or cure.

In order to be able in a measure to appreciate just what this minority is, and an endeavor to recognize the class it includes, is one of the chief objects in view on this occasion. This is an age of a plethora of general and special surgeons, with a great dearth of capable physicians, of practitioners properly trained in the art of therapeutics.

IN CONSEQUENCE OF THE GREAT ADVANCES OF MODERN SURGERY, THE FIELD OF OPERATIVE INTERVENTION IN ABDOMINAL DISEASES HAS UNDERGONE WIDE EXTENSION.

When we come to estimate the extent of resort to surgical procedure in abdominal diseases as contrasted with no longer than twenty years ago, it is amazing to note that up to that date so dangerous a mechanical condition as acute intestinal obstruction was regarded as a medical disease, and few approached the operation of celotomy for external strangulation of the bowel without fear and trembling. That prolific offspring of modern pathology, "appendicitis," was yet unborn; effective excision of segments of gangrenous intestine, as an *au courant* procedure, was unknown; the deeply lodged uterine vessels yet defied the boldest operators; renal and biliary surgery had as yet not attained to a legitimate position, nor had the most enthusiastic votary of operative medicine yet ventured to hope that progressive surgery was soon to let in a flood of light on many unsettled, disputed problems of physiology; this is especially noticeable in the lesions of the stomach and gall bladder and of the female

pelvis, wherein not a single organ has escaped aggressive measures.

When the initial onset was well established, advance along the whole line was simultaneous and came in a rush; moreover, contemporaneously with this advance it soon became manifest that the risks of operative interference had undergone pronounced abatement. As far back as fifteen years ago so conservative and reliable an authority as the late Sir James Paget declared that "in consequence of the recent accession to the armamentarium of surgery, the mortality in major operations had fallen fully fifty per cent. No wonder then, that the *furor operatoire* carried the day, and that the fresh recruits to the ranks of medicine as well as many of his seasoned seniors were ready to cut into every sort of lesion on the slightest pretext. But in spite of this misdirected zeal and mischievous activity we must all concede a considerable legitimate widening of the field of operative interference in the surgery of the abdomen, and that the time has now arrived when every well trained practitioner should equip himself with a practical surgical education.

REACTION AGAINST EXCESSIVE OPERATING.

It may be well that we do not close our eyes to the fact that a decided reaction has set in against excessive or indiscriminate operating, and now we are beginning to realize that under manifold circumstances the *vis medicatrix nature* or the assisted powers of the economy will not infrequently more effectively combat a considerable number of intra-peritoneal pathological conditions and secure a *resstitutio ad integrum* with greater safety and facility than all the resources of art, even though applied by the hand of a master. With a knowledge of this in mind, it therefore becomes manifest that we must in every instance exercise an intelligent discrimination and well weigh the consequences before we recommend radical procedures.

SPECIAL DIFFICULTIES.

The dominant difficulty in several abdominal diseases lies in making a correct diagnosis. Tuffier, in a recent contribution on surgical lesions of the lung, observes that "the difficulty in attaining accurate diagnosis in pulmonary lesions is often greater than that experienced in their treatment." This is a truth which applies with even greater force to abdominal conditions. Gibson has stated that fifteen per cent. mortality from operations in intestinal obstruction proceeds from defective technique, while Senn observes that in fifty per cent. of acute cases of this class exact diagnosis is impossible.

The dangers in any abdominal operation entailing the opening of the peritonæum are never trivial; they are often formidable and sometimes redoubtable. We should always regard them in the light of an extreme

resort only warranted after systematic and persevering medication has failed or life is in immediate jeopardy.

LESIONS, PATHOLOGICAL AND TRAUMATIC.

The immediate or the ultimate dangers to life in nearly all lesions of the stomach or intestinal canal generally arise from mechanical or dynamic obstruction. The dangers in traumatism of the abdomen arise from:

1. Shock.
2. Hæmorrhage.
3. Laceration or rupture of hollow organs.
4. Infectious or gangrenous changes.

DIAGNOSIS.

In order to attain to reasonable accuracy in diagnosis in disease or injuries of the abdominal organs, we commence by securing a full, clinical history, we analyze symptoms and signs. To proceed with any degree of certainty we must possess a broad knowledge of function, normal structure, and pathological changes. We first question and cross-question the patient; secondly, we look for special symptoms and signs; thirdly, we make a thorough physical examination; and, lastly, we make a chemical and bacteriological examination of various fluids of the body.

Attitude.—We must always examine our patients in various postures of the body.

Palpation and Percussion.—Manipulation and percussion afford us great help, though by themselves they are often delusive aids. Auscultation of the abdomen has but a very limited application.

Examination of the Passages.—A skillful examination of the rectum and vagina (in women) is indispensable in pelvic lesions. In all cases presenting symptoms of *acute intestinal obstruction* we should first scrutinize with rigor the *umbilical, inguinal, and femoral outlets* as well as other situations through which hernial extrusion may occur.

Abdominal Puncture or Aspiration.—The skillful and cautious employment of the exploratory needle is a most precious diagnostic resource, not often enough resorted to, its dangers have been unduly magnified and its great merits overlooked. More than once have I seen the most humiliating oversights committed by practitioners and consultants through neglect of using this simple expedient. Landau recently gives at length its technique, its indications, and its value, both as a diagnostic and therapeutic resource.

The influence of age, sex, and region is not to be overlooked in diagnosis.

In the infant under two years suffering from acute intestinal obstruction we almost instinctively look for invagination of the small into the large intestine. In early and middle life we may expect

the infective lesions of perityphlitis, tuberculosis, typhoid, and syphilis; after middle life, malignant disease.

In the right lateral triangle of the abdomen we shall discover the greater preponderance of surgical lesions, more than on the other side by fifty per cent.

Sex plays a tremendous rôle in many intraperitoneal lesions calling for surgical intervention. The female maladies of an infectious character in the pelvic basin have enormously augmented in number since the tendency in our times to flagrantly transgress physiological laws. Happily her tolerance to all mutilating processes within the peritonæum is far greater than in the male.

Narcosis in Diagnosis.—Pulmonary narcosis may be employed with great advantage in elucidating many obscure abdominal conditions. In hyperæsthetic, hysterical females or timid children it is an invaluable aid. We place the patient on the back on a firm table. Under the influence of an anæsthetic muscular rigidity disappears and phantom tumors vanish. Frequently thorough examination is incomplete without induced anæsthesia. Intrarachidian cocainization might serve the same purpose, but its dangers are greater and its effects are needlessly prolonged.

Moderate or therapeutic narcosis by morphine is often resorted to in those colicky or distressing seizures, dependent on functional causes, when we may be in doubt as to their ætiological origin. Judiciously employed, its value is great in *peritonism*. Might not we take advantage of morphine administration in dubious cases, that we may better decide on just what course to pursue? Here we are up against a fierce controversy of extremists.

The power of this drug for either good or evil is great. In a large number of cases it will almost instantly relieve the agony of the sufferer; moreover, it gives nature a respite, as it were, to recover her flagging forces, for severe, protracted abdominal pain dangerously exhausts the heart.

It is true, it may mask this *symptom of pain*, but in any event it is but one symptom, an unreliable one at that. But, like every good thing in this world, the drug is a treacherous agent, and, as Treves well observes, "it should be administered freely only after all other resources of diagnosis fail or humanity commands us to relieve our patient's distress."

It is certainly most remarkable to note the extraordinary energy of opium and its alkaloids in a great number of intraabdominal diseased conditions, for here is the great field of their administration; their action seems sometimes positively specific, but a serious error is too often committed in neglecting to employ the whole opium instead of the alkaloids. How often are our diagnoses and our unpromising predictions set naught by its power of subduing

pain and overcoming pathological conditions, thus bringing chagrin and disappointment to the consultant and robbing the surgeon of many a well planned operation!

Under its soothing, exhilarating influence at least mental rest is secured and the forces of nature are permitted full play, while the afflicted, enjoying a calm, is unconscious of their action. By the judicious yet free and large administration of opium and its derivatives in acute inflammatory conditions within the peritonæum, in properly selected cases, the number of major surgical operations is certain to sustain a large reduction.

Hæmodiagnosis.—Very much has been written of late on the subject of microscopical examination of the blood as a definite means of diagnosis. In 1889 Professor Hayem, the most noted living hæmatologist, insisted on the importance of a morphological examination of the blood in various pathological conditions. He wrote: "The future belongs to hæmatology, as it is that alone which will solve the great morphological problems." Tuffier notes the popular belief among the laity in the impurities of the blood, its watery state, etc., and hence the reason why the sick are so ready to submit to its repeated abstraction for diagnostic purposes. Without doubt in this direction we must look in the near future for valuable information, but it is quite certain that the time has not yet arrived.

Leucocytosis.—In health there are from 6,000 and 8,000 white blood corpuscles to the cubic millimetre. In several disordered conditions of health they may run up to 30,000 or 50,000. Leucocytosis is present in various forms of suppuration and in malignant diseases, when there is marked diminution of the red blood corpuscles and hæmoglobin. What is the actual diagnostic significance of leucocytic augmentation in abdominal lesions? From the great diversity of views on the relative diagnostic value of this recent discovery, we are not in a position to say that it possesses any positive diagnostic value whatever; all are agreed that, at most, it is but an aid. Its warmest partisans are those whose labors in the laboratory far exceed their actual clinical experience.

But even though the blood count could with unerring certainty enlighten us as to the presence of pus in various abdominal lesions, would this always warrant an abdominal section while every clinical pathologist well knows that a limited seropurulent accumulation in a vigorous subject will be walled off by a pyogenic membrane and very frequently undergoes spontaneous dispersion by the unaided processes of nature?

A recent unfortunate experience has convinced me that, unsupported and alone, it is not only useless, but delusive. In one instance of a massive pyelonephritic abscess the repeated count gave us the nor-

mal proportion of white blood corpuscles. In another case of acute intestinal obstruction from two Meckel's diverticula, without a trace of peritonitis, the count was 45,000. Again, we had in a recent historical case the bulletin report "normal blood count" while gangrenous ulceration was working havoc through the vitals.

The Röntgen Rays.—Tuffier alleges that shadowgraphy has certainly been a substantial addition to diagnosis of pulmonary lesions calling for surgical relief, though he admits that there are several cases where it fails. In phthisis Stubbert insists on its value as a diagnostic resource, while Wilson, of Philadelphia, regards it as too uncertain to possess any value in inflammatory conditions of the lung. In the abdomen it does not appear to serve any useful purpose except to detect calculi and locate foreign bodies.

Chemical and Microscopical Analyses.—Anything more than a rudimentary chemical analysis of the contents of the stomach is not possible without the assistance of an expert; with the urine it is widely different.

Microscopical examination of the secretions and aspirated fluids may be made with advantage by one familiar with morphological studies and with the technique, but it is well to warn against ever accepting laboratory diagnosis without the confirmation of clinical support. Urinary analysis is sometimes very misleading, as when the ureter is strictured or plugged by inspissated pus or coagulated blood. It is true that error might be eliminated, partly by ureteral catheterism or the use of the segregator; these, however, can seldom be used with definite results in the male or in the female in all cases.

Repeated and Deliberate Examination.—Keith says "that a life may be sacrificed by delay or endangered by too great haste in examination." In many cases, however, haste is imperative; in those which admit of it, those cases of a subacute or chronic character, repeated systematic examination of the abdomen frequently throws great light on many obscure cases. It is sometimes surprising to note the frequent dispersion of inflammatory formations, even in twenty-four hours; others after varying periods of time undergo remarkable changes in consistency and in their relation to parts, or sometimes vanish entirely, "the disappearing tumors" with which every practitioner of experience is acquainted. There is probably no class of abdominal tumors which may not undergo spontaneous retrogression or disappear. I have seen several mammoth uterine fibroids so shrink as to leave no trace after them. One of the most extraordinary examples I saw some years ago, in a woman of fifty years, who was said to be pregnant, as she had practically all the symp-

toms, even to the filling of the breasts with milk and the development of the *embonpoint*, but the case was merely one of a massive dermoid cyst. After a time atrophic changes set in, in a few months leaving no trace of the neoplasm.

SYMPTOMS.

Symptoms are subjective phenomena. We have observed the common deviations of structure in the abdominal viscera, and likewise, we may note the frequent lack of definite type in symptoms. Hence, we shall observe in some of the gravest traumatisms that pain may be trivial or absent; in hernial strangulation, at times, no vomiting. Symptoms and signs may occasionally mislead the most experienced; hence, why in prognosis we are so often misled, to the great discredit of the profession. The public labors under an impression that science will enable the practitioner to overcome all difficulties, even to strike an unerring forecast of the termination of disease. Perhaps there is no class of cases wherein either exact diagnosis or a correct prognosis is so difficult as in the various lésions of an intraperitoneal character. Bennett warns us here not to attach too much importance to any symptom not well supported by ample corroborative evidence.

Tympanites.—Broadly speaking, we have but two types of tympanites of the abdomen. One depends on an excessive inflation of various segments of the intestinal canal, the other on an extensive escape of gases into the peritoneal sac. Gastric dilatation may lead to a general inflation; the abdomen may be stretched to almost the bursting point in acute obstruction of the small intestines, and a wide expansion of the colon may crowd all the other mobile organs out of position.

Pseudo-tympanites occurs in varying degrees after perforation; when adhesions form early, it is localized, otherwise it is general. The latter form is met with in instances of traumatic rupture or in large and sudden perforations from various pathological conditions.

(To be Continued.)

The Ruling Passion Strong in Death.—The *Revue Médicale* for July 16th gives the following:

ÉPITAPHE DE CIVIALE.

Dans le coin de ce cimetière
Où la mort vient de l'envoyer,
Son tombeau n'aura pas de pierre,
Il sortirait pour la broyer!

which may, perhaps, be rendered as follows:

CIVIALE'S EPITAPH.

His body to this graveyard lone
Was sent when Death had hushed it;
'Twas idle to erect a stone—
He would have ris'n and crushed it.

K. W. M.

PRIMARY EPITHELIOMA OF THE UVULA AND SOFT PALATE AND TREATMENT WITH THE RÖNTGEN RAYS; RE- PORT OF A CASE.*

By JAMES FRANCIS McCAW, M. D.,
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OCULIST, AURIST, AND LARYNGOLOGIST TO THE CITY HOSPITAL
AND JEFFERSON COUNTY ORPHAN ASYLUM.

From the extremely rare occurrence of primary carcinoma of the uvula and velum palati, it is of importance, I think, to place all cases of this nature on record. For that reason and others, which will hereafter be dwelt upon, I present this case for your consideration and discussion.

The patient, Mrs. D. W. L., I was called to see in consultation on November 19, 1901, when I obtained the following history: Age, thirty-seven years; married; housewife. Family history: Her mother died of tuberculosis. Her father died of dysentery. One sister died several years ago from the effects of an operation for the removal of an abdominal tumor the nature of which she does not know. There is one sister living who at the present time is suffering from an obscure abdominal growth.

Personal history: She has always enjoyed good health, and has had no throat trouble except an occasional attack of quinsy. The present illness, which dates from about eight months ago, began with slight throat irritation and some soreness. This continued and in a short time two or three small ulcerated surfaces were noticed on the soft palate. At this time she consulted her family physician and was treated for "cancred sore throat," which seemed gradually to improve, but never felt perfectly well. About six weeks ago the soft palate, at the site of these ulcerations, began to enlarge and very rapidly to fill the throat; this was followed quickly by dysphagia, pain, which was aggravated at night, muffled intonation, and soreness in the cervical muscles of the left side.

Upon examining the fauces, a mass involving the uvula, velum palati, each posterior faucial pillar, the right lateral, and a portion of the posterior wall of the pharynx, was seen. This mass, which almost filled the right side of the pharynx, presented an irregular, nodulated outline and an ulcerated and necrotic surface, and had a dense and almost cartilaginous feeling to the touch. The anterior faucial pillars, tonsils, epiglottis, and larynx were free and in an apparently normal condition. There was some stiffness and soreness of the neck muscles, limiting rotation, but glandular enlargement could not be detected. The patient had lost some flesh, but her general condition was good. A small portion of the growth excised and submitted to the pathologist of the hospital revealed the fact that it was an epithelioma. The question of diagnosis disposed of, the next and of equal import was that

* Read before the American Laryngological, Rhinological, and Otolaryngological Society at its annual meeting, Washington, D. C., June 3, 1902.

of treatment, which from the very nature and situation of the disease presents problems which are difficult, perplexing, and serious.

After reviewing the literature at my command, and noting the exceedingly unfavorable results obtained after different operative procedures, and in view of the extensive involvement of the faucial and pharyngeal structures, I felt that to attempt an extensive radical operation was unwarranted and unjustifiable.

About this time my attention being directed to an article in the *New York Medical Journal*, by Dr. Carl Beck, on *Sarcoma Treated by the Röntgen Rays*, I decided to remove as much of this growth as possible without destroying the function of the parts, and subsequently subject it to the influence of these rays; but I must say this decision was reached not without some skepticism regarding the value of it in this particular case.

The patient was anxious to have something done, and the demand for relief, if it was to be had, being imperative, she was anesthetized on November 23rd, and through the mouth I excised the growth as freely as possible from the soft palate and posterior pillars with the electrocautery knife. The ulcerated areas on the pharyngeal wall were vigorously curetted and afterward thoroughly cauterized. The patient experienced a good deal of pain for four or five days following this, at the end of which time the eschars began to separate and the wound to show signs of cicatrization. The wound was kept cleansed with mild antiseptic washes for two weeks, when the reaction following the operative interference subsided and the application of the Röntgen rays was begun. In the treatment of this case a double anode extra-large improved German tube was selected. Its vacuum was moderate and rather inclined to be soft, yet when it was given a strong current it would show the outlines of the ribs and heart quite distinctly in the fluoroscope. It would begin to fluoresce when the sliding poles of the static machine were drawn from $1\frac{1}{2}$ to 2 inches apart. It was excited by a static current from a machine composed of eight 30-inch revolving plates. The machine was run as rapidly as safety would permit. To prevent x ray burning of the lower part of the face, the inside of the mouth, and the tongue, a special apparatus was devised from sheets of block tin. One sheet was cut to fit over the lower part of the face and neck, with an opening $1\frac{1}{2}$ inch in diameter for the mouth. Into this opening was fitted a tube of the same material, two inches long, which when in use was introduced into the mouth. This block tin tube not only acted as a protection for the mouth and tongue, but also served as a tongue depressor. The patient was placed on her back with her head but slightly higher than the plane of her body. The x ray tube was adjusted as close to the mouth as possible, taking great care to get the most direct rays to pass through the tin tube and against the pharynx and soft palate. The upper part of the face was covered with a shield of heavy tin foil. Even with this protection there was some tanning of the nose and forehead, also a slight conjunctivitis. The first x ray

treatment was given on December 7, 1901, and the exposure was twelve minutes. After two sittings the time was extended to fifteen minutes for four more, when the time of exposure had to be reduced to ten minutes owing to the burning in the throat. The treatments were given three times a week for seven weeks. At the end of the first week the patient volunteered the statement that the soreness had almost entirely left her throat. At the end of two weeks the healthy part of the fauces began to show more redness, and a network of veins could be seen where the most direct rays came in contact with the mucous membrane. The nose commenced to tan, and after treatment the patient complained of dizziness and a fulness in the head which would keep her awake most of the night. She also described a peculiar smarting sensation in her throat. The diseased areas were now in a state of healthy cicatrization.

At the end of five weeks, when looking directly into the throat, it seemed entirely healed. An examination with the mirror, however, showed trouble on the upper posterior surface of the soft palate. The direct rays were now directed against the velum palati, and the healing went on much slower than where the rays came directly in contact with the diseased parts. At the end of seven weeks there was only one small area as large as a split pea remaining unhealed. The patient thought her throat well and became careless, not appearing at the office for three weeks. When she did return the appearance was very discouraging. There were marked increase in the area of ulceration and infiltration of the velum palati, with extension to the right lateral and posterior pharyngeal wall and soreness and stiffness in the cervical muscles of the right side, and the patient was very despondent in consequence. Under chloroform the growth was again attacked, thoroughly curetted, and cauterized with the electrocautery. There was only slight reaction and little pain from this procedure. A portion of this growth was submitted to the pathologist for another examination, which confirmed the previous one. In this specimen, however, which did not appear in the first, was a very rapid colloid degeneration of the epithelial cells, the protoplasm of which being almost entirely replaced by colloid material.

Treatment with the Röntgen rays were resumed three times a week, of twenty minute exposures for five weeks, since then once a week. From the last operative procedure, on March 7, 1902, and subsequent irradiation, cicatrization has progressed kindly and at the present time there only remains a very small unhealed area on the velum, which gives every indication that it will rapidly cover. A peculiarity in the healing process has been the slight amount of cicatricial tissue with a minimum of contraction.

In looking over the literature of this subject I have been able to accumulate forty-one cases, including my own. While I shall not attempt an exhaustive review of these cases, my research shows that carcinoma in this region obeys the ordinary rule of malignant disease in other portions

of the body. A very striking fact noticed, however, is the predominance of male victims, only two cases having occurred in females. Bosworth, in his work on *The Nose and Throat*, page 405, regards this simply as a coincidence and of no clinical importance. While I am not prepared to give a solution of this fact, it does seem that so great a predisposition of males to the ravages of this disease must be taken into account as an aetiological factor and not simply a coincidence.

In the treatment of this case my efforts were directed, as far as possible, toward irradiating the younger, or formative, carcinomatous tissue, with the idea that, whatever the effect of these rays, the influence would be greater upon primitive than upon well formed cells. As Carl Beck says, "if histology tells us that the atypical proliferation of connective tissue cells in sarcoma is produced from a matrix of embryonic cells of congenital origin, we can appreciate that the rays, which so easily are responsible for a trophoneurotic change, may induce cell metamorphosis." The same may be true in infiltrating carcinomatous cells. A fact of some significance, I think, is the very marked colloid degeneration of the epithelial cells noticed upon examination of a portion of this growth after exposure to the influence of these rays. As the therapeutic effect of the Röntgen rays is still in obscurity, I am not willing to say that this was the result of its influence, but mention it as a fact worthy of further investigation. Be this as it may, the irradiation in this case has been productive of most satisfactory results. With such widespread involvement of tissues, it would have been almost impossible to give much relief from surgical measures alone, and a rapid recurrence would surely have been expected. Still, the fact cannot be denied that these tissues slowly took on a reparative process and cicatrized, a result beyond my most sanguine expectation. While one case is of little value as a basis for safe deductions, still, in the light of recent experiments and my own result, I think we are justified in the further use of the agent in the treatment of this class of cases. In regard to the very radical operations, with their mutilating effect and destruction of function, there seems little room for argument, as I have been unable to find one cure reported. So long as we are able to obtain equally good or better results, with less discomfort, by palliative measures, I feel we are unwarranted in subjecting our patients to the more formidable and mutilating operations. I am fully aware there are high authorities who oppose this view and endeavor to so thoroughly eradicate the disease that there will be no return, but the results which I

have been able to find do not warrant the procedure.

In conclusion, I take this opportunity of expressing my appreciation of the services of Dr. C. N. Bibbins, of Watertown, N. Y., who had charge of the irradiation in this case, also for a report of the same.

Note.—Since finishing this paper, I have had an opportunity of examining the patient and found the following conditions: Morale and general condition all that could be desired. The ulcerated surfaces are entirely healed, the amount of scar tissue is almost unnoticeable, and the slight degree of contraction of the velum that was present has relaxed and the parts now functionate perfectly. There is nowhere to be seen any indication of further infiltration. While I am unwilling, as yet, to report this as a cure of carcinoma, by the combined methods of surgery and Röntgenotherapy, I feel very much encouraged for the future of this most wonderful agent. This case will be kept under observation and further reports of the result published.

SOME CASES OF SYMPATHETIC OPHTHALMIA.

By N. D. McDOWELL, M. D.,
ROCHESTER, N. Y.

Sympathetic ophthalmia is a rare disease. Ohlman reports that, out of 556 severe injuries to the eye, only four cases of this disease developed. Of the 50,000 patients presenting themselves for treatment of the eyes at the New York Eye and Ear Infirmary during 1897 and 1898, only six suffered from it. However, it is a very destructive disease and one which may often be prevented. This latter fact is proved by the decrease in the number of cases occurring in recent years, due, I take it, to increased opportunities for prompt and well directed treatment. The term sympathetic excludes the agency of external contagion. Sympathetic ophthalmia is a disease principally of the internal structures of the eye and particularly of the uveal tract, which is composed of the chorioid, ciliary body and iris. All the other tissues of the eye are often attacked secondarily and some of them primarily.

Many varying conditions have been known to give rise to the disease, but to injuries or diseases involving in one way or another the ciliary body and iris attaches the greatest danger of causing it. It is extremely rare to find the disease when there has been no perforation of the exciting eye. Why it is that one injury causes sympathetic trouble while another just as severe or even more severe does not, we do not know. As a matter of fact, we do not

know positively how the disease is brought about. Mackenzie, in 1840, assumed the optic nerve to be the path of transfer. H. Müller, about fifteen years later, pronounced in favor of the ciliary nerves being the chief factors in causing the disease, though he did not deny the possible agency of the optic nerve. Within late years Deutschmann has argued that cocci are the carriers of the pathological process, and that they travel along the lymph spaces of the nerve sheath. Gifford, who has done much careful work in investigating the infection theory, finds that his results partially uphold it.

The period of time which elapses between the injury of one eye and the beginning of sympathetic trouble in the other varies from a week to many years—the most common time is from three to six weeks.

The onset of the disease is usually stealthy, beginning with the so-called irritative symptoms, such as weariness, photophobia, lacrymation, and consequent reluctance to fix the eye. There is often little variation from normal acuteness of vision at the beginning. This irritative type of the disease may continue for some time or pass directly into the plastic type, with intense iridocyclitis and general inflammation. The lesions of the originating eye need not be severe, and the eye may or may not be sightless.

Of the five cases of sympathetic ophthalmia which I have had the opportunity to observe, the history of one has features of perhaps enough interest to warrant my giving it. One of the cases of which I shall speak I treated in my office, the others while I was interne in the New York Eye and Ear Infirmary, and I wish to acknowledge the courtesy of the visiting surgeon, Dr. Derby, in whose service the case which I report occurred, for the privilege of reporting it.

The man was twenty-three years old, strong and healthy. On the day before coming to the hospital he was struck in the face with glass from an exploding seltzer bottle. The left eye was uninjured and had normal vision. The right eye could just perceive light and presented a large penetrating wound of the cornea and ciliary region below. The lens was partially opaque and the globe soft. Cocaine was instilled and a portion of the torn iris removed from the lips of the wound, this being followed by such a profuse hæmorrhage into the anterior chamber of the eye that nothing more was done. The patient was put to bed, atropine was instilled, and the eye was bandaged. Calomel, a tenth of a grain every hour, was given for two days. The blood in the anterior chamber gradually disappeared, showing the iris still caught in the wound. At the end of a week the eye was red and tender with tension minus. Ether was now given and another attempt made to free the iris from the wound. This was not entirely successful, owing to profuse hæmorrhage again. From this time the eye

became so painful that the patient, after suffering for ten days longer, asked that the eye be enucleated, and, this being thought the only safe course to pursue, it was done. No foreign body was found in the globe. The stump healed readily and in a week the patient was discharged, the left eye being examined and found in normal condition.

Three weeks later the patient returned saying the eye was watery and troubled him some in seeing. On examination, I found the stump of the right eye quiet and not tender on pressure; vision of left eye, ²⁰/₂₀, slight photophobia and lacrymation, moderate conjunctival and possibly slight ciliary injection, no deposits on Descemet's membrane or the lens, the iris reacted perfectly, the vitreous was clear, and the fundus normal with the exception of what I considered a slight hyperæmia of the optic disc. Not having the other nerve to compare it with, I could not be sure on this point. There was no tenderness on pressure, but the globe was markedly soft. Atropine was instilled and the patient advised to enter the hospital at once. He did not do so, however, and when he returned at the end of a week, vision was reduced to seeing fingers at five feet. Examination showed marked double injection, the iris contracted and rigid, tension minus, no tenderness on pressure, the vitreous clouded by very fine particles, so that only a very indistinct view of the fundus could be obtained. The patient was put to bed and treated with leeches, hot bathing, mercurial inunctions, and atropine. Improvement was rapid and uninterrupted. In one month vision was again ²⁰/₂₀ and there were no indications of the state through which the eye had passed except the deposits of pigment on the anterior capsule, where the iris had been attacked. No atrophic patches could be found in the chorioid and retina. Several months had elapsed when the patient was again seen, and he had had no return of the trouble.

This case resembles, in some respects, the one reported in 1890 by Schiess-Gemuseus, in which the sympathetic attacks began twelve weeks after the removal of the offending eye. Evisceration was done in his case, while enucleation was done in mine. Finally the stump of the originating eye in his case was removed and found to contain colonies of staphylococci. I have wondered if germs remaining in the stump after the enucleation were the agents causing trouble in my case. The stump was quiet and not tender on pressure in this case, as in his. But does it not seem most likely that if germs in the stump caused the one attack they would have caused successive attacks?

The treatment followed in the five cases was practically the same, namely, with sweating, calomel, leeches, hot bathing, and atropine. I tried the salicylates in only one case, and the patient's general condition was so poor that I feared to use the large doses suggested by Gifford, 200 grains daily. I saw no special effect from the sixty grains daily which I did use. I shall give the salicylates a thorough trial, however, when I have another opportunity, for Gifford reports remarkable benefits from their

use. The only one of the five cases in which I was sure treatment was of benefit was the case reported. Enucleation after the disease has developed, which was practised in two of my cases, does not seem to have done any good, but I think it fair to assume that the early enucleation in the reported case was probably responsible for the mild attack. These results should serve, to emphasize the importance of very early treatment, in fact, the enucleation of the eye which is a suspicious one, especially if it is useless for visual purposes. Enucleation is of undoubted value during the so-called irritable stage of the disease. In two cases iridectomies were done for visual purposes on the eyes which had been attacked by sympathetic inflammation, after they had become entirely quiet—in one case four months and in the other two years after the attacks. Intense inflammation followed both operations, filling in the colobomata with exudates, and vision was not increased.

19 EAST AVENUE.

THE VACCINATION QUESTION.

By THERESA BANNAN, M. D.,
SYRACUSE, N. Y.

At a distance of a hundred years, it is difficult to realize the conditions which gave immortal fame to Jenner, the discoverer of vaccination. The enthusiasm with which the world received his discovery does not extend to our times. Long security from the ravages of smallpox has resulted in indifference to its prevention and doubt of its ravages, while modern sanitation receives the credit of having modified the disease. The foreign-born bring their children to be vaccinated as a matter of course because of the compulsory vaccination law of their native land; but the American, always jealous of his personal liberty, resents anything resembling compulsion. The medical profession, united, perhaps, on the theory, are divided on the practice of vaccination. The medical press was silent on the subject until the increasing smallpox of the past few years had given alarm.

The office of public vaccinator must necessarily add something to the experience of a physician, not only in the medical phases, but in those elements which unite in hostility to vaccination. Between three and four thousand children are vaccinated at the City Hall every year, while many others present themselves for inspection. In spite of a century of evidence of the protective power of vaccinia, it is safe to say that not one per cent. of these children would be vaccinated were they not required to give evidence of its successful operation before they were admitted to school. It requires vigilance to keep in

force this negatively compulsory law. A child who cannot undergo the slight operation of vaccination is, in the majority of cases, too frail to endure the confinement and strain of the school room. We offer vaccination as a protection against smallpox and that alone, yet exemption is sought for the most trivial reason. The parent will offer as a clinching argument that he does not believe in it any way and neither does his physician. He will relate all the cases of disease and death which have ever followed the operation. Some one of his acquaintance was sick for years after vaccination, and inquiry will bring out the fact that the illness took the form of measles, mumps, scarlet fever, or one of the other ailments which follow the association of children at school. Bronchitis contracted during the course of vaccination and rheumatism or consumption following it are all attributed to this operation.

On the other hand, the parent's objection may not be to vaccination, but to revaccination. His child has been vaccinated once, twice, or a dozen times without success, and he has been assured of the child's immunity without any qualification of the power of the inoculated virus. Since the vaccinations were unsuccessful, the operation consisted of the scarifications and the application of inert substance, and revaccination is indicated until success is shown by vaccinia.

The chief argument against vaccination, and the most just hostility to it, however, hinge upon the quality of the virus used in the inoculation. To inject a poison into the fresh and wholesome body of a little child is naturally repugnant; but when history and experience prove this virus to be the only measure which saves from a dreadful pestilence with death or disfigurement, vaccination should be rigidly enforced. The child has the right to demand that this virus shall give the protection promised without risk of other infection, that the operation shall be simple, and that the course of the inoculation shall in no degree approach the severity of the dreaded disease. Reasonable demands, surely!

It concerns us little whether the vaccine is the product of a municipal or private laboratory. It concerns us much whether the specific organism of vaccinia is alone in the virus or associated with other organisms more or less harmful. Unfortunately, the proof of the vaccine is in its use, and, while an occasional bad result may be immaterial, the inoculation of a large number of people with an untried vaccine may be disastrous.

Briefly, the course of normal vaccinia is this: From the fourth to the sixth day vesicles form and coalesce at the site of vaccination, becoming a pustule with a surrounding area or redness—the areola—about the eighth day. The areola enlarges to a diameter from one to three inches, and the pustule

* Read before the Syracuse Academy of Medicine, May 20, 1902.

dries into a scab which falls off in two or three weeks. Fever is usual from the eighth to the tenth day. Other constitutional symptoms are slight or absent. The reaction produced is in inverse ratio to the age, infants and young children giving no signs of discomfort. With *proper* vaccine, the course is mild in all cases, and the subject of proper vaccine needs agitation, however great the danger of adding to the already existing fears of the public.

My experience has been limited to three different kinds. Vaccine No. 1 at first gave typical results with a mild reaction, but in a few months it ceased to act, or, at times, produced abnormal growths at the site of operation. The producers explained that the extreme heat of the express cars was sufficient to destroy the vaccinia organism; so, when the cooler weather of autumn brought no improvement, the virus was rejected. It was of the glycerinated variety, in capillary tubes, scarifications being made with a lancet sterilized in an alcohol flame.

The second vaccine was of the same kind, but a needle was substituted for the lancet. This virus not only was active, but it "worked" on every one regardless of previous vaccination, and began its operations as soon as it was introduced. Constitutional effects were marked—high fever for several days, loss of appetite, nausea, and vomiting was the constant report confirmed by the pale faces of the children; the arms were painful, the areola was extensive, often reaching the elbow and wrist; the pustule was small and shallow, the scab thin, often undetermined or but partially covering the ulcer beneath; the scar was imperfect, atypical, and gave little evidence of the past disturbance. The producers gave no answer to inquiries on the subject, and the nature of the organisms which produced such symptoms has not been declared.

That such virus does much to injure the cause of vaccination is to be expected. Physicians are helplessly in the hands of the producers with their commercial spirit. Vaccine is a perishable commodity and should not be bought and sold as an inert drug, and druggists cannot be depended upon to keep it under proper conditions. That the evils of this vaccine were not transitory was shown a few months ago when forty points were used in an emergency. Twenty children returned for inspection, with the same chorus of complaints which characterized its use three years previously. While at any time the symptoms were not dangerous, the distress occasioned marked it as an inferior article and it was rejected. It is largely used by physicians in this city, with the same train of symptoms which, met with occasionally in practice, are more easily ignored than when occurring in a large number of people.

Vaccine No. 3 has proved satisfactory for the past three years, and, while other varieties on the

market may be equally good, the use of them for the sake of change is not warranted. This vaccine is uniformly effective, a failure in primary cases being rare. Its vaccinia is mild in its course, its scab firm, and its scar typical. An exception to its rule of good character occurred in January of last year, when, in the presence of smallpox in this city and State, a large amount of vaccine was obtained and used immediately. It produced more disturbance than usual, both local and general. Several cases of general vaccinia occurred, but in no case did it approach the usual result of vaccine No. 2. The explanation given by the producers was that the sudden demand for a large amount of vaccine drew on their supply of fresh virus and shortened its period of seasoning, and this freshness probably accounted for its unwonted activity. So it happens that in the greatest need, during the presence of smallpox, the vaccine may be unfit and insufficient for the demand. 'For this reason, if for no other, vaccination should be routine and not postponed until the epidemic of smallpox is present.

This vaccine is also glycerinated and supplied in capillary tubes and in bulk for use when more than a few are to be vaccinated. A wooden toothpick is dipped into the liquid virus, and the adhering lymph is carried to the arm of the child. Through this drop of lymph the scarifications are made, three vertically crossed by an equal number horizontally, covering an area of about a quarter of an inch square into which the virus is pricked. A separate toothpick and sterilized needle are used for each child. This method of vaccination is unusual in the order of procedure and has many advantages. Ordinarily the scarifications are made first and the vaccine rubbed on; but in the reverse order, the needle passing through the lymph carries the virus to the depth of the scratch and insures inoculation. Moreover, in this method the scarifications and the vaccine are applied at the same spot, which is not always the case where vaccine is forcibly expelled and aimed at the scarification. Another advantage is the lessening of pain, as the scratch, coming at the end of the process instead of the beginning, finds the fears of the child disarmed and the momentary hurt relieved by the assurance that it is all done. That these advantages are real was shown when in one day five hundred and sixty children were vaccinated without evoking an expression of pain.

After vaccination the lymph is allowed to dry for ten or fifteen minutes and is then covered by the sleeve. The only primary dressing that has proved satisfactory is thin, transparent adhesive plaster no larger than the area scarified. This can be easily washed off or worn throughout the course of vaccinia, as it allows of frequent cleansing of the arm while giving some protection to the apex of the pus-

tule. The use of vaccination shields cannot be too strongly condemned. They prevent cleansing measures, irritate the tissues, retain the secretions, and often adhere to the vaccinia pustule.

There seems to be a popular conviction that a vaccinia pock should not be washed, but the use of soap and water or alcohol quickly relieves itching, while frequent bathing of the arm controls any undue pain or inflammation. When the vaccination is perfectly clean, a pad of absorbent cotton to support the pressure of the clothing makes a comfortable dressing.

The site of vaccination is generally the left arm, near the insertion of the deltoid; the left thigh, two or three inches above the knee, is preferable in girls, but in women the friction and uncleanness of long skirts, and the retarded venous circulation produce complications of various natures.

The relative merits of glycerinated and dried virus are scarcely a question when the use of the former is general. Vaccine obtained from young calves is triturated with glycerin and stored for seasoning, during which process the glycerin is said to destroy the adventitious germs while the vaccinia organism survives. The duration of this survival is variable. Vaccine kept in a warm office or a coat pocket soon loses its power. It should be obtained directly from the producers and kept in a refrigerator for a few weeks before using. The disappointment and uncertainty following the use of much of the virus on the market send the children from their proper operator, the family physician, to the City Hall, where opportunity is afforded for constant observation of vaccine activity. So a child who has been repeatedly vaccinated without success, owing to the use of inert virus, quickly reacts to a virus known to be active, and the fallacy of immunity is exposed.

Once a term the vaccinator visits the public schools and inspects those who have not already been passed upon as to the results of their vaccination. Some children bear certificates of vaccination who declare they have never been vaccinated and who have no scar. These and others without evidence of successful vaccination are allowed ten days within which to meet this requirement. The law commanding revaccination is not enforced, nor is the vaccinator required to visit the private or parochial schools, the high school, or the colleges of the city.

Sanitation in Cuba.—The Cuban government has decided that after August 1st no governmental appropriations shall be made for the disinfecting and cleaning of streets in the several cities and towns. It is held that such sanitary work is a municipal matter, the expense of which shall be borne by the various municipalities. The U. S. Minister at Havana reports that the health of Havana and other cities in the island is good, and that the sanitary condition of the streets will compare favorably with that of American cities.

THE SUCCESSFUL TREATMENT OF HAY FEVER.*

By J. WILKINSON JERVEY, M. D.,
GREENVILLE, S. C.

There was a time when hay fever was properly accorded a high place in the catalogue of human curses. Feared alike by laymen and profession as Sindbad in the ancient tale feared the sinuous embraces of the Old Man of the Sea, this distressing disease can cling and bloom perennially, even upon the hardiest of our race, as buds and clings the thick-woven ampelopsis upon the hardiest, most forbidding wall face of the house of stone. But the heyday of its reign is past, for modern research and modern methods have undermined its throne, and have cast its terrors metaphorically in its face.

Who among us has not seen the worn and haggard fellow-creature, with disheveled person; with eyes and nose full red, oedematous, and streaming; gasping for breath, or sneezing as if to blow out the last atom of his brains—which, indeed, to speak figuratively, he has already almost done? Who among us has not had such a suffering mortal come, a shadow of his usual self, and make a desperate appeal for help and relief from the demon that is holding him in its maddening clutches? And what have you done for the poor afflicted one? As a rule, mighty little, I warrant. Why?

First, because you did not know what to do; and, second, because you knew many others suffered in the same way without fatal results, and you simply neglected to keep up with the times and find out how you might benefit your suppliant patient. At the risk of being giped at as a "commercialist," I am going to ask: Other considerations aside, is it good policy to ignore these cases?

Presupposing that the majority of physicians are not practising medicine for their health's sake, it may aptly and truly be said that the relief of a single case of hay fever, whether or not there be a fee contingent thereupon, is worth far more from a business point of view than an indefinitely long and successful run of typhoid or obstetric cases, for instance. When a case of, hay fever presents itself, what do you do? You load up the patient's stomach with drugs—with iron, with quinine, with arsenic, with bromides, with strychnine, with phosphide of zinc, with what not! What happens? Nothing except that the patient gets worse and worse, and more and more dissatisfied. You advise him to go to the White Mountains, to the seashore, to the Great Lakes, to take an ocean voyage, and when he follows the suggestions the thanks of your soul follow him out of the door; so pleased are you to get him out of your way and

* Read before the South Carolina Medical Association, Spartanburg, April 16 and 17, 1902.

worry. But, gentlemen, honestly, is that a creditable disposition of the case?

Hay fever is essentially dependent upon a triad of conditions. These three essentials may be called the tripod of its existence. Knock away one leg of the tripod and the whole structure collapses. That seems simple enough, and so it is when you go about it in the right way.

These three essentials are: 1, A peculiar nervous susceptibility. 2, Some abnormality (a hyperæsthesia or a malformation or both), perhaps apparently ridiculously trifling, in the nasal structures. 3, The presence of some individually irritating substance in the atmosphere. Remove any one of these three conditions, and the disease is controlled.

In regard to the first, or neurotic condition, we must admit that it is not always easy to regulate a superexcitability of the sympathetic nervous system. And the third condition—that of irritating substances in the atmosphere (dust, vegetable matter, fumes and odors of various kinds)—is also more or less incapable of regulation.

The natural deduction, then, in the obtaining circumstances is to attack the second-mentioned essential of the existence of the disease, and I take this occasion to make the broad assertion that there is not one case in ten of hay fever which cannot be practically immediately relieved by proper attention to the local conditions in the nose; and this, combined with suitable systemic treatment subsequently faithfully carried out, will not only relieve, but ultimately cure the miserable sufferer; and, gentlemen, in such a case you will be sure to reap your good reward for skill in one way or another.

Practical illustrations are better than abstract dicta; this case is a good type: In May, 1900, a physician, aged about thirty years, walked into my office a picture of abject misery. His was a typical case of hay fever, with all the symptoms violent and exaggerated, cough, sneezing, profuse lachrymation and running from the nose, asthma, headache, fever, and general malaise that was absolutely unnerving. Said he to me:

"Doctor, I know you are a specialist in this line, but I want to tell you that I am naturally somewhat skeptical in regard to the possibilities of any treatment for my condition. I get worse from year to year, lose weight and strength, and now I am compelled to give up my work when these attacks come on. I have tried every thing in the world I know of, with no good result. However, if you can help me I shall be eternally grateful."

This was all spoken with difficulty, as with a violent coryza; through a veritable shower of tears and nosedrip, and between coughs and sneezes. I gave him encouragement and assurances of immediate relief, and in fifteen minutes' time that man walked

out of my office, head erect, smiling; his cough and sneezing stopped; his nose freely open and not running; asthma gone; his eyes clear and no longer weeping; headache disappeared, and altogether another man. A case in real life as seemingly miraculous as the strange case of Dr. Jekyll and Mr. Hyde.

Yet the treatment was simple enough. After thoroughly spraying out the nose with an alkaline antiseptic solution (a ten-per-cent. cocaine solution being alternately used with the spray in order to open up the nose), an aqueous solution of suprarenal extract was applied. The blood vessels and swollen tissues were promptly reduced to a practically natural condition, and nothing abnormal could be detected in the interior of the nose. The case was one of localized hyperæsthesiæ in the nasal mucosa, and these were controlled by the applications. A drop or two of the suprarenal solution was put into each conjunctival sac, and in thirty seconds the red, swollen, burning, itching, watery eyes became clear and comfortable. The patient was directed to spray out his nose two or three times a day (or oftener, if necessary) with Dobell's solution, followed with a solution of suprarenal extract, and to take internally three grains of the extract (palatably combined with licorice powder) every three hours. The attack was aborted on the spot, so to speak. The next year, 1901, he had a return, as usual, but with much reduced severity, and a 1 to 4,000 solution of adrenalin chloride met the indications and promptly conquered them.

I will record with your indulgence, another typical illustration. In June, 1900, a leading society woman presented herself at my office, about as great a picture of woe as the preceding case. She had dragged herself out of bed to come and consult me. For many weeks each year she had to live in misery and solitude, confined to her darkened room. The mere sight of a green tree would almost precipitate convulsions. She had tried everything (they all have) and had been tragically disappointed each time. If I could and would relieve her, she would engage a band and parade the streets proclaiming my genius; and so forth, and so on. She was relieved as was the first patient alluded to, and as all are. A few days subsequently I removed a polypoid enlargement from the region of the middle turbinal on the left side, and she has since had no return of the hay fever. She took internally, besides suprarenal extract, the elixir of phosphate of iron, quinine, and strychnine.

The bowels should be kept very regular, and the diet should be simple. The nose and throat should always be put into thoroughly good condition, using both topical applications and surgery where necessary. An excellent tonic and nerve food is elixir of glycerophosphates of lime and soda. The exciting

atmospheric conditions should be avoided as much as possible. Dust, pollen, new-mown hay, the odor of roses, peaches, horse or cattle urine, the smell of the horse itself, are a few of these influences.

Of course it is not to be expected that the general practitioner can manage any very large percentage of these cases. He has not the appliances for examining and treating them, and it would not pay him to get them. Besides, it often taxes the skill of even the trained rhinologist to locate diseased conditions of the organ. But I am free to say that the specialist in diseases of the nose should be able to relieve practically all, and ultimately to cure from seventy-five to ninety per cent. of these cases.

TRAUMATIC ABSCESS AND NECROSIS OF THE NASAL TRIANGULAR CARTILAGE, WITH REPORT OF CASES AND SPECIAL TREAT- MENT FOR PREVENTION OF EXTERNAL DEFORMITY.*

By ROBERT C. MYLES, M. D.,

Among his private patients the writer has had three cases of traumatic abscess and necrosis of the nasal triangular cartilage, which were caused by operations performed by himself. The treatment of these patients first attracted his attention to this class of cases. The intense anxiety experienced during the treatment caused an activity of thought and manipulative technics, the memory of which will always be with him. The treatment was especially directed toward the prevention of the dreaded conditions of perforation and saddle nose. The results were so eminently satisfactory that he was prompted to follow the same course of treatment in the case of another private patient, a young woman, aged twenty years, who had extensive hæmatoma, necrosis, and suppuration, which involved the septum from the floor of the nose to the anterior upper border. In each of the three cases referred to, the condition was caused by sawing off a part of the septum. The patients were all men past middle age. Practically, complete surgical cleanliness was employed; the nasal vestibules were scrubbed with soap, ether, alcohol, and a solution of bichloride of mercury. The cartilages, a few days after the operation, became necrotic, turned white, and gradually softened as the necrosis progressed. Fragments came away when the curette was used with gentle pressure. The parts were examined daily, and all cartilage was

removed that would come away without the use of much force. The necrosis extended beneath the perichondrium, nearly an inch in some directions. The cavities were packed with gauze and pledgets of cotton which were covered with a powder composed of equal parts of boric acid and aristol. Each cavity gradually filled up without the occurrence of perforation or deformity, and the cartilage formed again in portions of the destroyed area.

At my clinic at the Polyclinic I have seen three cases of suppurative perichondritis of the septum which were caused by blows on the nose. The suppurative processes did not extend further than to within half an inch of the bridge of the nose. Long incisions were made, and the cavities gently curetted and packed with gauze. The patients discontinued coming to the clinic before the cavities were entirely healed. There was no evidence of the perichondritis extending to the anterior superior portion of the triangular cartilage.

The only case of serious importance of this character that I have had in my private practice was that which occurred in the young woman previously mentioned, who, while playing baseball at school, on October 24, 1901, was struck rather forcibly on the nose by the ball. The nose became slightly swollen externally, stenosed, and painful. On the 26th she had a severe chill, which was followed by fever. Nasal breathing was completely obstructed, there was considerable pain, and she was generally indisposed. She consulted me for the first time on November 2nd, one week from the time the blow was received. I found a round elevation over the centre of the external nose, immediately below the nasal bones. There was extensive bilateral, oval swelling of the septum which extended from a little below the anterior end of the perpendicular plate of the ethmoid to the floors of the nose, the direction being downward and backward. A small piece of the inferior portion of the cartilage was protruding through the mucous membrane on the right side, evidently the avenue of sepsis. There was some fluctuation under firm pressure. The walls of the cavity seemed to be very dense. A diagnosis of traumatic hæmatoma with suppuration involving a section of the cartilage that extended from the lower border to its upper anterior margin was made. An unfavorable prognosis was given with regard to the external shape of the nose, but remembering the extremely favorable results that had been secured in the cases of necrosis I had occurred after the sawing operations, I determined to employ the same procedure in this case. Bosworth states that if the morbid process extends to the anterior border of the cartilage, a facial deformity will surely result. With these extremely unfavorable symptoms, the perichondritis, as evidenced by the hump on the anterior border of the cartilage, and

* Read before the American Laryngological Association, at its twenty-fourth annual congress, held in Boston, May 26, 27 and 28, 1902.

the bilateral swelling of the nasal walls of the *sæptum* beneath and anterior to the tubercle of the *sæptum*, I must confess that I had little hope of preventing decided changes in the normal outlines of her nose. I made bold and extensive incisions through the walls of the cavity and a quantity of pus and semi-degenerated blood gushed out with considerable force. The incision on the left side was about three quarters of an inch long and its direction was obliquely forward and upward, commencing about the middle of the *sæptum* and ending near the anterior superior border of the cartilage. A second incision was made on the right side which extended from the lower border of the cartilage forward and upward about half an inch. The cartilage was already perforated at different points, and at certain intervals it was separated from the perichondrium on both sides. The probe was passed up into the cavity until it could be felt with the finger on the bridge of the nose. The cavity was irrigated with boric-acid solution, carefully curetted, gently packed with aristol gauze, and at times rubber tubes were inserted. Sections of the dead cartilage were removed from time to time and also the necrotic margins of the healthier portions. The incisions in the cavity walls healed rapidly from the ends and required a number of reinisions at intervals for about three months. A part of the cartilage beneath the bridge of the nose, after a slow necrosing process, came away about two months subsequent to the accident. The curette was distinctly felt by the finger on the fore part of the nose. A fistulous canal beneath the bridge continued to discharge until February 15th, when it closed permanently. The external contour of the nose is now practically as good in a cosmetic sense as before the accident occurred. This class of cases should be separated from, and not confounded with, all of the other forms of perichondritis in which the process does not extend to the anterior upper border of the triangular cartilage. My experience has taught me that traumatic abscesses of the triangular cartilage should be divided into three classes: First—subperichondrial hæmatoma and suppuration, accompanied by more or less separation of the perichondrium from the cartilage on one or both sides which extends to the anterior border; second—the same condition which does not extend to the anterior border; and third—necrosis and suppuration along the cartilage, due to the removal of a part.

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The University of Michigan, Department of Medicine and Surgery.—The new medical building in course of construction, the work on which has been delayed by the wet weather, will, the contractor says, be completed and ready for occupancy about October 1st. The college year will open a few days prior to that date.

A NOTEWORTHY CASE OF AORTIC REGURGITATION.

By LEO JACOBI, M. D.,
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The following case presents at least one interesting feature, which will justify its publication.

The patient is a man aged thirty-five years, a musician by occupation. He plays the violin and, occasionally, the cornet.

About three weeks ago, following a severe exertion while playing at a concert, he was seized with a breast pang. Though very short in duration, the seizure struck him with the terror of impending death. Other disquieting symptoms, dizziness, headache, dyspnoea, and substernal oppression, appeared after the attack of pain, and he took to bed. At the same time, he became aware of a loud musical sound, which was issuing from his chest with every beat of the heart. He states that he has been perfectly well prior to this break-down, but a close inquiry reveals the fact that occasional complaints of short breath had been made before.

So much, or rather so little, for the history.

As to the *status præsens*. On approaching the patient a loud, musical sound strikes the ear. The sound has the cardiac rhythm and very closely resembles the tone elicited by pulling the bass string of a violin. The musical note seems to proceed from the depths of the patient's chest, and the hand placed over the latter becomes conscious of a diffuse, purring thrill.

On auscultation, which is naturally undertaken first, the musical "murmur," to misapply the term, is found to be *loudest* over the ensiform cartilage, but *most distinct* at the aortic ring, over an area of the size of a five-cent coin. The ear receives the clear impression that the sound is *produced* at the aortic orifice and *transmitted* downward, to be intensified, or better conducted through the structures, at the xiphoid process. The sound is audible during the diastole. It is well transmitted into the carotids.

At the apex, the first sound is muffled, the second is replaced by the murmur, which is much enfeebled at this point. The first sound at the pulmonary area is distinct, the second is swallowed up in the aortic murmur. The first aortic sound is replaced by a blowing murmur.

Over the smaller arteries, as far as the palmar arterial arch, a clear tone is audible.

Inspection shows the apex in the sixth intercostal space, the beat moderately forceful, and one half-inch outside the mamillary line. On palpation, a strong diastolic thrill is diffusely felt. Percussion shows enlargement chiefly to the left and downward.

The radial pulse is *celer et altus*, the rebound becoming more apparent on raising the arm. The usual minor phenomena of aortic regurgitation are present.

A study of the case seems to point to the previous existence of a latent aortic lesion which recently culminated in a valvular accident, possibly the rupture of a segment.

As to the interesting musical phenomenon, it is so loud as to be distinctly heard at the foot of the pa-

tient's bed. His wife assures me that the sound was still louder a few days ago, and could then be heard across the fairly large room.

245 EAST SEVENTY-SECOND STREET.

THE IMPORTANCE OF INDIVIDUAL PRE-
DISPOSITION IN THE DEVELOPMENT
OF TUBERCULOSIS, WITH SOME
REMARKS ON THE RELATION
OF METABOLISM TO HU-
MAN SUSCEPTI-
BILITY.*

By H. EDWIN LEWIS, M. D.,
BURLINGTON, VERMONT.

There can be little doubt that many of our ideas relative to tuberculosis are undergoing great change. Since the day of its announcement, Koch's discovery of the tubercle bacillus has dominated every thought in connection with tuberculosis, and until recently to question the absolute and unvarying pathogenicity of the *Bacillus tuberculosis* under all circumstances has been tantamount to a betrayal of scientific alienation. With bated breath we have accepted every announcement from the laboratory, and like sheep have followed every premise and dictum promulgated. When clinical and practical experience has failed to substantiate laboratory dogma, such failure has been attributed to lack of erudition on the part of the clinical observer, and never to possible error on the part of the laboratory votary. I do not wish to belittle in any way the value of laboratory research, nor detract, if such a thing were possible, from the noble labors of those whose contributions from the laboratory are among the most important of scientific discoveries. But I do wish to emphasize the important fact that premature development of laboratory theories at the expense of practical clinical demonstration can never mean the highest scientific progress in questions concerning the public health. That the specific treatment of tuberculosis is no better defined to-day than it was twenty years ago can only be laid to too great specialization along experimental lines and arrant neglect along others more vital and practical. But a change is taking place, and medical science is gradually, but none the less surely, growing away from the belief that the problems of disease can only be solved in the laboratory. Hence the trend of modern research is more along the line of clinical and physiological investigation, correlated but not superseded by microscopical and bacteriological methods. The re-

sult is that many hastily formed conclusions are being refuted or modified.

Foremost among the questions that are undergoing modification in the light of practical study is that of tuberculosis. Contrary to the blind faith that has existed in regard to the constancy of bacterial virulence in the aetiology of tuberculosis, clinical observers are awaking to the all-important fact that individual predisposition not only plays a prominent part, but may indeed be the prime factor in the development of the disease. The following expression of opinion in regard to tuberculosis from so eminent a German authority as Professor Graewitz¹ is significant:

"The influence of the individual tendency is in this so striking that in the face of such cases I do not understand how anyone can cling to the hope of gradually banishing tuberculosis from the world by extirpation of the tubercle bacilli; that is a dream which, after a thousand years of hygienic precautions, will have no realization, if the predisposing causes do not cease."

It is a certain fact absolutely incontrovertible that while at least fifty per cent. of mankind are susceptible to the bacillus of tuberculosis, only fourteen per cent. really die from its baneful effects. These figures have been quoted broadcast as showing the extreme and widespread danger of tuberculosis. And yet, in spite of the most positive evidence showing that all mankind are more or less frequently exposed to the tubercle bacillus, the fact that nearly one half of mankind have been proof against its pathogenic influence, and less than one third of those who really have contracted the disease have succumbed to it, has not served to modify the universal belief that bacterial virulence is the most potent factor in the causation of tuberculosis.

In connection with the great British Congress of Tuberculosis held in London last year, I could not help but notice, as many others must have done, how study of the *Bacillus tuberculosis* and experimental investigation completely overshadowed clinical research or the study of tuberculosis as we see it in the individual.

The chaotic state of opinion following the London Congress plainly showed the unsatisfactory results from experimentation alone. A calm consideration of what we know and what we do not know in regard to tuberculosis to-day, and the meagre results thus far obtained in the struggle with the disease, certainly justify the belief that we have been losing valuable time in directing all our energies toward the extinction of the tubercle bacillus. In other words, we have neglected our patient and overlooked important changes in his physical economy too much for his good and the highest advance-

* Read at the annual meeting of the American Congress of Tuberculosis in New York, June 2, 3, and 4, 1902.

¹ Deutsche medicinische Wochenschrift, 1901, No. 41.

ment of medical science. And right here, contrary as it is to the tendency of present day methods and ideas, I want to say that what we are learning about tuberculosis every day makes the alluring hope that the disease can be legislated out of existence as Utopian as it is irrational.

Certainly we can minimize the danger, and legislation up to a certain point can be effective and serviceable in *limiting* infective material, but if every consumptive is discharging the number of bacilli that investigation has positively demonstrated, then the supply is infinite in amount and must necessarily continue so indefinitely. We cannot eliminate every tuberculous patient, and so long as a single source of tubercle bacilli remains, human susceptibility will continue the disease. That a greater number of those brought into most intimate contact with patients suffering from pulmonary tuberculosis do not develop the disease is the strongest possible testimonial to the potent protective influence of personal resistance.

During the past three years I have carefully examined and observed a number of individuals who have constantly attended or taken care of consumptive patients. Although the relations of the sixty-two attendants whom I have had under careful observation have been most intimate, such as sleeping in the same bed, etc., I have observed the occurrence of actual infection only three times. Tubercle bacilli were demonstrated in the nasal secretions of fifteen attendants, and all the others were probably inhaling or ingesting large quantities of bacilli. That nearly ninety-five per cent. of those who were exposed to constant infection over periods ranging from three months to two years failed to develop the disease shows conclusively that personal resistance is far more potent as a protective force than the tubercle bacilli are for attack. My figures in this connection are too meagre to admit of any general conclusions, but their commonplace character leads me to believe that the occurrence of actual clinical tuberculosis cannot be traced to direct personal infection in more than five per cent. of all cases. Still further corroborative is the fact that it is extremely rare for attendants in our large sanatoria and consumptive hospitals to develop tuberculosis. Indeed, in some institutions such an occurrence is unknown.

In view, therefore, of the mortality statistics of tuberculosis, the evidence of resistance in the presence of universal bacterial infection, and the well known clinical facts which we possess in regard to the influence of overcrowding, unhygienic living, alcoholism, and many acute diseases in lowering vital resistance, the statement is justifiable, radical though it may be, that we do not acquire tuberculosis, but the conditions which lead to it:

The refutation or affirmation of this statement cannot come from the laboratory or experimentation alone. Laboratory methods are artificial to a large extent and can only approximate the conditions involved in natural infections. It is true that tubercle bacilli produce the anatomical tubercle of experimental investigation. But the tubercle, pure and simple, does not produce death in human individuals. Fatal tuberculosis, with rare exceptions, is due far more to the deleterious influence of faulty metabolism and the destructive tendencies and toxic effects of secondary infections than it is to the tubercle bacillus itself. Clinical experience and post-mortem examinations leave little doubt of this statement.

Does it not seem, then, that preventive measures can more rationally be directed toward raising the index of human resistance by legislation and methods that have proved serviceable in this direction than in a vain attempt to exterminate the tubercle bacillus? In the light of past results, this question can only be answered in the affirmative; and municipal reform in alleviating the overcrowding and overworking of the masses, child labor, and the ruthless contamination of food, water, and air will accomplish a hundred fold more in lowering the death rate from tuberculosis than all the isolation and restriction of the consumptive that the machinery of the law can devise and enforce.

Therefore, to accomplish the most in the future struggle with tuberculosis, both in the individual and in the community, we must study the individual expression of tuberculous processes as they occur under natural conditions.

Recent investigation of metabolism, its phenomena and variation, by numerous observers has laid a foundation for study that cannot help but mean wonderful advancement in our knowledge of physiological and pathological processes. It is too early to make any absolute predictions, but there are excellent grounds for believing that we are on the eve of important discoveries that will revolutionize many accepted ideas in regard to disease.

For some time scientists have endeavored to define the relative and variable qualities of immunity and susceptibility. Theories galore have been promulgated, but all have lacked confirmation in some essential particular. Closer study of metabolism, a term, by the way, which has long been used to cover a multitude of ignorance, clears away much of the obscurity surrounding many mooted points, and permits of deductions and conclusions to an extent justified by no other facts in our possession. That marked deficiencies in metabolistic equilibrium are constantly present as a complication or result of tuberculosis has long been recognized. Indeed, the common appellation, consump-

tion, well describes the falling off in nutritional balance so characteristic of the disease. Ever since the presence of a specific bacterium in tuberculosis was determined, the decline of the consumptive, not only during the active stages, but also during the so-called pretuberculous period, has been attributed to tubercle bacilli and their products. While many cases of active tuberculosis are preceded by a stage of decline, due possibly to partial latency or quiescence of a beginning infection, every practitioner of any clinical experience whatsoever must have observed many cases of debility following certain of the acute diseases, or overwork and anxiety, which in no sense could be considered tuberculous, but yet which sooner or later at some definite time became infected with tubercle bacilli and developed the disease. Such cases, and their number increases as we grow more observant and painstaking in our clinical investigations, point strongly to the predisposing influence of malnutrition or faulty metabolism in the development of tuberculosis.

In order to show more specifically the relation of metabolic variation in the aetiology of tuberculosis, it will be necessary to mention some of the recent investigations in regard to the presence of ferments in organic tissue. To begin with, it is fairly well established that digestion is not limited to the alimentary canal, but that allied processes are continually taking place throughout the fluids and cells of the body. Definite ferments possessing individual diastatic, glycolytic, proteolytic, and lipolytic properties have been isolated and their action has recently been shown to be synthetic as well as analytic. I refer to the recent work of Hill² in connection with the reversible action of maltase and that of Kastle and Loevenhart³ with lipase. The evidence of the reversibility of the fat-splitting ferment is especially strong, and that fats are not only broken up into glycerin and fatty acids by lipase, but that these products are also reconverted into fat by the same ferment is now reasonably certain.

The phenomena of lipolysis and lipogenesis at the present time are much easier of demonstration than those resulting from the other ferments. For this reason and the further fact that fat assimilation is noticeably deficient in human tuberculosis, much of what follows will refer to the physiological functions of lipolysis and lipogenesis and their pathological deviations in tuberculous processes.

Recent research previously mentioned makes it evident that the so-called vital functions of tissue cells are intimately related to the alternate splitting and synthesis of nutritive material. The processes

involved in the metabolism of fat are well described by H. G. Wells in a recent article on The Reversibility of Enzymes.⁴ He shows that the digestion, absorption, and assimilation of fat result from the enzyme lipase, and that the whole process, with the bare exception of osmosis, is chemical. Hence his deductions that "all metabolism, then, may be considered as a continuous attempt at establishment of equilibrium by enzymes," and that "the living body, whether unicellular or multicellular, is a vast, unceasing series of chemical reactions," would seem proper and correct.

Nutritive material is hydrolyzed and split into new substances to permit of osmosis through the cells lining the intestines, reconverted into nutritive material in its passage through these cells, and in the carrying fluid on the other side (which is the blood serum and lymph) split again to permit of diffusion

⁴ "The history of fat in the body may now be considered to be as follows: The lipase in the stomach does not act, because of the presence of hydrochloric acid. In the intestines lipolysis occurs, with production of a mixture of fat, fatty acid and alcohol—usually glycerin. But as the fatty acid and glycerin are diffusible, while the fat is not, they are separated from the fat by absorption into the wall of the intestine. Hence an equilibrium is not reached in the intestine, so the splitting continues until practically all the fat has been decomposed and the products absorbed. When this mixture of fatty acid and glycerin first enters the epithelial cells lining the intestines there is no equilibrium, for there is no fat absorbed with them as such. Therefore the lipase, which Kastle and Loevenhart showed was present in these cells, sets about to establish equilibrium by combining them. As a result we have in the cell a mixture of fat, fatty acid, and glycerin which will attain equilibrium only when new additions of the two last substances cease to enter the cell. Now another factor also enters, for on the other side of the cell is the tissue fluid, containing relatively little fatty acid and glycerin. Into this the diffusible contents of the cell will tend to pass to establish an osmotic equilibrium, which is quite independent of the chemical equilibrium. This abstraction of part of the cell contents tends to again overthrow chemical equilibrium, there now being an excess of fat in the cell. Of course the lipase will under this condition reverse its action and split the fat it has just built into fatty acid and glycerin. It is evident that these processes are all going on together, and that as the composition of the contents of the intestines and of the blood vessels varies the direction of the enzyme action will also vary. In the blood serum, and perhaps also in the lymphatic fluid, although this has not yet been investigated, there is more lipase which will unite part of the fatty acid and glycerin, and by removing them from the fluid about the cells favor osmotic diffusion from the intestinal epithelium, thus facilitating absorption.

"Quite similar must be the process that takes place in the tissue cells throughout the body. In the blood serum bathing them is a mixture of fat and its constituents, probably nearly in equilibrium, since lipase accompanies them. If the diffusible substances enter a cell containing lipase, *e. g.*, a liver cell, the processes of building and splitting will be quite the same as in the intestinal epithelium. The only difference is that here the fatty acid may be removed from the cell by being utilized by oxidation or some other chemical transformation.

"To summarize, it may be stated that throughout the body there is constantly taking place both splitting and building of fat. Fat enters the cells, leaves them, and is utilized only in the form of its acid and alcohol, never as the fat itself. Fat constitutes a resting stage in its own metabolism. The description given above agrees with all known features of fat absorption and utilization. For example, the crowding of the epithelial cells of the intestinal mucosa with minute fat droplets during digestion is now explained as the result of lipogenesis. That fat can be absorbed in the emulsionized state, as the older physiologists considered these droplets indicated, seems physically improbable. Such a conception is now no longer necessary. The fat depots throughout the body serve to maintain the supply to the blood, and contain lipase which here, as elsewhere, maintains an equilibrium."—*Journal of the American Medical Association*, January 25, 1902.

² *Jour. of the Chem. Society*, lxxiii, 1898, p. 634.

³ *Chemical News*, lxxxiii, 1901, Nos. 2150-2155; and *American Chem. Jour.*, xxiv, 1900, p. 491.

into the appropriating cells, and finally reconverted in each cell for use in its future effort to maintain an osmotic balance with extracellular substances. Failure of the ferments in any of the steps of metabolism reduces the enzyme power of the ultimate cells by decreasing the work to be done. As Croftan⁵ has suggested, enzymes may have the power of regeneration in proportion to certain increase in the work required, and it is not improbable that retrograde tendencies follow reverse conditions. At any rate, any break in the sequence of ferment action from the alimentary canal to the ultimate cell cannot help but occur at the expense of the latter, with consequent injury and decrease of tissue formation and growth.

With our present knowledge of fat metabolism, then, which the digestion, absorption, and assimilation of proteids and carbohydrates are probably analogous to, a much more comprehensive study of certain pathological conditions can be made. In regard to tuberculosis, however, it hardly seems necessary to further than briefly consider the evident wasting of bodily tissues, more particularly the fatty, that so constantly precedes and accompanies tuberculous processes. Progressive and extreme loss of weight invariably characterizes progress of the disease, and the difficulty with which the wasting process is overcome presents one of the hardest problems of clinical medicine. The post-mortem appearance of patients dying from consumption shows that the consumptive organism is markedly deficient in assimilative power. Of course, the difficulties surrounding investigation of the necessarily obscure details of intracellular and extracellular functions and their variations must be obvious, and for a while, at least, many of our conclusions must be provisional. But the rapid decline of food assimilation preceding clinical tuberculosis, the persistent inability of the body to appropriate building material during the progress of the disease, and the inhibitory influence exercised by conditions favoring normal metabolism certainly suggest, in the light of our growing knowledge of the enzyme action common to all protoplasm, that ferment substances by their absence or presence exercise important influence on the development or non-development of tuberculosis in the human individual.

The chemical composition of the tubercle bacillus may be significant. The organism has been shown⁶ to consist of considerable fat, several nucleoproteids, and a glycogen-like substance. An envelope, or cell membrane, surrounds its substance. Investigation of its growth on certain culture media, particularly those containing a certain amount of glycerin, indicates that the bacillus lives and multi-

plies after the same manner as other cell organisms, *i. e.*, by enzyme action. Deprived of suitable conditions for its growth, the bacillus continues to live for a variable period, but is denied reproduction. Thus, until the environment becomes suitable for the resumption of these vital functions, it remains an inert but potential entity, analogous to the seeds of plant life.

It is not illogical, then, to suppose that these bacteria, on entering the body, are split up into their constituent substances just as are all other particles of inert organic material. But when, for reasons as yet unknown, the cells and fluids of the body are deficient in or devoid of enzymes, the *Bacillus tuberculosis* to the extent in which it possesses potent ferments, is able to appropriate such portions of the relatively inert fluids and tissues it comes in contact with as are necessary for its own growth and reproduction, and through the reversibility of its ferments give back substances inimical to the cells within the zone of its influence. Rapid proliferation of the fixed cells invariably results from such bacterial establishment, and necrobiosis follows naturally as a consequence of the overgrowth of poorly developed cells and the continued throwing off of waste and by-products by the tubercle bacillus, more or less toxic in their influence. The characteristic histological appearance of the process, therefore, may be due not only to the essential chemistry and naturally slow growth of the tubercle bacillus, but also to the autolytic changes induced by the waste products present, cellular as well as tuberculous, and to the walling-off influence of live, active phagocytes drawn to the process by chemotactic action.

At any rate, the ratio between the enzyme power of the tissues and that of the bacteria would seem to define the extent and character of the tuberculous process. Literally, it is a question of the survival of the fittest at the time the tubercle bacillus enters the body; if the cells are normal and able to maintain an intracellular balance with extracellular substances *relatively inert*, bacteriolysis will take place and the organism will be immune; if the cells from any cause are deficient in the chemical substances that maintain metabolistic equilibrium, the *Bacillus tuberculosis* will find conditions favorable for its growth, the organism will be susceptible, and the slow, circumscribed process peculiar to tuberculosis will ensue.

Probably different bacteria, or even different growths of the same bacterium, vary considerably in their metabolism. Variations in virulence shown by bacteria to different animals may, therefore, be due to the relative potency of different bacterial enzymes to those of animal tissues. These questions offer almost unlimited opportunity for study, and their evident relation to many clinical problems

⁵ *Journal of the American Medical Association*, May 3, 1902.

⁶ P. A. Levene, *Journal of Medical Research*, vi, 1901, pp. 135-144.

makes their early investigation urgent and necessary.

That the *Bacillus tuberculosis*, however, bears certain fairly definite relations to metabolic forces in the human body is sufficiently established from a clinical and pathological standpoint to justify the following conclusions:

1. Individual predisposition is a far more important factor in the development of clinical tuberculosis than bacterial infection *per se*.
2. The constancy of a pronounced failure in metabolic equilibrium during and preceding clinical tuberculosis points to its importance as the constituting factor of individual predisposition.
3. The study of ferments in physiological processes shows that the enzymes are the working elements in the maintenance of normal metabolism, and justifies the conclusion that conditions of malnutrition are the result of their absence, decrease, or variation.
4. Study of the chemistry and biology of the *Bacillus tuberculosis* and the conditions favoring and resulting from its growth in the animal body points to the fact that it possesses certain ferments in its organism which under favorable conditions perform the functions common to organic life.
5. Immunity to tuberculosis may be considered as the result and complement of those metabolic changes in living tissue whereby the enzymes, through greater potency than those of the *Bacillus tuberculosis*, are able to maintain a normal osmotic and functional activity in the ultimate cells.
6. Susceptibility to tuberculosis may be considered as a negative condition of organic tissue whereby the enzymes are less potent in the maintenance of normal osmotic and functional activity of component cells than are those of the tubercle bacillus in establishing bacteriogenesis.

THE ANTISEPTIC TREATMENT OF RECTAL AND GENITAL CHANCROID.

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SURGEON TO ST. BARTHOLOMEW'S
CLINIC, ETC.

For several years past I have used and taught a method of treating chancroid which has proved superior to some of its familiar methods. Its success seems to show that chancroid, though a virulently infected wound, is one which yields readily enough to ordinary surgical disinfection. As compared with the application of nitric acid, this method is practically painless, the ulcer becomes innocuous more quickly and without loss of substance, and heals

more promptly, and cases of secondary lymphatic abscess have become almost unknown.

A saturated solution of permanganate of potassium, which is about ten per cent., and must be recently made, is freely applied to the ulcer by means of a cotton swab. This does not injure the skin or mucous membrane if it spreads beyond the ulcer, and it is not a caustic. It turns everything black, and after about a minute is washed off and the surface decolorized by peroxide of hydrogen. The full strength of the latter is used for cutaneous surfaces, but it is diluted about three times for mucous surfaces. Then for cutaneous surfaces a dressing is applied which is kept wet with

R Alum 25 grains
Lead acetate 2 drachms
Water .. enough to make 6 fluid ounces
M.

This is the familiar Roosevelt Hospital "acetate of alumina," and is known as Borrow's solution in Europe; it contains a white precipitate and should be shaken. This answers very well for chancroid of the anus and external genitalia, and does not irritate the surfaces of those parts. For intrarectal or intravaginal chancroid, after the application of the permanganate and the peroxide, the surface should be washed off with water or any bland solution, the speculum withdrawn, and a suppository of cacao butter with ten grains of boric acid introduced. Daily applications for four or five days generally remove the virulence of the ulcer and inaugurate the healing process. After this takes place the permanganate and the peroxide may be discontinued; exposed surfaces are dressed with boric acid ointment, a drachm of boric acid to an ounce of vaseline, spread on gauze; for the vagina and rectum the suppositories had better be continued.

I have employed this antiseptic method of treating chancroid in scores of cases in hospital and private practice, and have come to regard the treatment by caustics as unnecessarily painful and comparatively ineffectual. As an example of the efficacy of these particular antiseptics, I may cite the case of a man who came to my office from a very successful general practitioner who had been applying "black wash" to a chancroid of the size of a twenty-five cent piece on the external surface of the prepuce. The penis was enormously swollen and very painful and was getting steadily worse; it had been under treatment for ten days. When he came to me it was with the intention of going into the hospital. I told him that would not be necessary and prescribed a wet dressing of "acetate of alumina" and touched the surface with permanganate of potassium and peroxide of hydrogen. This treatment was repeated daily, and on the fifth day my notes say: "Has cleaned up

and begun to heal." The pain and swelling disappeared almost immediately.

Briefly, a chancroid is a severely infected wound and requires something more than surgical cleanliness; and first-class antiseptics, such as above described, has been found to give better results than cauterization.

103 WEST SEVENTY-SIXTH STREET.

A FLUOROSCOPIC AND PERCUSSION SIGN OF PLEURITIC EFFUSION HITHERTO UNDESCRIBED; REPORT OF TWO ILLUS- TRATIVE CASES.

By CHARLES LYMAN GREENE, M. D.,
ST. PAUL.

CLINICAL PROFESSOR OF MEDICINE AND PHYSICAL DIAGNOSIS
IN THE UNIVERSITY OF MINNESOTA, ETC.

The difficulties attending the positive and differential diagnosis of effusion into the pleural cavities are sufficiently great to insure a welcome for a new sign that is both simple and direct. Some time ago the writer's attention was attracted by the marked excursion of the heart borders in cases of pleuritic effusion as viewed by the fluoroscope during deep respiration, and this observation he found to be easily confirmed by percussion. The following cases illustrate the marked respiratory movement in two patients having right pleural effusion:

CASE I.—W. A. C., aged eighteen years, born in the United States, single, a clerk. He weighs 128 pounds at present; weighed 140 pounds three months ago. His present illness began last February. At that time he had an attack of influenza, following which he experienced a sharp pain in the right side of the chest, accompanied with great difficulty in respiration. There was slight cough, but no expectoration. He continued to work with the exception of one day. The pain continued for a week, when it disappeared, again recurring in two weeks. Since that time the patient has experienced a distressful sensation in this side, with a sensation of suffocation.

Family History.—Negative.

Previous Health.—Influenza.

Digestive Tract.—Appetite not good. Some distress after meals. Flatulence, etc.

Respiratory Organs.—Absolute dulness over the inferior lobe of the right lung, with enfeebled respiratory and voice sounds.

Heart.—Left border extends to the nipple line. *Excursion*, $1\frac{1}{2}$ inch during each respiration. The aspirator shows clear serous fluid. Urine, normal.

CASE II.—G. F. O., American, aged thirty-four years, married, a cheese maker. Present weight, 175 pounds. Best previous weight, 210 pounds. Has lost 25 pounds in three weeks.

Present Illness.—Began four months ago, when he contracted a cold. Has considerable cough ac-

companied with expectoration. Three weeks ago he was compelled to go to bed. The doctor in attendance pronounced the case typhoid fever with pleurisy. He recovered in twelve days. He lost rapidly in strength and weight, cough and hoarseness becoming more severe. Has some pain on the right side of the chest.

Social History.—Married five years. His wife is well and strong.

Family History.—Negative.

Previous Health.—Excellent.

Respiratory Organs.—Cough, expectoration, hoarseness, dyspnoea, expansion diminished on the right side, dulness with diminished vocal fremitus over the entire right side. Friction râles occasionally heard. Breath sounds diminished in intensity.

Heart.—Left border extends slightly to the left of the nipple line and shows an excursion of 2 inches during each respiration.

Aspiration.—1,200 c. c. of clear serous fluid aspirated from the right pleural cavity.

Urine, normal.

It would seem evident that in cases of unilateral effusion of any sort there will be a marked excursion of the cardiac borders easily demonstrable by percussion and readily confirmed by fluoroscopic examination, and it is fair to presume that this is present in all degrees of effusion to a sufficient extent to assist the clinician in making a diagnosis. As this is but a preliminary report, the writer will content himself with the following statements:

1. In unilateral pleural effusion the heart border corresponding to the opposite side shows a marked change in position as between full inspiration and full expiration, when the patient is sitting or standing erect.

2. This is easily demonstrated by percussion, sustained by the evidence afforded by inspection and apex auscultation, and absolutely confirmed if necessary by the fluoroscope.

3. Such a range of excursion does not occur in the normal chest or in those conditions likely to be confounded with pleuritic exudation.

4. The technics consists simply in percussing the free cardiac border in full inspiration and again in forced expiration with the patient in a standing or sitting posture and noting the change of position. The border will be displaced outward by the expiratory movement.

5. Percussion of the upper border of flatness posteriorly shows a well defined rise of the fluid in full expiration coincident with the outward displacement of the heart.

Christian Science is reported to have been legalized in Switzerland by a decision of the Supreme Court of Canton Zurich, which, in reversing the decisions of the lower courts fining Christian Science practitioners, has practically placed Christian Science on a legal footing in the canton.

REPORT OF A CASE OF SUCCESSFUL REMOVAL OF THE CÆCUM AND ASCENDING COLON FOR ADENOCARCINOMA.*

By J. B. BOUCHER, M. D.,

HARTFORD, CONNECTICUT.

SURGEON TO SAINT FRANCIS HOSPITAL.

Mr. B., Armenian, aged fifty-six years, family history negative, laborer by occupation, has complained of vague abdominal pains and more or less severe colic at times for the past six years. About three months ago he was taken with a severe attack of pain in the right inguinal region, with vomiting and all the symptoms of acute appendicitis. After he had been ill about a week, having been treated by another physician, I was called to see him and found a large tumor in the right inguinal region and made the diagnosis of appendicitis with an abscess.

As his home surroundings were very unfavorable, I advised him to enter the hospital for an operation. He did so, but only remained a few hours, when he returned to his home.

After about four weeks, the patient in the meantime having consulted several other physicians, he returned to my office, when I found his condition about the same as on my first examination.

As I could not induce him to return to the hospital, I finally consented to operate on him at his own home and accordingly did so on March 14th. Having made the usual incision for appendicitis, I found a cancer involving the lower end of the ileum, cæcum, vermiform appendix, and the lower end of the ascending colon, the mass filling the right inguinal region and bound down into the pelvis.

As the ileocæcal opening was nearly occluded, I decided to remove the entire mass. I therefore severed the small intestine at a healthy portion and also the upper portion of the ascending colon, and then dissected out the lower end of the colon, the entire cæcum and appendix and a portion of the small intestine, together with the cancerous mass, enlarged glands, and adhesions.

The colon being dilated and the small intestine shrunken, I could not make a suitable end to end anastomosis, so I closed the ascending colon, turning in the end with a Lembert suture. I then carried the remaining end of the small intestine up and anastomosed it into the transverse colon, using a Murphy button and also the Lembert suture.

The abdomen was closed without drainage. There was a slight fever for two days, after which the pulse and temperature remained normal throughout the course of his convalescence.

I moved the bowels on the third day and daily

thereafter. On the morning of the thirteenth day the Murphy button came away, after which I gave him solid food, including meat.

Primary union was obtained with the exception of a superficial stitch abscess. He is taking large quantities of nourishment, has increased in weight and strength, and has been about the house since the third week; and now, at the end of the fifth week, is able to be out of doors and takes daily walks.

Dr. Philip D. Bunce, of this city, made a microscopical examination of the specimen and reports the growth to be adenocarcinoma.

THE MATURATION OF OVA IN RELATION TO PUBERTY AND THE MENOPAUSE.

By JENNIE G. DRENNAN, M. D.,

ST. THOMAS, ONTARIO, CAN.

The theory is set forth by Beatson that on the removal of the ovaries a fatty degeneration, similar to the formation of milk in the mammary glands, occurs, and that this degeneration has an inhibitory effect on mammary cancerous growths, the fatty degenerated cells not offering a suitable soil for their development. In Australia the practice of removing the ovaries of cows is done in the interests of the calves. Here is recognized the fact that, after a certain length of time—the normal period of lactation—alotted by Nature for the nourishing of the calf by the cow, the secretion diminishes. May we not deduce from this the fact that her ovarian function is being again restored, whereby she may again discharge ova and be capable of another impregnation? Actively functioning ovaries must, then, have the effect of inhibiting fatty degeneration in the cells of the mammary glands. During the later months of pregnancy milk is formed in the mammary glands. This process is in all probability active during the whole nine months, but just reaches perfection at the termination of this period. Then, supposing that there is a diminution, if not a cessation, of the ovarian function (for now there is no need of the ovaries discharging ova, as there is no possible chance of their being impregnated, the os uteri being sealed against the invasion of the sperm cells), on this assumption and the fact that spayed cows yield a more abundant secretion of milk may be based the theory of the cure of "inoperable" cases of cancer by the removal of the ovaries. That the menopause has no effect in diminishing the growth of mammary cancer is clinically well proved by the fact that such growths are common after its advent, and, if they have existed prior to it, they do not show any signs of a less rapid growth, but rather grow more rapidly.

What is the change in ovarian function, which occurs at the menopause? Ova are no longer required

*Read at the annual meeting of the Hartford County Medical Society, April 16, 1902.

for reproduction. Is there a maturation of ova prior to puberty, and does this also occur after the menopause, and are these ova absorbed, and do they exert an inhibitory action on the cells of the mammary glands, preventing their fatty degeneration? Previous to puberty the mammary glands are small and undeveloped; at puberty they enlarge somewhat. At each menstrual period in some women distinct enlargement and tenderness are noticed. If each menstruation is a disappointed pregnancy, as I see no reason to doubt, the increased size of the mammae is doubtless a sign of the preparation of the woman for lactation; pregnancy not occurring and the ovarian function not being arrested, ovulation continues and the fatty degeneration of the cells of the mammary glands is checked. At the menopause, if maturation of ova still continues, these must be absorbed, and hence again we may have the inhibitory action on the mammary glands preventing fatty degeneration, and therefore the need of removing these glands if this change is to occur.

On the ground that the maturation of ova is not the sole function of the ovaries, but that they also elaborate an internal secretion, which has a wide-spread influence on the system, exception may be taken to the foregoing. But that this internal secretion has no effect on this particular phase of the question, is without doubt; for we should expect this secretion to continue during pregnancy and lactation, and the fatty degenerative changes would not be due to it, but rather to the suppression of the discharge of matured ova, and it is this cessation of maturation of ova which is desired in these cases of cancer.

Is there any relation between mammary cancer and excessive coition? May not the latter, by repeated states of congestion, produce fibrosis of the ovaries with a resulting discontinuance of their function? We see similar results in other organs. According to the foregoing theory, fatty degeneration would then be permitted in the mammae from the inactivity of the ovarian function, but although the ovaries are not discharging or absorbing ova, there is an irritation present; they are not in the state of the quiet non-functionating glands of pregnancy and lactation. May it not be, then, on account of this, that the fatty change of the cells in the mammae is interfered with, and a fibrosis occurs here also? Why is scirrhus cancer the predominating form in the mammary glands?

A Hospital for Contagious Diseases in the Borough of Queens.—It is announced that a hospital will be built in Long Island City, after a piece of land of sufficient size has been purchased for that purpose by the city.

ARTIFICIAL RESPIRATION IN AN ASPHYXIATED NEW-BORN BABE.

By GEORGE W. GREENE, M. D.,
AUBURN, N. Y.

Judging from the numerous methods laid down by authors on obstetrics for practising artificial respiration in asphyxiated new-born babes, all methods must be unsatisfactory or difficult of application. For instance, Playfair recommends, as a last resort, to insert a tube into the larynx of the child, through which air is pumped into the lungs. I think that all who have attempted to intubate a young infant will agree that it would be a very difficult thing to do. I believe that if it were attempted by a general practitioner, in nine times out of ten the tube would go into the pharynx.

I was led to devise this little instrument by the following case: A breech presentation, the body was born but the head remained. Before I could turn the patient across the bed and apply the forceps to the after-coming head, the child was apparently dead, although I could feel a faint flutter at the heart. After practising every method to excite respiration without success, I applied my mouth directly to the mouth of the infant and blew air directly into its lungs. Of course, the air had been in my lungs and was devitalized.

How much better it would have been had the air not been devitalized! So I devised this instrument, which consists of a rubber bag with one half of a rubber ball on the nozzle. In a few days I had a chance to give it a trial. A child was born under the same conditions as the one already mentioned. I applied the ball to the baby's mouth, held its nose, and squeezed the bag. The chest expanded, the heart gave renewed throbs, and after giving two or three pressures of the bag, which filled the lungs completely, I had the satisfaction of hearing the babe cry.

Doubtless everybody who practises obstetrics has had many anxious moments waiting for the first feeble breath of an asphyxiated babe. I think that this method is the simplest and most applicable of any that I have tried.

Therapeutical Notes.

Pure Tincture of Iodine in Follicular Sore Throat.—Kassel (*Therapeutische Monatshefte*, No. 6; *Gazzetta degli ospedali e delle cliniche*, July 8th) observed, in the spring and in the late autumn, an epidemic outbreak of follicular sore throat in Posen. There were both light and severe cases, but all without exception left behind them a very great general debility after the cure of the local trouble. A characteristic trembling of the thighs was observed, just as after an attack of influenza; but this phenomenon

was absent in the lighter cases if the patient kept his bed and drank plentifully of wine.

Nothing was to be gained from the use of the usual gargles or from painting the throat; these had no influence on either the local or general conditions. Mandl's solution, alternated with concentrated tincture of iodine, proved beneficial, and at last the concentrated tincture of iodine alone was relied on and answered well. No relapse occurred in any case. The infection was not diphtheritic.

[By "Mandl's solution" is probably meant Mandel's solution, a five-per-cent. solution of chromic acid in distilled water.]

The Dietetic Treatment of Summer Disorders in Children.—Dr. Louis Fischer (*Medical Record*, August 2nd) points out that in the presence of fever, gastro enteric disorders, summer diarrhoea, etc., in children, it is often requisite to stop milk feeding. Under such circumstances the following substitutes have been of special value in Dr. Fischer's hands, and are offered for temporary use in gastric and intestinal derangements:

Formulae for weak infants in substitute feeding:

When vomiting and diarrhoea persist give either
 Or Barley water..... 4 ounces
 Oatmeal water..... 4 ounces

Feed the child with this amount every two or three hours. Sweeten with granulated sugar, half a teaspoonful to each bottle; or, if fermentation exists, as shown by colic, greenish stools, and eructations, with half a grain of saccharine in place of the sugar.

The following are Dr. Fischer's methods of preparing barley water and oatmeal water:

Barley Water can best be made by taking one heaping tablespoonful of ground barley flour and adding the same to one pint of water. Boil this thoroughly for half and hour, then strain through cheese-cloth and add enough water to make one pint of barley water. When barley water is given for any length of time, and constipation results therefrom, then glycerin should be added. One teaspoonful of glycerin to each teacupful of barley water will make the same quite palatable, and will offset the constipating tendency.

Oatmeal Water can be made by adding one tablespoonful of oatmeal flour to a pint of water, boiling the same in the same manner above described for the preparation of barley water.

If the child is underfed, then frequently the addition of the white of a raw egg, well beaten, with either the barley water or oatmeal water will be found advantageous.

Dr. Fischer has also frequently added the yolk of an egg, well beaten, with barley water or oatmeal water properly sweetened, as a temporary substitute.

Dr. Fischer's formula for almond milk food is:

Almond milk..... 4 ounces
 Granulated sugar..... 1 teaspoonful
 M. Give the foregoing quantity every three hours.

Formula for whey feeding:

To make whey, take half pint of fresh milk, heated lukewarm, not warmer than can be agreeably borne by the mouth (about 115° F.); add one teaspoonful of essence of pepsine, and stir just enough to mix. Pour into custard cups; let it stand until firmly cur-

dled; then beat up with a fork until the curd is finely divided; now strain and the whey is ready for use.

The whey may be administered as follows:

For an infant under six months:

Whey 2 ounces
 Milk 1 ounce

Warm to blood temperature (about 100° F.) for three minutes, then feed. The above quantity can be given every two hours or two hours and a half.

When feeding a child from two to four months old:

Whey 2 ounces
 Milk 2 ounces

To be given every three hours.

If the above is well borne, we must gradually increase by adding an ounce of food; the formula will then be:

Whey 2½ ounces
 Milk 2½ ounces

Give the above quantity every three hours.

The general condition of the infant—its sleep, its stool, and its body weight—is the important factor to determine an increase in the quantity of food.

If the child cries very much after feeding and appears hungry, then we may give:

Whey 3 ounces
 Milk 3 ounces

Every three hours.

Some children at three months will take very readily six ounces of food. If the appetite warrants it, and the stool is homogeneous and well digested, then we need not hesitate to give the following:

Whey 3 ounces
 Milk 4 ounces

Every three hours.

The weight is the determining factor. If the child does not thrive, increase the quantity of milk and decrease the whey.

In the case of feeble and debilitated children, Dr. Fischer frequently orders sweetened whey instead of water, for quenching thirst. This is especially valuable in summer.

For Albuminuria.—*Progrès médical* for July 19th ascribes the following to Cullen:

℞ Broom flowers..... 30 grammes (450 grains)
 Juniper berries..... 10 grammes (150 grains)
 Boiling water..... 1,000 grammes (31½ ounces)
 Syrup of five roots... 50 grammes (12½ ounces)
 M. To be taken freely.

[Syrup of Five Roots (*Fr. Codex*) is "a syrup made of 1 part each of the roots of celery, asparagus, fennel, parsley, and butcher's broom, 30 parts of boiling water, and 20 of white sugar." Foster's *Encyclopædic Medical Dictionary*, *vide Radix*.]

For Neuralgias.—*Progrès médical* for July 19th has the following:

℞ Extract of hyoscyamus..... } (⅓ of a grain)
 Extract of cannabis indica.... } of each 0.02 grammes
 Powdered aconite root..... }
 Powdered belladonna root..... }

M. For one pill. From one to three may be taken daily.

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THE STATE OF MICHIGAN AND THE QUESTION OF RECIPROCAL LICENSING.

The Michigan State Board of Registration in Medicine has announced the course which it is willing to follow in the matter of accepting another State board's examination or recommendation in lieu of its own examination in the case of an applicant for the license to practise, on condition that the State whose license the applicant already possesses accords a like privilege to holders of certificates from the Michigan board.

What the board undertakes to do is specified in two "qualifications." Qualification No. 1 is as follows: "That a license or certificate of registration of at least one year's date, based upon presentation of a satisfactory medical diploma of graduation, and an examination before a State medical examining board in specified branches of medicine and surgery, shall be accepted at the discretion of this board in lieu of an examination . . . and as a basis upon which a certificate of registration may be issued by the secretary with the endorsement of the president and chairman of the registration committee of this board." This applies only to applicants who have obtained their diplomas and State licenses since July 1, 1902.

Qualification No. 2 reads as follows: "That a license or certificate of qualification issued by a State board of registration or medical examiners of at least one year's date, based upon presentation of a satisfactory medical diploma, and upon the recommendation of a State board of registration or medical examiners as to the reputability of the applicant, shall be accepted at the discretion of this board in lieu of an examination . . . and as a basis upon which a certificate of registration may be issued by the secretary with the endorsement of the presi-

dent and chairman of the registration committee of this board." This applies only to applicants who obtained their diplomas and licenses before July 1, 1902.

Then follows a resolution specifying the minimum standards of requirements enforced by medical schools necessary to make their diplomas acceptable to the Michigan board, the standard of preliminary education and that of medical education being set forth separately in detail. A further resolution enables the reader to ascertain what medical schools have the necessary standing, together with "those extinct colleges in the United States and Canada which are held reputable" by the Michigan board.

This action on the part of the Michigan board seems as liberal as could reasonably be expected. Moreover, it does not appear to lower the standard of requirements now enforced in that State. It is to be expected that it will be followed by such action on the part of other State boards as will render it practically operative, thus doing away in great measure—gradually, of course—with the embarrassment of a fresh examination for old licentiates. In short, it will probably prove to be an acceptable and readily practicable step in the establishment of licensing reciprocity among many of the States of the Union. Certainly there should be no great difficulty in extending it to neighboring States.

BICHAT'S NEGLECT OF THE MICROSCOPE.

It is well to review from time to time the work of the great masters in medicine. Not that it lacks permanent record or that any new light is likely now to be shed upon it or drawn from it, though either or both of these things may happen in some instances; but it is a good thing to have it spread before those who are not in the way of unearthing it for themselves and have not the means of adequately estimating its full influence on medical progress. One of the most picturesque careers in modern medicine, the brief life of Xavier Bichat, is succinctly portrayed in the *Presse médicale* for July 19th. It was for barely a decade that Bichat worked as a teacher, but in that brief period he gave a tremendous impetus to anatomical study, and his *Anatomie générale* may almost be said to have brought histology into existence. Crude as his classification of the tissues was, it served as the stepping stone to our present knowledge of minute anatomy.

Curiously enough, although he was proficient in the use of the microscope, Bichat rejected that instrument in his investigations, resting content with such gross tests of the nature of tissue as were furnished by desiccation, putrefaction, maceration, boiling, and the action of acids and alkalies. It is said that the inception of his last illness was coincident with an attack of syncope following his protracted stay in a vault in which he had opened a jar containing the material of one of his putrefactive experiments, the abominable stench of which had forced all his pupils to flee from the place. As regards the microscope, he is thought to have been distrustful of the statements published by those who were given to its employment. Had he lived a few years longer, he would probably have set about the task of confirming or refuting them himself, and in that event his histological researches would have proved far more valuable even than those which he actually carried out.

Bichat's genius gained at once the attention of everybody who was in any way concerned in anatomical investigation, but his contempt for the microscope was no check to its use; it was by means of the microscope that his own researches were chiefly supplemented by his contemporaries and his immediate successors, and it has been by means of the microscope almost entirely that our present knowledge of histology has been acquired. Great men often show a point of weakness in their opposition to some procedure of which almost all the rest of the world approves, and they sometimes retard progress, but, as in the case of Bichat, they never finally block it.

THE PENALTY OF NEGLECTING VETERINARY MEDICINE.

We have often urged upon our readers the precept that it was not wise for practitioners of medicine to fail to inform themselves to some extent in comparative pathology. What comes of such neglect? Ignorance of the connection between disease in the lower animals and disease in man, ignorance even of the existence among human beings of certain malignant diseases of domestic animals. The veterinarians properly insist upon the importance of their work from the point of view of the public health, but seldom so cogently as was recently done by W. H. Dalrymple, M.R.C.V.S., of the Louisiana State University, in a paper entitled, *The Value of Co-*

operation in the Sanitary Control of Our Periodic Epizootics of Anthrax, read before the Louisiana State Medical Society in June, and published in the August number of the *New Orleans Medical and Surgical Journal*.

Those of us—and we are not a few—who have seen occasional cases of malignant pustule in the human subject do not need to be told that Surgeon-General Sternberg was in error when he stated in his *Text-Book of Bacteriology* that anthrax did not prevail in the United States, unless, indeed, he used the word "prevail" in a sense that would suggest an ever-present pestilence; but few of us probably are aware of the amount of devastation wrought by the disease in Louisiana and Mississippi. A striking picture of the facts is given by Professor Dalrymple, and his recommendations for restricting outbreaks are such as must commend themselves to those who reflect upon the situation. But it is not to these features of his very interesting communication that we shall now direct attention, but to the eloquent plea that he makes for comparative pathology as a subject of thought with the medical profession in general.

He says he knows of country practitioners who have turned their veterinary knowledge to account in times of anthrax epizootics by informing the people of their danger and inculcating such sanitary precautions as the complete destruction of the carcasses of animals that have succumbed to the disease and the practice of thorough disinfection; and the results have been brilliant. "But," he adds, "I have heard of others who, on being asked for information, because the victim of anthrax happened to be a mule or a cow, explained with an air of wounded dignity, 'I'm no mule or cow doctor, and don't know anything about it!'" The dignity that needs to be so safeguarded must, we should say, be made of very unsubstantial stuff. The result of such a reply, says the author, has often been that some illiterate person, without any sanitary knowledge whatever, has been called in, and the contagion been permitted to spread broadcast. It does not, he aptly says, indicate the spirit of the true pathologist to disclaim all interest in the diseases of the lower animals, for he "looks upon disease as such, and does not consider the subject that accidentally has become the victim of it." And he is quite justified in deprecating forgetfulness of the fact that "the magnificent strides medical

science has taken and the exalted pinnacle to which it has attained in recent years" have been largely owing to the efforts of the veterinarians.

PTERYGIUM OF THE NECK.

Funke has given the name of pterygium colli to a curious malformation of the skin of the neck. In the *Deutsche Zeitschrift für Chirurgie*, lxxiii, he describes it as observed in a young girl of defective build on whom he operated with a good cosmetic result. On each side a wing-like fold of skin extended from the mastoid process to the acromion, giving to the lower part of the neck the ugliness of unnatural breadth. In addition, the external ears were situated so low that the upper border was lower than the palpebral fissure, and the lower border almost level with the mouth, and they were directed obliquely forward and downward, so that the anthelix was in front of the helix. Meinhard Schmidt, whose abstract of the report appears in the *Centralblatt für Chirurgie* for July 26th, remarks that Kobylinski has described a similar case. Funke attributes the folds to traction by amniotic bands.

THE AMBULANCE SURGEON AND THE OBSTRUCTIVE BULLY.

We do not approve of resort to physical force in the form of fisticuffs, even in a good cause, save in case of necessity. Nevertheless, we are convinced that no good citizen will avert his face from a young ambulance surgeon of New York who is reported to have "slugged" the swaggering foreman of a gang of street laborers because the said foreman attempted to bar the progress of the ambulance wagon, which was conveying a sick man to one of the hospitals, especially as the bully went to the length—so the story goes—of striking the head of the ambulance horse with a plank. Creatures of the sort to which this foreman evidently belongs may eventually learn that professional men are not always "easy."

"CONSTIPATION OF THE LUNGS."

The *Medical Examiner* for July makes merry over a notice that appears on the wrapper of a cigarette manufactured in Cuba. The statement that rouses our contemporary's sarcasm is the ascription, among other hygienic properties, to the cigarettes, of the fact that by their use "constipation of the lungs and the bronchial apparatus is avoided." In ordinary English, it is true the term "constipation" (i. e., blocking, stuffing up) has been narrowed to mean simply blocking of the intestine. We should have thought, however, that by this time a little elementary knowledge of Spanish would have trickled into most medical journalism sufficient to make known the fact that *estoy constipado* signi-

fies in Spanish, not what we understand—constipation of the bowels—but simply "I have a cold," and refers to the stuffing up of the nostrils or the bronchi, according as the cold is in the head or the chest. Without, therefore, supporting the claims made for the hygienic value of the cigarette in question, it seems that our contemporary's misapprehension of the Spanish significance of the phrase is as amusing as the Spaniard's unfamiliarity with our English limitation thereof.

INHERITED WEAKNESS OF PARTICULAR ORGANS.

It is well known that there are families through which for generations there seems to run a certain weakness, that is to say, diminished power of resisting disease, on the part of such organs as the liver or kidney or the nervous system. If we may draw an inference from investigations by Charrin, Delamare, and Moussu, recently reported upon at a meeting of the French Academy of Sciences (*Gazette hebdomadaire de médecine et de chirurgie*, July 24th), such peculiarities may be directly transmitted from mother to child, even when acquired during pregnancy that results in the birth of the child. The experiments of the observers mentioned consisted in mutilations of certain organs in pregnant rabbits and guinea-pigs. When the young were brought forth, it was found that the corresponding organs in them showed abnormalities suggestive of the dam's injury.

News Items.

Medical Inspection of Washington, D. C. Schools.—A number of physicians are reported to have offered their services free of charge for the medical inspection of the public schools. The school commissioner, to whom the offer was made, was compelled to decline the offer for the reason that, under the law, he had not the authority to accept it. An effort was made during the last session of congress to have a law enacted making such inspection obligatory. This effort was backed by the Medical Association of the District of Columbia, but it failed of passage.

Railway Ambulances in Germany.—In order that immediate assistance may be rendered to persons injured in railway accidents, there are, according to press reports, to be provided for the German railroads, ambulance cars, each of which is to contain a complete hospital outfit, including operating tables and beds. Each car is to be under the charge of a competent medical officer, and the railway employees are to be instructed in the duties of first aid to the injured. The cars will be distributed among seventy-seven of the principal stations throughout the empire, and they will be so located that none will be more than an hour and a half from some hospital, thus insuring the speedy removal and care of those whose condition is serious.

The International Sanitary Conference.—In accordance with the suggestion of Surgeon General Walter Wyman, of the Marine Hospital Service, the international sanitary conference which was to have been held in Washington October 15th next has been postponed until December 2, 1902. This postponement was made definite on July 30th by the Secretary of State, acting for the governing board of the International Board of American Republics, the action being taken in order that the delegates to the conference might attend the meeting of the American Public Health Association to be held in New Orleans December 8, 1902.

Diploma Requirements under the Proposed Interstate Reciprocity in Medical Licensing.—As a condition of its proposed reciprocal action the Michigan State Board of Registration in Medicine gives the following as its requirements for the minimum standard of medical education required under reciprocity qualification No. 1:

Lectures and Teaching.—30 hours in electro therapeutics, 160 hours in physiology, 100 hours in pathology, 80 hours in histology, 200 hours in practice of medicine, 100 hours in obstetrics, 60 hours in bacteriology, 15 hours in medical jurisprudence, 160 hours in anatomy, 160 hours in chemistry and toxicology, 130 hours in therapeutics, 30 hours in hygiene, 200 hours in surgery, 30 hours in gynecology, 48 hours in diseases of the eye and ear, 100 hours in pharmacology.

Laboratory work and Demonstrations.—240 hours in anatomy, 120 hours in pathology, 100 hours in histology, 120 hours in bacteriology, 36 hours in obstetrics, 60 hours in eye and ear, 180 hours in physiology, 180 hours in chemistry and toxicology, 200 hours in surgery, 120 hours in practice, 32 hours in dermatology, 120 hours in gynecology.

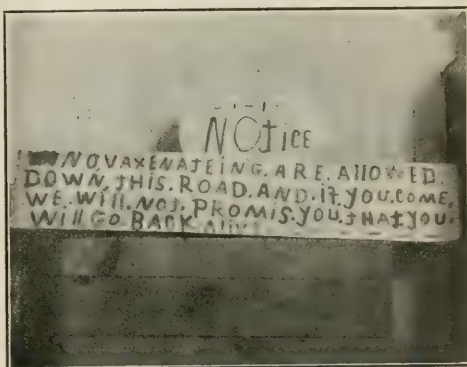
The medical course to cover a four years' course of not less than six months in each year, no two courses to be taken in one year and the beginning of the fourth or final six months of such course shall be dated from October preceding the year of the final examinations for the degree of M. D.

Transcendental Pathology.—The *Lancet* for July 12th says: "In the issue of the *Northern Echo* of June 27th there are two typical advertisements emanating from an antivaccinationist. His name is J. Clayton and he lives at Middlesborough. He calls himself a medical herbalist and tumor specialist, but he gives advice and treatment with regard to all complaints. During the last nine years he has taken off over 200 tumors without cutting from almost every part of the body—'Cause, Vaccination.' Mr. Clayton's views on pathology are simple. He professes to believe that vaccination causes tumors 'because when the tumor comes off you can see the same number of holes in the part where the tumor comes off, oozing with matter that correspond to the same number of marks that are on the arm, so that it leaves no doubt on the subject.' Mr. Clayton further states that when the calf lymph travels to the liver it breeds smallpox, when it travels to the throat diphtheria. When the lymph travels to the brain we have diseases of the mind. We are compelled to think," continues the *Lancet* "from this remark that Mr. Clayton has evidently been vaccinated."

A Question of Viability and Succession.—The *Revue médicale* for July 16th cites from the *Gazette médicale de Paris* a case in which, in January, 1901, a woman died after giving premature birth to a male child of six months and a half. The infant was put in an incubator and remained there twenty-five days, at the end of which time it, too, succumbed. There is now a legal fight to determine the succession to the mother's estate. If the child lived, it inherited from its mother and the father becomes heir to the child; if it did not live the parents of the mother inherit her property. The advocates for the mother's parents maintain that the child did not live, because it was not viable. It weighed only 1 kilogramme 250 grammes (44 oz. avoirdupois); it was a six-and-a-half months' child; it was only 25 centimetres (about 10 in.) tall; it had no nails; it did not open its eyes; it did not cry. The claimant heir was therefore not a child, but a fœtus. The father rejoined that the child had lived, for during twenty-five days it breathed, ate, digested, increased in weight. How then could it be born dead? Its physiological condition was that of all infants born before term, which, when placed in incubators, are in nearly all cases saved. According to Dr. Poirrier a child born even after six months gestation may survive. At seven months survival is the rule.

The legal tribunal considered that it had not sufficient knowledge to decree whether the infant possessed at the epoch of birth such a viability as to satisfy the law, and has called for an expert commission.

An Antivaccination Manifesto.—We have had handed to us from Mr. E. V. Zoeller, of Tarboro, N. C., the accompanying photograph of a sign served as a notice on a public vaccinator last winter. The sign was posted at a cross-roads in the country, in a section of the county where compulsory vaccination had been ordered by the board of health. This act



occurred in a section inhabited by ignorant whites, and the sign lays bare the typical state of mind of its inhabitants. The sign was made from a paper hat box; that part with the word "Notice" being the bottom, and the remainder the side of the box unrolled, the whole being tacked to a board.

The Late Dr. James T. Jelks.—The Hot Springs, Arkansas, Medical Society, at a meeting held soon after the death of Dr. Jelks, paid the following tribute to his memory:

WHEREAS: An all-wise Providence has seen fit to take from our midst on the 24th day of June, 1902, Dr. James Thomas Jelks, one of the oldest, most faithful and most esteemed members of the Hot Springs Medical Society:

Be it Resolved: That we deeply deplore and regret his seeming untimely death;

Be it Resolved: That the community has lost a most valued citizen, the poor and needy a sincere friend, the medical profession a leading member;

Be it Further Resolved: That a page in our records be dedicated to his memory, and that we extend our most profound sympathy to his bereaved family in their irreparable loss.

(Signed) G. C. GREENWAY, Chairman.

M. G. THOMPSON.

S. P. COLLINGS.

P. T. VAUGHAN.

The State Sanitarium for the Treatment of Cases of Incipient Tuberculosis.—The objections urged against the use of a site selected two years ago have been overcome and the property has now been acquired by the State. Preparations will be begun at once for the erection of the necessary buildings. The property is situated in the township of North Elba, in Essex county, and is said to be admirably adapted for the purpose intended. The commission appointed to build the hospital held a meeting at the capitol at Albany, on Wednesday, July 30th. A modification of the original plan was found necessary, owing to the failure to have the appropriation increased from \$100,000 to \$150,000. After paying for the site there will be available about \$95,000, which will provide for an administration building and a solarium. There will be accommodations for one hundred patients.

A Bogus Patient.—We are informed by a physician that he was called on by a colored man, who told a long story of a young girl who, as a boarding-school scholar, had "loved not wisely but too well," who was about to become a mother in the apartment house of which the man claimed to be the janitor; that he had called at the office of a physician who had been out of town, and that he had been referred by a druggist to our informant. He stated that in order to insure good care for the girl, the people of the apartment house were willing to give \$75. The man gave the address of Billings, 154 East One Hundred and Sixteenth street, to which our informant went, and found no such person there, the number being that of a club house, where the visitor was told that he was the fifteenth doctor who had called on the same errand. It does not appear that the negro tried to obtain money, his object being apparently to elicit sympathy for the mythical girl and to start the doctor on a fool's errand.

An Epitaph and a Law Suit Following Alleged Blood Poisoning from Vaccination.—According to the newspapers, in May, 1902, a child six years of age died in Buffalo, the parents allege, from blood poisoning as a result of vaccination which had been performed by a health department physician under the compulsory vaccination law, in one of the public

schools. An inscription on the gravestone of the child relates this allegation. The health department wishes this epitaph removed on the ground that it states an untruth; but the parents of the child refuse to do this, and have instructed their attorney to bring suit against the department for damages in \$10,000 for causing the death of their child. The outcome of this suit is awaited with much interest by the local profession, as a decision adverse to the health department will result in stopping compulsory vaccination and be looked upon as a victory for the antivaccinationists.

American Dental Degrees and the Title of Dr. Abroad.—The *British Medical Journal* for July 26th says: The Honorary Secretary of the Harlepool Medical Society asks our opinion as to the legality and propriety of the use of the title "Dr." by a dentist, who puts it on his own doorplate on the strength of possessing an American diploma of D.D.S.

To this query the *Journal* replies: If the dentist in question holds the degree of D.D.S. from a recognized American University, and he is registered under the Dentists' Act, we do not think that there is any offence against the law or impropriety in his calling himself "Dr."

In Germany, on the other hand, we learn from the *Journal of the American Medical Association* for August 2nd, citing the *Southern Drug Record*, that a graduate of an American dental college has been fined \$10 for using the abbreviation "Dr." on his "shingle" in a German city.

The Increase of Insanity Among the Negroes.—The *Evening Post* quotes from a letter written to *Charities* by Dr. A. B. Richardson, Superintendent of the Government Hospital for the Insane, at Washington, in contradiction of a statement recently made by President G. S. Hall, of Clark University, to the effect that insanity is almost unknown among negroes, as follows:

"The experience of all superintendents of hospitals for the insane in the Southern States and those along the border is that insanity among the colored race is constantly increasing. In the District of Columbia, there are in round numbers 400 colored insane out of a population of about 90,000, and about 600 white insane out of a population of about 185,000, which as far as it goes, would seem to indicate a larger proportion of insanity among the colored in the district.

"Most of the Southern superintendents also state that the proportion of insanity before the war in the negroes was very small, although it has been constantly increasing since until now it is regarded as fully as large as that among whites. The explanation for this is variously given by different authorities, but includes the greater dissipation, irregular life, greater privations, and a larger degree of responsibility and more strain for the wear and tear of competition."

The Death Rate of Boston.—The number of deaths reported to the Board of Health for the week ending August 2nd, was 197, as against 210 the corresponding week last year, showing a decrease of thirteen deaths, and making the death rate for the week 17.5. The number of cases and

deaths from infectious diseases was as follows: Diphtheria, 27 cases, 2 deaths; scarlatina, 25 cases, 3 deaths; typhoid fever, 5 cases, 1 death; measles, 19 cases, no deaths; tuberculosis, 19 cases, 26 deaths; smallpox, 3 cases, no deaths. The deaths from pneumonia were 8; whooping cough, 4; heart disease, 15; bronchitis, 4; marasmus, 6. There were 7 deaths from violent causes. The number of children who died under one year of age was 57; under five years, 86; persons more than sixty years of age, 32; deaths in public institutions, 57.

The Health of Chicago.—Following is a statement of mortality for the week ending August 2, 1902, compared with the preceding week, and with the corresponding week of 1901; estimated mid-year 1902 population, 1,820,000:

	August 2, 1902.	July 26, 1902.	July 27, 1901.
Total Deaths; all causes.....	545	520	526
Death Rate per annum, in 1,000....	15.56	14.90	15.59
By sexes:			
Males.....	319	308	292
Females.....	226	212	234
By ages:			
Under 1 year.....	187	149	159
Between 1 and 5 years.....	63	59	81
Over 60 years.....	77	72	73
Principal causes of death:			
Acute Intestinal diseases.....	163	108	151
Apoplexy.....	8	12	5
Bright's Disease.....	21	26	13
Bronchitis.....	8	9	6
Consumption.....	40	52	31
Cancer.....	18	16	12
Convulsions.....	17	11	20
Diphtheria.....	6	4	6
Heart Diseases.....	28	35	29
Nervous Diseases.....	34	25	31
Pneumonia.....	31	24	26
Typhoid fever.....	16	12	20
Scarlet fever.....	0	6	1
Suicide.....	7	12	8
Violence (other than suicide).....	20	35	31
Sunstroke.....	1	1	15
Measles.....	1	1	5
Whooping cough.....	8	8	7

Official News.

Public Health and Marine-Hospital Service Health Reports:

The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending August 2, 1902:

Smallpox—United States.

California....	Los Angeles.....	July 5-12.....	1 case.	
"	"	July 12-19.....	4 cases.	
"	San Francisco.....	July 6-23.....	2 cases.	
Colorado.....	Denver.....	July 12-26.....	1 case.	
Illinois.....	Belleville.....	July 19-26.....	3 cases.	
"	Chicago.....	July 19-26.....	2 cases.	
Indiana.....	Indianapolis.....	July 12-26.....	13 cases.	
Kansas.....	Wichita.....	July 19-26.....	1 case.	
Kentucky.....	Covington.....	July 19-26.....	4 cases.	
Massachusetts.....	Boston.....	July 19-26.....	7 cases.	2 deaths.
"	Cambridge.....	July 19-26.....	6 cases.	3 deaths.
"	Everett.....	July 19-26.....	3 cases.	1 death.
"	Lowell.....	July 19-26.....	2 cases.	
"	New Bedford.....	July 30.....	1 case.	
Missouri.....	Carthage.....	May 1-June 1.....	19 cases.	
"	Carthage.....	June 1-July 10.....	11 cases.	
"	St. Joseph.....	July 19-26.....	13 cases.	
"	St. Louis.....	July 20-27.....	11 cases.	
Nebraska.....	Omaha.....	July 19-26.....	1 case.	
N. Hampshire.....	Nashua.....	July 19-26.....	2 cases.	
New Jersey.....	Camden.....	July 12-26.....	3 cases.	
"	Hudson County, including Jersey City.....	July 20-27.....	8 cases.	
"	Newark.....	July 19-26.....	6 cases.	1 death.

New York.....	New York.....	July 19-26.....	11 cases.	3 deaths.
Ohio.....	Cincinnati.....	July 18-25.....	3 cases.	
"	Cleveland.....	July 19-26.....	19 cases.	
"	Hamilton.....	July 19-26.....	2 cases.	4 deaths.
"	Toledo.....	July 12-26.....	5 cases.	
Pennsylvania.....	Altoona.....	July 21-28.....	1 case.	
"	Johnstown.....	July 19-26.....	2 cases.	
"	McKeesport.....	July 12-19.....	2 cases.	2 deaths.
"	Philadelphia.....	July 19-26.....	4 cases.	1 death.
"	Pittsburgh.....	July 19-26.....	25 cases.	1 death.
"	Seranton.....	July 19-26.....	3 cases.	
Texas.....	San Antonio.....	June 1-30.....	1 case.	
Utah.....	Salt Lake City.....	July 12-26.....	8 cases.	1 death.
Wisconsin.....	Green Bay.....	July 20-27.....	1 case.	
"	Milwaukee.....	July 19-26.....	4 cases.	

Smallpox—Insular.

Porto Rico.....	Arecibo.....	To June 15.....	381 cases.	1 death.
"	Bayamon.....	To June 15.....	3 cases.	
"	Caguas.....	To June 15.....	71 cases.	
"	Camuy.....	To June 15.....	121 cases.	
"	Ciales.....	To June 15.....	6 cases.	
"	Corozal.....	To June 15.....	2 cases.	
"	Fajardo.....	To June 15.....	1 case.	
"	Hatillo.....	To June 15.....	5 cases.	
"	Humacao.....	To June 15.....	1 case.	
"	Isabela.....	To June 15.....	9 cases.	
"	Lares.....	To June 15.....	2 cases.	
"	Ponce.....	To June 15.....	128 cases.	
"	San Juan.....	To June 15.....	110 cases.	
"	Utado.....	To June 15.....	79 cases.	

Smallpox—Foreign.

Canada.....	St. John.....	July 19-26.....	1 case.	
Colombia.....	Bayama.....	July 14-21.....	2 cases.	
Egypt.....	Cairo.....	June 17-July 1.....	1 case.	1 death.
France.....	Paris.....	June 28-July 2.....	1 case.	
Gt. Britain.....	Birmingham.....	July 5-12.....	2 cases.	
"	Dundee.....	July 5-12.....	6 cases.	
"	Gateshead.....	July 5-12.....	5 cases.	1 death.
"	Liverpool.....	July 12.....	1 case.	
"	London.....	July 5-12.....	51 cases.	13 deaths.
Italy.....	Naples.....	June 28-July 5.....	3 cases.	
Mexico.....	City of.....	July 6-13.....	1 case.	
"	Mexico.....	June 28-July 5.....	6 cases.	5 deaths.
Russia.....	Moscow.....	June 28-July 5.....	4 cases.	
"	S. Petersburg.....	June 28-July 5.....	4 cases.	
"	Warsaw.....	June 21-July 5.....	3 cases.	
Straits Settlements.....	Singapore.....	May 18-June 7.....	2 cases.	
Uruguay.....	Montevideo.....	June 11-26.....	93 cases.	9 deaths.

Yellow Fever.

Colombia.....	Panama.....	July 14-21.....	3 cases.	
Costa Rica.....	Port Limon.....	July 10-17.....	2 cases.	
Mexico.....	Coatzacoalcas.....	June 28-July 5.....	4 cases.	
"	Vera Cruz.....	July 12-19.....	7 cases.	4 deaths.

Cholera.

China.....	Changchow.....	June 17.....	Epidemic.	
"	Chinkiang.....	June 17.....	Epidemic.	
"	Kiangchow.....	June 17.....	Epidemic.	
"	Kiangyin.....	June 17.....	Epidemic.	
"	Shanghai.....	June 17.....	Epidemic.	
"	Soochow.....	June 17.....	Epidemic.	
"	Wushih.....	June 17.....	Epidemic.	
Japan.....	Fornosa.....	To June 27.....	5 cases.	
"	Moji.....	July 22.....	Present.	
"	Nagasaki Ken.....	To June 27.....	3 cases.	2 deaths.
"	Saga Ken.....	To June 27.....	47 cases.	26 deaths.
"	Tokyo Fu.....	To June 27.....	5 cases.	3 deaths.

Straits Settlements.....	Singapore.....	May 17-June 7.....	136 deaths.	
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Plague—United States.

California.....	San Francisco.....	(July 19).....	1 case.	1 death.
"	San Francisco.....	July 20.....	1 case.	1 death.

Plague—Foreign.

China.....	Choan-chow.....	June 5.....	Epidemic.	
"	Tongan.....	June 5.....	Epidemic.	
France.....	Dunkirk.....	June 11-13.....	2 deaths on S. S. City of Perth from Calcutta, etc.	

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending August 2, 1902:

DISEASES.	Week end'g July 26		Week end'g Aug. 2.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	63	17	63	8
Scarlet fever.....	133	8	91	7
Cerebro-spinal meningitis.....	0	0	0	4
Measles.....	151	9	98	7
Diphtheria and Group.....	229	1	186	10
Small-pox.....	11	3	4	5
Tuberculosis.....	253	135	223	134

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending August 2, 1902.

EVANS, S. G., Passed Assistant Surgeon. Detached from the Naval Hospital, Port Royal, S. C., and ordered to the Naval Hospital, Norfolk, Virginia.

HOLCOMB, R. C., Assistant Surgeon. Ordered to duty at the Naval Hospital, New York.

LANGHORNE, C. D., Passed Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, and ordered to duty at the Naval Hospital, Port Royal, South Carolina.

PLEADWELL, F. L., Passed Assistant Surgeon. Detached from the *Kearsarge*, and ordered to temporary duty on the *Sylph*.

STITT, E. L., Surgeon. To report to the Surgeon-General for duty at the Naval Museum of Hygiene and Medical School, Washington, D. C.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending August 2, 1902:

BYRNE, CHARLES B., Lieutenant Colonel and Deputy Surgeon General, will proceed to the following-named posts and make a thorough inspection of the hospital affairs and sanitary conditions of each: Fort Meade, Fort Assiniboine, Fort Harrison, Fort Missoula, Fort Yellowstone, Fort Keogh, Fort Yates, and Fort Snelling.

CABLE, GEORGE L., Contract Surgeon, is relieved from duty at Fort Sam Houston, Texas, and ordered to Camp Eagle Pass, Texas, for duty.

DAVIS, WILLIAM T., First Lieutenant and Assistant Surgeon, will proceed to Fort Myer, Virginia, for temporary duty with troops going from that post to target range. He will return with the troops to Fort Myer, and then proceed to Fort McHenry.

DEAN, ELMER A., First Lieutenant and Assistant Surgeon. The leave of absence granted him is extended one month.

GREGORY, VERDO B., Contract Surgeon, will proceed to Vancouver Barracks, Washington, for duty in Alaska.

HARVEY, PHILIP F., Lieutenant Colonel and Deputy Surgeon General, will await orders at San Francisco until August 25th, on which date he will report in person to the commanding general, Department of California, to relieve ROBERT M. O'REILLY, Assistant Surgeon General.

KELLOGG, PRESTON S., Contract Surgeon, is relieved from duty at Fort Egbert, Alaska, and will proceed to Fort Robinson, Nebraska.

MATHEWS, GEORGE W., First Lieutenant and Assistant Surgeon, will proceed from Fort Warren to Fort Terry, for temporary duty with troops there during the Army and Navy maneuvers.

ROBBINS, CHANDLER P., First Lieutenant and Assistant Surgeon, is relieved from further duty in the Philippine Islands, and will proceed to San Francisco.

ROBERTS, D. M., Contract Surgeon, is granted leave of absence for one month, with permission to apply for an extension of one month, to take effect upon the return of the First Squadron, Twelfth Cavalry.

JUDD—BUCKNELL.—In Chapel Island, Saranac Lake, on Thursday, July 31st, Dr. Charles Hollister Judd, of Philadelphia, and Miss Gertrude Bucknell.

LANGKE—WIENTGE.—In East Orange, N. J., on Wednesday, July 23rd, Dr. Joseph Lange, of Cincinnati, and Miss Emilie Frederika Wientge.

McKELWAY—ROSS.—In Toronto, Canada, on Thursday, July 31st, Dr. George C. McKelway, of Flushing, N. Y., and Miss Margaret Anna Ross.

MOORE—McMILLAN.—In Clinton, Alabama, on Thursday, July 24th, Dr. George A. Moore and Miss Augusta McMillan.

NABERS—KOENIG.—In Birmingham, Alabama, on Thursday, July 24th, Dr. Samuel Faust Nabers and Miss Bertha Nathalie Koenig.

PAINE—GARNETT.—In Pembroke, Kentucky, on Wednesday, July 23rd, Dr. J. R. Paine and Mrs. M. T. Garnett.

POPE—LUPTON.—In Mount Auburn, Iowa, on Monday, July 28th, Mr. Walter Pope and Dr. Inez Lupton, of Chicago.

SUTTER—MABEE.—In St. Louis, on Tuesday, July 22d, Dr. Otto Sutter and Miss Florence A. Mabree.

Died.

ASH.—In Springville, Alabama, on Monday, July 28th, Dr. Winston Ash, in the forty-fifth year of his age.

DAVIS.—In Philadelphia, on Thursday, July 31st, Dr. J. Aubrey Davis, in the thirty-seventh year of his age.

FAWCETT.—In Monticello, Iowa, on Sunday, July 27th, Dr. Charles L. Fawcett, of Cleveland, in the seventieth year of his age.

HAND.—In Wellington, Kansas, on Sunday, July 27th, Dr. F. S. Hand, in the forty-fifth year of his age.

LITTLE.—In Rosamond, Illinois, on Tuesday, July 29th, Dr. Zay Little, in the twenty-eighth year of his age.

OBITUARY NOTES.

MARY BLISS DAMON, M. D., OF MINNEAPOLIS.

Dr. Damon, formerly of New York, died suddenly in Boston, Mass., on July the sixth.

Dr. Damon was born in Concord, Mass., and graduated from Wellesley College in the class of 1886. After a year's travel in Europe, she began the study of medicine at the Woman's Medical College of the New York Infirmary, where she received her degree in 1890. She served on the house staff of the New York Infant Asylum and the New York Infirmary. She was afterward a resident at the College Settlement in Rivington street, and engaged in practice among the poor of the East Side. In 1893 and 1894 Dr. Damon was resident physician at Smith College, Northampton, Mass. In 1894 she went to Minneapolis, where she had built up a large practice, when ill health determined her to spend the summer at the East. At the time of her leaving Minneapolis she held appointments in the University Dispensary and upon the editorial staff of the *Northwestern Lancet*. She was also medical examiner for the Humane Society and for the physical department of the Young Women's Christian Association, and a lecturer at the Agricultural College.

Dr. Damon was an earnest student, devoted to her professional work, and her untimely death at the height of a successful career is lamented by a wide circle of friends.

Births, Marriages, and Deaths.*Married.*

BROWN—IMHOFF.—In Baltimore, on Wednesday, July 30th, Dr. Hamilton Disston Brown and Miss Emma Catherine Imhoff.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Diphtheria Associated with Scarlet Fever. (Concluded.) By Dr. I. A. Schabad (*Roussky Vrach*, June 29th).—The author's conclusions are as follows: (1) A complication of scarlatina with diphtheria may occur, not only in convalescents from scarlet fever, but also at the height of the disease, or even at the very outset of the malady. (2) A diagnosis of diphtheria complicating scarlet fever requires a combination of clinical data with the findings of the bacteriologist. (3) The diphtheria bacilli isolated from cases in which the diphtheria came on during convalescence, or at the very acme of the disease, showed a normal virulence for guinea pigs, such as would be expected of these germs at such a time. On the other hand, when diphtheria came on with scarlatina at the onset of the latter, the germs obtained from the throat corresponded to diphtheria bacilli in all respects but did not show the same virulence. (4) This lack of virulence on the part of the diphtheria germs in these cases did not preclude their taking part in the pathological process. In some cases diphtheria bacilli have been found in the throats of scarlet fever patients without any lesions of diphtheritic angina. (5) In view of the fact that such cases usually run a milder course as regards the scarlet fever, it is probable that there the diphtheria germs take upon themselves the rôle of saprophytes, and do not take any part in the pathological process. (6) In order to protect patients affected with scarlet fever from the spread of diphtheria among them, it is necessary in scarlet fever wards to separate those who enter the hospital with Löffler bacilli in their throats from the remaining scarlet fever cases. The throats of all patients who enter the hospital with scarlet fever should be therefore examined bacteriologically. (7) Diphtheria antitoxine should be used in all cases in which diphtheria is combined with scarlatina, whether the complication occurs at the acme of the disease or during the period of convalescence.

The Causation and Prevention of Phthisis. By Dr. Byrom Bramwell (*Lancet*, July 19th).—In the third of the series of five lectures upon this subject, the author considers the various precautions which the individual should take in order to protect himself against phthisis and other forms of tuberculous disease.

He should endeavor to increase his vital resistance, to avoid all conditions likely to produce the local alterations forming a suitable nidus for the growth of the tubercle bacillus, and to prevent the entrance into the body of the tubercle bacillus and its spores.

Persons who inherit a strong tendency to phthisis should be well fed, well clothed, and well housed; they should live, if possible, in a high, dry, and pure atmosphere, and in a well-built, airy and well-drained house, which is not built on a cold and damp subsoil, but is surrounded by plenty of fresh air and sunlight. They should always keep the bedroom window open at night, winter and summer. Excesses of all kinds should be avoided, and an occupation or profession should be chosen which does not necessitate the breathing of an irritating or dusty

atmosphere. If their chest development is defective they should systematically practise lung gymnastics with a view to increasing their respiratory capacity.

Persons living in close contact with phthisical patients should be scrupulously careful to take every means to prevent the introduction of the tubercle bacillus into their own bodies. The chief risk is the inhalation of air containing the tubercle bacillus and direct infection by kissing, using contaminated cups, etc.

The rooms in which phthisical patients live should be kept scrupulously clean. No dust should be allowed to accumulate, all the wood work being cleaned with a damp cloth. Free ventilation is of the greatest importance: (1) for the health of the patient himself and the other occupants; (2) in order that the poison, if present in the air, may be freely diluted; and (3) with the object of destroying any tubercle bacilli that may be present. Fresh air and sunlight kill the germs. A healthy person should never sleep in the same bed with a phthisical patient.

A Case of Syphilis of the Heart Accompanied by Considerable Dilatation of the Pulmonary Artery. (Concluded.) By Dr. K. E. Wagner and Dr. G. I. Kwiatkowsky (*Roussky Vrach*, June 22nd).—Considerable dilatations of the pulmonary artery, such as were met with in the present case, are rarely found at autopsies. Slight dilatations of this vessel may occur frequently enough but they are not noticed. In this instance the heart was the seat of very extensive syphilitic lesions. There was also a marked interstitial process in the lungs. The author explains the dilatation of the pulmonary artery by the fact that syphilitic changes in the interstitial pulmonary tissues, and emphysema, tended to increase the blood pressure in the pulmonary system, while marked gummatous lesions in the wall of the vessel itself tended to reduce the resistance offered by the same. The diagnosis of dilatations of the pulmonary artery is not an easy one. For such a diagnosis are necessary the presence of a beat, and dulness in the second or third, or both, left intercostal spaces, near the sternum; hypertrophy of the right ventricle; and a systolic bruit heard at the site of the beat or pulsation. Schroetter adds to the symptoms outlined, swelling of the veins of the neck and cyanosis. The Röntgen rays would, undoubtedly, assist in making the diagnosis of a dilated pulmonary artery.

Observations on Malarial Disease in Turkestan. By Dr. S. A. Mark (*Roussky Vrach*, June 15th).—The author's conclusions as regards the nature of malarial disease in Turkestan, are as follows: (1) The newest researches on parasitology and epidemiology show the existence of three groups of malarial plasmodia, which may be subdivided into two groups, the parasites of tropical climates, the so-called organism of tropical malaria, and the parasite of more temperate climates (quartan and tertian). The prevalence of one or the other type of malarial parasite, and consequently of one or the other type of malarial disease, depends upon climatic conditions. A study of 161 cases of malarial disease in Turkestan shows that the tropical organism is present in eight times as many cases in places with comparatively high temperatures and low situation, as in high and cool places. The occurrence of typhoid fever in malarial patients seems to inhibit

the growth of plasmodia in the blood, and it is very rare to find plasmodia in the blood of malarial patients who are suffering from typhoid fever. When the attack of typhoid is over, the malarial affection again gains the upper hand, and shows itself in intermittent paroxysms. The same is true of convalescence from acute articular rheumatism, and other disease. Tuberculosis becomes acute very rapidly under the influence of malarial disease, and soon gains the ascendant in the clinical picture of these two diseases when associated.

A Case of Rheumatic Hyperpyrexia Followed by Symptoms Resembling Those of Disseminated Sclerosis. By W. Allen, L. S. A., and Dr. J. W. Russell (*Lancet*, July 19th).—The authors report the case of a man, aged thirty years, suffering from acute rheumatic fever, in which the body temperature rose to 107° F. on the third day of the disease. It was reduced to normal by means of ice packs, but the next morning it had again risen to 107° and in the afternoon was over 115° F., the mercury reaching the end of a thermometer, the maximum register of which was 115° F. The patient was at that time completely unconscious, his breathing was shallow and irregular, and his face cyanosed; but his pulse was not so bad as his general condition indicated. Vigorous application of cold brought the temperature down slowly, during which time several general convulsions occurred. There was a slow return to consciousness, though the ordinary mental condition was not regained for several days. The temperature remained constantly and irregularly raised for the succeeding three weeks, but only once did it touch 104° F.

On regaining consciousness the patient had lost the power of articulate speech to a great extent; there was no aphasia, the difficulty being associated entirely with articulation. Further there was extreme ataxia of the legs. He was unable to walk or stand without support, and on closing the eyes there was complete loss of balance. The coordination of the upper extremities was similarly though less affected. Writing was almost impossible. There was no loss of power or muscular rigidity. Tremor was not at all marked but could be brought out by muscular exertion. There was no nystagmus, no tremor of the tongue, and no loss of vesical or rectal control. Speech was slow, monotonous, and markedly scanning; apparently a most typical example of the scanning speech of disseminated sclerosis. The knee-jerks were moderately increased, while the electrical reactions were somewhat sluggish. The mental condition was quite unimpaired. The patient's condition has changed very little in the last two years.

The author has found but one similar case in the literature of the subject; in this the lesion was thought to be a diffused inflammation of the medulla and lower half of the pons. In the case here reported the occurrence of convulsions would suggest an immediate lesion, such as small scattered hemorrhages.

A Report on Forty-three Consecutive Cases of Diphtheria. By S. G. Champion, M.B., and A. L. Vaughan, M.R.C.S. (*Lancet*, July 26th).—The cases of diphtheria here reported were those admitted to the Norfolk and Norwich Hospital during the past

two years. The patients were all suffering from laryngeal obstruction, and many of them were in *extremis* when first seen. Thirty-nine patients were operated upon (tracheotomy), the result being that twenty-nine recovered and ten died. Paralysis occurred in three cases, complete recovery taking place in all. Cultures were taken in eighteen cases, diphtheria bacilli being found in eleven. An initial dose of 6,000 or 8,000 units of antitoxine was employed, and in few cases it needed repetition. The indications relied on for pushing the antitoxine were: (1) Persistent rise of temperature, with other signs of toxæmia; (2) abundance of membrane and dry inspissated mucus; (3) bronchopneumonia; and (4) spread of disease and reinfection. In all cases of bronchopneumonia small doses of antitoxine (2,000 units) were given daily until the temperature began to fall. Rash occurred in fourteen cases. In eleven it was an irritable urticaria with some erythema surrounding the wheals. Albuminuria was found in thirty cases. Stimulants were freely given, and expectorants were used in every case. Indications for tracheotomy were: 1. Recession of the intercostal spaces, the lower ribs, and the clavicular fossæ, was considered to indicate the necessity for tracheotomy. 2. Restlessness and dyspnea were always regarded as most urgent symptoms. In no case was cyanosis waited for.

Visual Disturbances of Hepatic Origin.—M. Jacquaeau (*Lyon médical*, July 13th) concludes that functional disturbances of the eye occur in the presence of hepatic disease, which, if long continued, may bring about real changes in the eye. Hemeralopia is the most common and may be looked upon as a sign of hepatic insufficiency. Amblyopia, simulating alcohol amblyopia, may arise, characterized principally by scotomata. It is often accompanied by paresis of the ciliary muscle and may lead, by successive steps, to amaurosis. The prognosis is coequal with that of the liver disturbance. When the latter easily yields, the ocular disturbance improves; when the contrary is the case, grave conditions, even optic nerve atrophy, may ensue.

Rötheln (Rubella or German Measles).—Dr. R. W. Marsden (*Medical Chronicle*, May) states that, though it is a fact that this disease is almost always mild in character, a term of residence in a large fever hospital will convince the most skeptical of the importance of a thorough acquaintance with the details necessary for an accurate diagnosis, since a not inconsiderable number of the cases admitted in error as suffering from scarlet fever can be shown by subsequent events to have been attacked by rötheln. Though the statement of Thomas, that "the exanthem of rubella possesses a similarity to that of measles only . . .," is true of the beginning of the attack, yet later, when the rash has disappeared from the face and become blurred, it becomes impossible to distinguish it in many cases from a mild attack of scarlet fever. The author draws attention to the fact that, in practically all cases, there is no risk of conveying contagion during the twelve days succeeding exposure, and he expresses it as his opinion that, not only is the disease most infectious at the beginning, but that the infectiousness seems to disappear very rapidly. Special treatment in the majority of cases is quite unnecessary. Demulcent

drinks for the soreness or dryness of the throat and symptomatic treatment of any of the occasional complications are all that is called for.

Ulnar Paralysis as a Sequel to Typhoid Fever.—

Dr. K. Liepelt (*Berliner klinische Wochenschrift*, July 7th) reports a case of ulnar paralysis arising during convalescence from a moderately severe typhoid fever. Pain in the affected region was the first symptom. Paralysis and atrophy of the affected muscles quickly followed. At the time of discharge, the reaction of regeneration was still present. The prognosis of typhoid paralysis in general is doubtful.

Anomalous Cases of Tabes Dorsalis. By Dr. J. Taylor (*British Medical Journal*, July 19th).—The author divides anomalous cases of tabes dorsalis into two classes: (1) Those in which eye symptoms are prominent; and (2) those characterized by gastric crises, joint troubles, perforating ulcer, etc.

The ocular palsies occurring in cases of tabes are nearly always of a transient character, clearing up in a few weeks' time, either spontaneously, or under the influence of iodide and mercury. The levator palpebrarum is the muscle most commonly affected; unilateral ptosis alone is rare, but double ptosis is not uncommon. Many subjects of tabes seek advice because of failing vision, almost invariably due to optic atrophy—the gray atrophy so common in tabes. No other symptom of tabes may be present, not even the Argyll-Robertson pupil. The author holds the Argyll-Robertson pupil to be a symptom of the greatest importance; although no other sign of the disease may be present, sooner or later tabetic degeneration sets in.

It is true, as a general rule, that in tabetic patients with optic atrophy, especially if this is very severe, the other usual symptoms of the disease (especially the ataxy) are either not present or are present in a very mild form. The presence of gastric crises, even if there are other undoubted symptoms of the tabetic lesion present, is a good thing as regards prognosis. The patients are not likely to become ataxic, and the crises may entirely cease and the disease come to a standstill for many years. Nothing controls a gastric crisis except the hypodermic use of morphia; yet one must beware of establishing the habit.

Laryngeal crises are really choking attacks in which there is extreme inspiratory spasm, the result of the vocal cords being spasmodically adducted. The patient suffers extreme distress, and in many cases it has been necessary to resort to tracheotomy. Indeed patients have died suddenly, apparently during one of these laryngeal crises. In contrast to the gastric cases, the cases with severe laryngeal crises are usually accompanied by a marked degree of ataxy.

With reference to the joint cases, their most remarkable characteristic is the extreme deformity of the affected joint which may be produced without any pain. In these cases very little ataxia may be present. The author has seen several cases of perforating tabetic ulcer in which complete and permanent healing has taken place, which many authorities hold never occurs.

SURGERY AND ANATOMY.

The Operative Treatment of Laryngeal Diphtheria.—Dr. A. Knyvett Gordon (*Medical Chronicle*, May) gives the indications for operation in this disease as follows: A croupy cough, laryngeal stridor, retraction of the epigastrium and intercostal spaces, restlessness, cyanosis; then cessation of restlessness, cessation of retraction, followed by the apparent comfort that precedes death. The absence of restlessness is occasionally taken as a sign that tracheotomy is not required, when the associated cyanosis should really demonstrate that the quietness is that of impending death. The chief occasion in which tracheotomy is required in the absence of cyanosis, is when repeated attacks of dyspnoea (especially after the first forty-eight hours of the disease) point to the presence of loose membrane in the trachea or larynx, in which case tracheotomy should be done in a quiet interval. Intubation should be reserved for cases where one has a reasonable hope of being able to dispense with the tube, after twenty-four hours. For tracheotomy the author prefers the following method: The child is pinned up in a sheet reaching from the feet to the nipple level, in order to minimize the struggling, and a sand-bag, six inches in diameter, is placed under the shoulders, and the position of the child adjusted till the trachea appears to be brought as near to the surface as possible. If the cricoid cartilage can be felt distinctly the operation is likely to be an easy one. A skin incision is then made, beginning over the situation of the cricoid and extending downwards for not more than an inch. The left forefinger is inserted into the wound, placed on the lower border of the cricoid, and in this position it should remain. An upward cut is then made with a sharp-pointed tenotomy knife as long as the skin incision will allow. No attempt should be made to check the bleeding. With a pair of tracheal dilators, guided by the left forefinger, the tracheal incision is opened, and the child is turned over on its side to allow the blood to escape from the wound. If the breathing should indicate the presence of a large piece of membrane, it should be extracted with a pair of curved forceps—not with a feather. The dilators are then held in the left hand and the tube inserted and tied in tightly. The after treatment should be based upon the fact that diphtheria is a constitutional, and not merely a local, disease.

Some Rare Cases of Sarcoma of the Thyreoid.

By P. L. Daniel, F. R. C. S. (*Lancet*, July 19th).—The author's article is based upon a series of four cases of sarcoma of the thyreoid. The ages of the patients were respectively fifty-seven, fifty-nine, sixty, and sixty-nine years. The two younger patients were males. In three cases the tumor was a medium-sized round-celled sarcoma; in the fourth the structure was that of a giant-celled sarcoma. The cases terminated fatally in eight, nine, twelve, and seventeen months, respectively, from the period of earliest observation of the growth. The first patient died suddenly from heart failure after tracheotomy; the second from syncope; the third from exhaustion after extirpation; and the fourth from general suppuration of the serous membranes. Extirpation was possible in only one case; most cases

of malignant thyreoid are seen at too late a stage for radical treatment.

Of the four cases, three were primarily in the right lobe; in the fourth case both lobes were involved simultaneously, but growth was more rapid in the right lobe. Involvement of lymphatic glands was variable and occurred too late to be of any diagnostic value.

Secondary growths elsewhere in the body were present in three cases. In one where there was co-existing myxœdema, there were malignant ulcers of the stomach and intestine and malignant infiltration of the pancreas.

In only one case (the giant-celled sarcoma) was there any marked deviation of the trachea from the middle line. Ingrowth into the trachea occurred in all cases, and in three there was complete fixation of the tumor mass to deep structures. In one case the growth was stonily hard, in one firm and elastic, and in the other two moderately hard. In two cases the carotids were imbedded in the growth.

In conclusion the author quotes Kocher and Berry to the effect that every goitre in an adult that is hard and enlarges without obvious cause, should raise a suspicion of malignancy, even though it causes no pain or other trouble. Could malignant tumors be removed while still intracapsular, the prognosis would be good; but unfortunately a certain diagnosis of malignant disease cannot be made so long as the growth remains intracapsular.

Primary Anæsthesia in Minor Surgery.—Professor Riedel (*Berliner klinische Wochenschrift*, July 7th) recommends primary anæsthesia by ether or chloroform for minor operations, such as extraction of teeth, the reduction of fractures and dislocations, or a secondary fracture of a bone for the correction of deformity. He prefers chloroform given by the drop method. From eighty to 100 drops will suffice in two minutes to obtund all pain without a complete abolition of consciousness, although the patient will not have been conscious of any pain. Since chloroform sometimes causes death at the very beginning of anæsthesia, the author suggests the employment of ether, if one wishes to be absolutely safe. This may be given by the drop method also, but it takes a little longer to induce primary anæsthesia with ether than with chloroform. If the patient is told to count, the moment when his counting begins to become erratic, is the time to operate.

The Diagnosis of Diseases of the Sigmoid Flexure and Rectum, with Special Reference to the Proctoscope. By F. S. Edwards, F. R. C. S. (*British Medical Journal*, July 19th).—Pain in the rectum is a symptom of fissure, of hæmorrhoids, of ulceration, and of certain morbid growths. In fissure the pain is very severe and out of all proportion to the size of the lesion, and lasts for several hours. In hæmorrhoids the pain varies as the degree of inflammation of the parts. A thrombotic pile always causes pain. In ulceration, whether simple or carcinomatous, there is every variety of pain, depending upon the site of the lesion—less when high up, more when low down in the sphincteric region.

Hæmorrhage comes next to pain in order of frequency as a symptom of rectal disease. It is usually insignificant in quantity in fissure, but in the case of

internal hæmorrhoids considerable blood may be lost. In these cases the blood is usually venous, but may be arterial. Carcinoma of the bowel is usually attended with some hæmorrhage, the fæces being streaked with blood, though it may be so severe as to produce fainting.

Protrusion of the rectum occurs in piles, polypi, villous growths, and prolapsus recti. Too much reliance must not be placed upon the nature and form of the stool; if a stricture is present, but high up, the fæces may be of normal size when voided. Again, ribbon-like movements may be due simply to a spasmodic action of the sphincter.

The presence of pus indicates the existence of an abscess or blind internal fistula, ulceration, and stricture, or of an acute proctitis, such as a gonorrhœal inflammation.

The escape of mucus suggests catarrhal inflammation or, possibly, invagination or intussusception. When there is a large watery discharge, like the white of egg, a villous tumor is almost sure to be present. Mucous casts point to a membranous colitis.

For examination, the author is in the habit of relying on the finger alone in the majority of rectal cases, but for some the use of the speculum is not only desirable but necessary. And for this purpose he uses almost entirely Kelly's tube—or the proctoscope—although a bivalve speculum is useful for douching the rectum or in making applications.

OBSTETRICS AND DISEASES OF WOMEN.

The Pathogenesis and Treatment of Eclampsia.—Professor V. V. Stroganoff (*Roussky Vrach*, June 29th) discusses this subject, on which he has written numerous essays. Stroganoff is the chief exponent of the infectious theory of eclampsia. In the present article he discusses the chief contributions to the literature of the subject which have appeared within the past three years. The principal of these is the report made by Fehling before the Giessen meeting. The first important conclusion reached by Fehling was that the bodies of women who had died of eclampsia did not show any characteristic lesions or any characteristic pathological picture. This, says Stroganoff, is diametrically opposed to the opinions of all the most prominent authorities on the subject. Thus, Schmohl, who investigated 73 cases microscopically as well as macroscopically, and did not, like most authors, rely solely upon the gross findings, asserts that eclampsia has a characteristic set of lesions. This set of lesions affects a number of organs, and consists in changes in the kidneys, anæmic and hæmorrhagic necroses of the liver, hæmorrhages and softenings in the brain and in the heart muscle, and multiple thromboses. Fehling asserted that eclampsia did affect not only the woman, but also her offspring *in utero*, and immediately after birth. Fehling's final conclusion is to the effect that eclampsia is an intoxication of foetal origin. The objections to this theory are, according to the present author, as follows: If eclampsia is of foetal origin, then why is it that it occurs in the first months of pregnancy, and has at that time a very unfavorable prognosis? Why is it that it may occur three or four days after the delivery? If the poisons which cause eclampsia are able to cause a

serious, and even fatal, illness in the mother, how is it that they do not affect the fœtus in the same measure, so that the child may survive the mother? The existence in the blood of the fœtus of toxins producing eclampsia has not been proved. It has not been shown, and is not probable, that the fœtus produces a large amount of toxins. Cases of eclampsia have been recorded in which the fœtus died *in utero* before the attack. The cessation of eclampsia in the middle of pregnancy, while the latter is allowed to go on normally, could not be explained if the fœtus developed the toxins causing the disease. Ten cases of such cessation of the eclamptic seizures with a continuation of the pregnancy are reported by the author.

The uræmic theory of eclampsia has also suffered severe criticisms within recent years. For instance, Kroenig and Fuerth have shown that the freezing point of the blood of eclamptics is about the same as that of normal pregnant women, while that of uræmics is much lower. Schumacher found that the toxicity of the urine of an eclamptic woman, of a woman with Bright's disease, and of a healthy woman, was in all instances approximately equal. In this manner the uræmic theory has suffered several defeats. The same may be said of Bouchard's theory. The serum of an eclamptic mother was found to be approximately of the same toxicity as that of a healthy mother. The leucomaine theory and the hepatic theory of eclampsia have never had many adherents, and may be disregarded. While the author does not regard the infectious theory, for which he contends, as absolutely proved, yet it is the most probable one of all. He believes that we are now in the position toward eclampsia that Semmelweis occupied toward puerperal fever, namely, that we believe it to be infectious, but cannot show the germs.

A Case of Vertical or Complex Hermaphroditism with Pyometra and Pyosalpinx; Removal of the Pyosalpinx. By E. P. Paton, F. R. C. S. (*Lancet*, July 19th).—In the case of hermaphroditism here reported the condition of the sexual organs was as follows: Externally, the penis was small but otherwise normal, except for the fact that the urethra had no floor. What appeared to be the opening of the urethra was really the opening of a rudimentary vagina into which the uterus opened by a fair-sized aperture and the urethra by a very small one; the folds on either side of the perineal opening might be taken to be either rudimentary scrotum or labia. Internally there were a very fairly well-formed uterus and tubes, and on the left side a gland which was clearly a testis. There was no evidence of the existence of epididymis, vas deferens, or prostate. The bladder was normal, save for considerable increase in size. The general build of the individual was rather of the female than of the male type. When seen the patient was complaining of pyuria. On examination a sausage-shaped mass was felt behind the bladder. Operation was performed, and the mass was found to be a Fallopian tube full of pus. This was removed, but the purulent discharge persisted, being due to endometritis.

On Puerperal Aphasia with an Analysis of Eighteen Cases. By Dr. M. A. McI. Sinclair (*Lancet*, July 26th).—Puerperal aphasia may be either

(1) of nervous origin, or (2) due to vascular disturbance. Cases coming under the first head are very rare, yet they do occur. Under the second head come cases due to thrombosis, embolism, or hæmorrhage. In the later months of pregnancy the blood is characterized by a great diminution in the number of red corpuscles, and a considerable increase in fibrin, while the proportion of albumin is somewhat increased. These facts go far to explain the frequency of thrombotic affections. Embolism may follow valvular cardiac disease, or pyæmia after labor. Hæmorrhage, considering the average youth and strength of the patients, must be very rare. The nature of the labor has no necessary relation to the loss of speech. In many cases the labor is natural and easy.

The prognosis of a primary attack of puerperal aphasia is fairly good; in twelve of the cases here reported, speech was completely restored; in four cases the aphasia was persistent, while death took place in the remaining four. The aphasia may be transitory or persistent. There is so distinct a liability to recurrence, and the prognosis of secondary cases is so bad, that the author advises that the patient not only be warned against becoming *enceinte* again, but, in the event of her becoming so, the only justifiable course according to our present knowledge, is to terminate the pregnancy at the earliest possible moment.

LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

Chronic Suppurative Diseases of the Middle Ear.—Dr. James Kerr Love (*Glasgow Medical Journal*, July) notes two facts about chronic suppurative middle ear disease following the exanthemata:—(1). However far back the causative disease may have been (and it is often ten, twenty, or more years back), the discharge has probably been continuous ever since, in spite of the common statement that for long periods there has been no discharge. (2). The tympanic attic, or the mastoid antrum, or both, are also diseased, and cure is not probable except by operation.

After the exanthemata, cases of obstinate suppurative ear disease are commoner in children who have enlarged tonsils and postnasal adenoids than in those who have not. Without any other operative treatment, in cases hitherto rebellious to treatment the patients will sometimes recover if the nasopharynx is cleared of adenoid masses. Recurring suppurative disease of the middle ear also will sometimes finally disappear when the nasopharynx is cleared of adenoid masses.

In acute mastoiditis there is not only pain on pressure, but very often apart from pressure, and spreading in almost every direction over the head, face, and neck. In cases of latent mastoid abscess, pain, about which the patient has known nothing hitherto, may sometimes be elicited on pressure. When it is present, it is a valuable sign that the cells contain pus, or that the bony mastoid process is inflamed. The absence of pain, however, does not negative the disease of the mastoid process or its cells. If there is bulging on the upper and posterior part of the external wall of the canal, and if there a probe enters and impinges on diseased bone, the mastoid cells contain pus and are discharging by

way of the border cells into the external auditory canal. If granulation masses found in the middle ear spring from the upper and posterior part of the cavity (opening of the aditus), the mastoid cells usually contain pus or granulation masses.

Mastoid auscultation is practised in the following manner: An ordinary rubber tube, such as is used in making an otoscope, or such as forms part of a binaural stethoscope, is furnished at one end with an ear-piece to fit the ear of the surgeon, and at the other with a small metal or vulcanite terminal shaped like an aural speculum. This latter is placed over the suspected antrum on the mastoid process, and, while the surgeon listens, a tuning fork is sounded on the top of the head or on the bridge of the nose of the patient. A pus-filled antrum is supposed to modify the sound which passes through it, so that it differs from that arriving at the surgeon's ear through an air-filled antrum, and thus gives evidence of diagnostic value. This test, however, should be used only as an auxiliary one. (*To be Continued.*)

Paralysis of the Facial Nerve Following Acute Otitis Media.—Dr Urbano Melzi (*Gazzetta degli Ospedali e delle Cliniche*, April 13th) says that every case of facial paralysis of unknown origin should be examined as regards the state of the patient's auditory apparatus. In many cases, by simply treating the otitis one can improve the paralysis considerably, or even cure it. Antiphlogistics applied to the region of the ear or to the mastoid process; derivatives to the intestines, and the skin; leeches over the mastoid or on the tragus, give good results in acute cases. If the exudate is very abundant paracentesis of the tympanum may be practised. If the paralysis was of recent origin, if there were no grave lesions of the nerve, such as degeneration, then the cause of the trouble having been removed, the disability of the facial muscles will disappear. The prognosis of facial paralysis following otitis media is as a rule favorable, but it depends upon the course of the otitis.

Suprarenal Extract in Rhinology.—Dr. A. Rosenberg (*Berliner klinische Wochenschrift* June 30th) prepares his own extract from the suprarenal body of the ox and uses a small amount of carbolic acid as a preservative. In the nose, used on cotton applicators, it produces an immediate anemia of the mucosa, turning it white and permitting a minute and thorough inspection of the nares. If cocaine is now added, a bloodless operation can usually be performed. The author is reserved in his opinion as to its efficacy in hay-fever, although it is beneficial in other acute inflammatory conditions. Severe postoperative hemorrhages have not been observed. In the larynx, the sudden but transient reduction of swelling of the vocal cords, suffices to cause a cessation of hoarseness.

PHYSIOLOGY AND PATHOLOGY.

On Gastric Digestion, Particularly on the Functional Activity of the Gastric Glands in the Insane. By Dr. A. I. Iuschenko (*Continued*) (*Russky Vrach*, June 22nd).—The investigations upon which this study was based were conducted in a large asylum, and the author analyzed the stomach contents of 25 patients suffering from various mental dis-

eases. Of these 3 had melancholia, 2 with mania, 2 with katatonia, 1 with hysterical psychosis, 1 with acute hallucinatory neurasthenic psychosis, 6 with progressive paralysis, and 9 with various forms of paranoia. The gastric contents were removed after a test meal (Ewald's) with an ordinary stomach tube at different intervals of time after the meal. The percentage of the different acids was determined by the most approved methods, those of Toepfer and Uffelman, and the digestive power of the gastric juice was tested according to Mett's method. (*To be continued.*)

Physiological and Cytological Study of Traumatic Hæmothorax.—M. Sacquépée (*Gazette hebdomadaire de médecine et de chirurgie*, July 3rd) concludes his study by affirming that the blood of hæmothorax, like that of all other pouring out of serum into cavities, does not readily coagulate. He has one specimen in his possession which for two months has shown no sign of clotting. The number of red cells rapidly diminishes, but the white cells maintain their proportion, the lymphocytes especially, as they cannot easily be absorbed from the pleural cavity. The red cells are absorbed in part by the endothelium, in part by the leucocytes, and the presence of eosinophiles in large numbers seems to indicate a destruction of the red by the white cells. As late as the thirty-fourth day, one still finds a great number of leucocytes represented especially by the lymphocytes and eosinophile cells, while the red cells are numerous enough only to give color to the pleural transudate.

Eberth's Bacillus in the Blood of Typhoid Patients.—M. Busquet (*Presse médicale*, June 21st) says that the typhoid bacillus is constantly present in the blood of patients with typhoid fever, but its detection is not always certain and depends, in a measure, on the period of infection and the stage of the disease. In forty-three cases, Eberth's bacillus was found twenty-nine times alone, and three times accompanied by the pneumococcus, five times by the streptococcus (in this case there were numerous visceral complications), four times by the staphylococcus and once by an undetermined diplococcus. The author states that the method is not applicable to routine practice, but is practicable in a hospital and is an aid to diagnosis. He believes that the finding of associated bacteria and a study of these combinations, will clear up some of the peculiar, especially the severe and complicated, cases of typhoid fever.

Functional Work Accomplished by the Heart.

Dr. Giovanni Galli (*Münchener medizinische Wochenschrift*, June 17th and 24th) concludes that the current division of the splitting of the heart sounds is not justified by clinical facts. It would be more in consonance with these data to speak of the degree of splitting, such as diastolic splitting of the first, second, or third degrees. The diastolic split is always pathological, and the third degree of it is the most serious and the least easy to influence by rest. It is an indication of insufficiency and is, therefore, a good criterion of the functional ability of the heart. Rest is the best method of causing the diastolic split to disappear and thus to prevent an insufficiency.

American Medical Association.

SECTION IN NERVOUS AND MENTAL DISEASES.

Second Day, Wednesday, June 11th.

Exceptional Forms of Pressure Palsies.—Dr. J. D. MCCARTHY, of Philadelphia, read a paper entitled as above, in which he gave a synopsis of 564 cases of pressure palsies that had come under his observation. In this series there were three cases of ulnar palsy, one case of single median palsy, and one case of bilateral median palsy, all the other patients being affected with palsy affecting the musculospiral nerve. In the single case in which alcoholic intoxication had figured as a causative factor, the alcohol was at once stopped and treatment by means of massage and galvanism instituted.

Dr. F. Savary Pearce stated that he had never seen a case of pressure palsy in which there was not a history of alcoholism, and most of them that had come under his observation had been during acute attacks. This condition, he thought, was due to the obtunding of the sensation by the alcohol, so that the patient was not aroused from the paræsthesia which had developed. The prognosis in these conditions was thought to be favorable, provided the patient had previously been in fairly good health and that the treatment, consisting of massage, strychnine and galvanism was carried out.

Dr. William H. Walling reported a case of pressure palsy affecting the musculospiral nerve which had come under his observation. This condition had been produced by the pressure of the crutch under the arm, and had been diagnosed by his physician as rheumatism. The patient was treated with galvanism and made a good recovery.

Dr. McCarthy stated that he felt that this condition was rather a lowering of the nutrition of the nerve than an obtunding of the sensation, and that while very little was known about the pathological condition of the nerve, what changes had been observed were thought to be rather due to a degeneration of the nerve than to a distinct neuritis.

Concerning Morphine Addiction and its Treatment.—This was the title of a paper read by Dr. C. B. BURR, of Flint, Michigan, in which he stated that 50 per cent. of the drug habitués were to be found among physicians and their families, the habit being formed, he believed, by the taking of the drug to buoy them up under severe strain, either during their student days, or at a particularly exigent time in practice. The most difficult cases to treat had been those who had been addicted to the habit for but a short time, and particularly favorable results, both immediate and permanent, had been obtained where alcohol had been used in conjunction with the opium. The best method of procedure was thought to be the immediate withdrawal of the drug, substituting therefor stimulants, such as strychnine, quinine, cola, coca, and aromatic spirit of ammonia, and administering hypnotics at night as indicated.

Dr. D. R. Brower stated that, while he favored the rapid withdrawal of the drug, he did not think that it should be withdrawn immediately, as cases had come under his observation in which this method of procedure had been followed by insanity.

Dr. H. A. Tomlinson stated that he believed in the immediate withdrawal of the drug in these cases, and that while he had sometimes seen a patient greatly depressed and even in a state of apparent collapse, he had never observed any real harm following this method of procedure. The patient's recovery was more rapid and the length of the sufferings during the withdrawal of the drug was much shortened. In the cases which had come under his observation in which alcohol had been used in conjunction with the morphine, not only did the patients usually make more rapid progress, so far as the immediate results were concerned, but the permanent cure was more certain.

Dr. J. P. McBride believed that the greatest difficulty was not in breaking the patient of the habit, but in preventing a relapse. Treatment in an institution was thought to be the ideal method, and the gradual withdrawal of the drug was favored rather than the immediate removal. In order to prevent relapses, it was recommended that the patients be kept in an institution for a year after they had abandoned the habit.

Dr. Joseph Collins stated that he felt the morphine should be reduced to a very small amount as soon as the patient was placed under treatment, and should be entirely removed within the first ten days or two weeks, except possibly in cases where the habit had been acquired to overcome an asthmatic neurosis, in which cases he felt that it might be necessary to give the patient morphine to control the paroxysm. In the treatment of the collapse which often followed upon the total withdrawal of the morphine, a very hot bath had been observed to be of considerable service. The value of institutional treatment and the detention of the patients until entirely cured, was recognized, but under the present system of legislation was thought to be impossible.

Dr. Cine felt that the tendency to withdraw the drug immediately was more particularly prevalent among those connected with institutions, and under such conditions he believed that this was the proper method, the general condition of the patient being observed by the attendant and, when it was seen to be necessary, morphine being administered to tide him over a sudden collapse. The speaker referred to the growing use of drugs in the South, and particularly to the use of "dope," which was a mixture of cocaine and other drugs and was generally used in conjunction with opium and alcohol.

Dr. A. B. Richardson stated that he felt that the indication for the immediate or gradual withdrawal of the drug should be the physical rather than the psychical condition of the patient. As a general rule, he felt that the best results would be obtained by the immediate withdrawal, as the sufferings of the patient would be terminated sooner and would be no greater than if drawn out over a longer period. Reference was made to a case in which hyoscine hydrobromide had been given hypodermically in the treatment of this condition and the patient pronounced cured. A few days afterward she was seized with an attack of acute pneumonia and was greatly depressed, and it was only by careful nursing and attention to her heart that a fatal result was averted. This remedy, it was felt, should be used with great caution, if at all, in these cases.

Dr. Herdmann referred to the practice in vogue among many medical students of taking morphine or some other drug to buoy them up during some strain, particularly at the time of examinations, which habit was accentuated after they entered upon active practice whenever they were confronted by more than ordinary exigencies. The tendency to use the drug in this manner, as well as the giving of it to patients, except in cases of urgent necessity, was remarked, and the necessity for the teachers in medical colleges to impress upon the minds of their classes the deteriorating effect of these methods was commented upon. The speaker felt that such preventive measures as this were of more value than remedial methods.

Dr. Burr, in closing, stated that he felt there were no cases in which the drug could not be safely withdrawn within two or three days, being reduced to a very small quantity in the interim. The importance of keeping the patient in utter ignorance of what he was taking was also noted.

A Plea for a Simpler Therapy in Nervous Diseases.—*Dr. JOSEPH COLLINS*, of New York, remarked on the excessive use of drugs in neurasthenic conditions, and expressed the belief that better results would be obtained by devoting more attention to hygienic and dietetic measures and employing less complex medication.

Dr. H. N. Moyer stated that he felt that many of the nervous conditions were the result of nutritional disturbance, and that he believed that external measures, such as hygienic and dietetic treatment, would be far more effectual in overcoming the disorder than drugs.

Dr. H. A. Tomlinson felt that whatever curative effects were exerted by the drugs in these cases would be accentuated by the carrying out of these external factors.

Dr. J. D. McCarthy referred to the fact that these methods had been practised by *Dr. S. Weir Mitchell* for many years with great success, and stated that he felt that the discovery of new drugs and the advances in therapeutics had impressed the physicians too much with the value of the latter.

Dr. Adele A. Cleason stated that in her experience the greatest difficulty had been with neurotic patients, some of whom had even become insane from the taking of large quantities of medicine.

Dr. Collins, in closing, stated that he had seen so many cases of locomotor ataxia which had been so treated with mercury and potassium iodide as to produce very deleterious results, that he had been prompted to write this paper. In regard to suggestion in neuropathic cases, he felt that no matter what form the suggestion assumed, provided it was used in a manner which benefited the patient, it was to be commended.

Three Cases of Involuntary Movements in Locomotor Ataxia were reported by *Dr. J. H. W. Rhein*, of Philadelphia, the first of which occurred in a widow, sixty-six years of age, in whom the disease had been present for nineteen years, and presented the typical choreiform movements. The second case was that of a widow aged fifty-five years, which presented all the usual symptoms of tabes, in addition to which there was an almost constant clonic

contraction of the toes of the left foot, except during sleep. The movements were sometimes slow and sometimes rapid, but always rhythmical, and the patient was unconscious of the condition until her attention was called to it. The third case, which occurred in a man aged fifty-seven years, showed, in addition to the ordinary symptoms, a fine rhythmical tremor resembling Parkinson's disease in the hands.

Dr. H. N. Moyer stated that he was inclined to look upon these cases as being cases of disseminated sclerosis of the posterior column, which thus presented the typical signs of locomotor ataxia. The speaker cited a case which had come under his observation which had been diagnosed at the time of its inception as ataxia, and upon the diagnosis of which several of the foremost physicians, both of this country and of Europe, differed, but which finally turned out to be disseminated sclerosis.

Dr. D. R. Brower suggested the possibility of the patient with choreiform movements having Huntington's chorea in association with the locomotor ataxia, and cited a case which had come under his observation in which alcoholic neuritis and tabes were associated in the same individual.

Dr. J. D. McCarthy stated that tabes beginning in the posterior columns would present the same symptoms as disseminated sclerosis commencing in that region. Attention was directed to the fact that, in many of these cases of disseminated sclerosis, the so-called cardinal symptoms were absent, and in several cases which had recently been examined pathologically by the speaker that condition existed.

Dr. F. Savary Pearce stated that he believed the choreiform movements which *Dr. Rhein* had described were probably cerebral in character, whether the disease was of a sclerotic or nutritional type.

Dr. A. J. Pressey stated that he felt that the symptoms described portrayed a primary condition of posterior sclerosis, although it might not be confined to that area at the present time, and cited a case which had come under his care, in which, at the beginning of the posterior spinal sclerosis, the individual had no tremor, but the patient ultimately developed the typical symptoms of disseminated sclerosis, and finally became mentally involved.

In closing, *Dr. Rhein* stated that he had not intended to convey the idea that they were cases of disseminated sclerosis and that they did not present the mental changes and characteristic tremor noticed in the latter condition, for in one case ataxia was present and the lateral columns were involved, which was a condition that was quite frequent in the last stages of locomotor ataxia.

Encephalic Localization, Especially with Reference to Osteoplastic Operations for Brain Tumors.—*Dr. CHARLES K. MILLS*, of Philadelphia, gave a diagrammatic demonstration of the different zones or areas into which the brain might be divided for this purpose, noting the clinical symptoms that would be produced by a tumor in either area. The fact was remarked that a tumor occurring in one of these areas was always confined to that zone and never extended into two or more of the divisions.

The Pathogenesis and Ætiology of Epilepsy.—*Dr. F. SAVARY PEARCE* took up the remote and immediate causes of epilepsy which he dwelt upon and

which he said were oftentimes at the present stage of medicine impossible to determine. Seeking for the fundamental causes constantly brought to light new factors, so that every case should be studied with extreme minuteness as to history of the affected individual. He mentioned, too, permissible division of epilepsy into (1) benign; (2) malignant, in which there was rapid deterioration of the nervous system. As to heredity, there could be no doubt of its existence in from fifty to seventy-five per cent. of cases; the remaining ones occurred from some accident usually in early life. There was a certain class of patients who for years had no stigmata whatever associated with their disease, epilepsy; such people had their "attacks," some irritability and nervousness afterwards, but a mental failure did not occur and no sort of cause could be found. Napoleon's case was undoubtedly of this type. This latter high type of nervous system, though indeed irritable, must contain some inherent biologic irritability of the central neurone. Since the great advances in electricity under the domain of which some investigators were willing to believe that nerve force came, it was accentuated to us that probably in the class of cases of epilepsy just referred to, the attack was precipitated by an overflow, or electric discharge. In passing, it might be stated, too, that in some interesting researches on "plant-electricity," reported in the *Revue Scientifique*, by A. D. Waller, he found that whenever a plant was wounded, a positive electric current was established between the wounded and the intact parts. Besides definite lesions, agenesis of the nervous system, etc., there was every proof that intestinal selfintoxication was causative of epileptic seizures. The studies of Fery on the urine and blood, together with some observations made by the writer and the finding of large quantities of indican in the urine associated with proper eliminative treatment, indicated the use of general hygienic measures, out-door life, absence of mental strain and continuous use for a year or eighteen months of fairly large doses of fluid extract of *Salanum carolinense* (a drachm four times a day). Cases were cited in support of this treatment.

Epilepsy: Its Psychopathology and Medico-legal Relations.—Dr. H. A. TOMLINSON, of St. Peter, Minnesota, referred to the fact of the small value of psychopathological observations which was principally due to the fact that the opportunity so seldom presented itself for the study of the brain in idiopathic epilepsy before the development of changes common to all forms of degeneration, the brains of such epileptics as had died from other disease and been examined showing no changes other than those found where death resulted from a similar condition and the epilepsy was not present. It was felt that in all these cases there was probably what might be called an epileptic constitution, or a defective development of the brain which rendered the cortical cells in the motor area abnormally unstable, so that any disturbance of the system was likely to cause an epileptic seizure. Psychic epilepsy was thought to be a sequence of the convulsive form of the disease rather than a distinct condition, probably being preceded in all cases by at least attacks of *petit mal*. Regarding the medicolegal relations of

the epileptic, the author stated that he believed that many of his abnormalities were superinduced by the fact of a defective condition of the child from infancy which had resulted in his being yielded to by his family, with a consequent progressive degeneration.

Epilepsy: Its Treatment, Hygienic, Medicinal and Surgical.—Dr. D. R. BROWER, of Chicago, Illinois, referred to the formation of the "epileptic habit" and stated that for the successful treatment it was necessary, not only to remove the cause of the disease, but to break up the habit, the greatest difficulty in that direction being to get the patient to persevere in a systematic course of treatment. The hygienic treatment should be disciplinary, pedagogic and dietetic and, for those cases of epilepsy where the instability was particularly marked, institutional treatment was recommended. The use of lavage, colon flushing, laxatives, baths, and massage, in order to increase the elimination, was recommended. If an aura was present it should be treated, and for this purpose amyl nitrite in various sized doses was thought to be of value. The bromides were thought to produce beneficial results in at least 80 per cent. of the cases, and, in conjunction therewith, was recommended the fluid extract of *adonis vernalis*, and acetanilide, phenacetin, antipyrine, and belladonna were thought to be of value in certain cases. As counterirritants to check the symptoms of bromism were recommended arsenic, strychnine and cauterization. In the syphilitic cases the iodides and mercury must be employed, and instances were noted in which nitroglycerin had produced favorable results. Surgical procedure was thought to be of but little value. For the relief of the paroxysm, inhalations of chloroform and hypodermic injections of hyosine hydrobromide were recommended.

Institutions for the Epileptic.—Dr. WILLIAM P. SPATLING, of Sonyea, N. Y., said that it was thought that the treatment of epileptics could be best carried out in institutions, and for this purpose it was deemed advisable to establish three classes of colonies: (1) colonies for the insane; (2) colonies for selected cases; (3) colonies for all cases except the insane. The majority of the patients that would be included under the second class were able to perform various sorts of labor, and this, as well as keeping their mind in a healthy occupied condition, considerably reduced the cost of maintenance of the colony.

Dr. J. D. McCarthy stated that, in his opinion, the explanation of the aetiology of epilepsy was purely theoretical, and he felt that the most accurate explanation was afforded by the toxæmic theory and the assumption of the instability of the cortical cell. The speaker believed that many of these cases, whether resulting from self intoxication or from alcoholic excess, were cases of a reflex type, the development of the convulsion being paroxysmal. A distinction was noted between these cases of pure epilepsy and the convulsions which were produced by a change in the organic condition of the cortex itself.

Dr. A. B. Richardson, in discussing the medicolegal aspect of epilepsy, divided the epileptics into three classes: (1) those cases in which the congenital defect showed itself in retarded and imperfect mental

development, and of which the epileptic attacks were only another expression; (2) those in which the occurrence of the epileptic attacks was the first evidence of the epileptic condition, which, commencing in early childhood, resulted in imperfect mental development, and (3) that class of cases in which the mental capacity was up to the average, and in which the disease occurred at a later period of life. The most difficult medicolegal cases were the so-called psychic equivalents, or periods of unconscious or subconscious cerebration without very evident implication of the muscular system.

Dr. F. Savary Pearce stated that, in the treatment of these cases of epilepsy, particular attention should be devoted to the condition of the intestinal tract, and rectal irrigation and lavage, and in cases of *astula in ano*, surgical treatment, were thought to be indicated. The diet should be carefully regulated, and predigested foods, proteids, and iron were thought to be of value, particularly in anemic patients. The reflex causes, such as deafness, the conditions of the eyes, etc., should be carefully considered, and mental and physical work regulated. The use of the bromides, but only while the patient was under the observation of the physician, venesection, eliminative measures, hydrotherapy, such as hot baths and hot packs, were recommended. As a cardiac stimulant, tincture of digitalis in conjunction with the bromides was recommended.

Dr. T. D. Crothers reported a case which he had treated by means of the electric-light bath, the light being supplied by about 100 sixteen-candle power lamps. Six months ago, when this patient first started this treatment, he was having a paroxysm every two or three weeks, but he had not had one since.

Dr. Frank P. Norbury reported several cases of nocturnal epilepsy, some of which had occurred in students and the others in men who were doing hard mental work. The attacks in the students usually occurred just prior to an examination when they were under unusual stress. These cases had been treated by the bromides and eliminative measures, and in none of them had there been noticeable mental deterioration, although the paroxysms still continued at irregular intervals.

Dr. James Hendrie Lloyd remarked upon the value of the colony method of treating epileptics, and stated that he felt that idleness acted as a marked factor in the accentuation of the epileptic paroxysms.

Dr. A. A. Stevens said that he felt that in these institutions for epileptics there should be constructed some kind of an elastic floor, so as to prevent injury to the patient from falling. Nocturnal epilepsy was thought to be the most difficult variety to treat. The most important factors in the treatment of these conditions were thought to be the elimination of the toxic processes and the controlling of the epileptic habit. Ammonium bromide was thought to be of value, and, as cardiac tonics, digitalis and strophanthus were recommended to be used in conjunction therewith.

Dr. H. A. Tomlinson stated that he did not think that there was such a condition as psychic epilepsy in the literal sense of the word, but that there was a condition which was characterized by an aberration from the normal manifestations of the individual.

which had no relation to his environment, and in which his consciousness was not involved.

Dr. William P. Spratling cited a case of psychical epilepsy which had come under his observation a short time previously, in which even an expert observer would have failed to detect any evidence of mental commotion, although the patient had a typical psychical epileptic seizure.

Dr. Charles K. Mills remarked that he believed epilepsy belonged to the great class of developmental diseases. In regard to the treatment he felt that the best results would be obtained by carrying out the colony farm idea. The mental and physical habits of the individual should be regulated. The bromides, in combination with other remedies, such as codeine, digitalis, strophanthus, and cactus, were thought to be of great value, and, as a nutrient, cod liver oil was mentioned.

Dr. J. M. Keniston stated that he had seen good results in evading the paroxysms obtained by compressing the carotids.

Dr. William H. Walling reported two cases which had been treated with galvanism, which had resulted in a freedom from attacks for two years.

Dr. John F. Ruby referred to the work of Dr. Oldmayer in his pathological investigations of epileptic cases, and expressed the opinion that efforts in this direction would be productive of good results.

Proceedings of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.

Seventeenth Annual Meeting, held in Washington, on April 29 and 30, 1902.

The President, Dr. JAMES C. WILSON, of Philadelphia, in the Chair.

(Continued from page 876.)

A Case of Hodgkin's Disease with Recurrent Fever.—Dr. H. F. VICKERY, of Boston, reported the case of a girl of nineteen with pseudo-leucæmia and chronic relapsing fever, under observation seventy-eight days, presenting febrile periods of from six to eight days, with apyretic intervals of about the same length. A gland was removed from the neck, but was not tuberculous; it was said to be a sarcoma. Tuberculin was injected, but there was no reaction. One point of general interest was that no new invasion of the glands was noticed during the progress of the case while under observation. There was no distinct evidence of tuberculosis. Musser, in reporting his cases a year ago, had shown that tuberculosis might be present with this condition of relapsing fever with Hodgkin's disease. It seemed that the fever was due to some unrecognized organism. An autopsy in this case had not been obtained.

Dr. M. ALLEN STARR, of New York, said he had been called in consultation to see a case which he had pronounced to be one of these cases of recurrent fever. The patient had had a tuberculous history and had had neuritis and several glands were re-

moved which proved to be tuberculous. Later she suffered with febrile attacks lasting from seven to ten days, the temperature ranging from 101° to 104° F. Then this was followed by an apyretic state lasting from ten to forty days. The diagnosis was perfectly clear of a recurrent nature, or Epstein's disease. Dr. Kinnicut had been called in to see the case.

Dr. KINNICUT said he had seen the case in February, and presented the blood-count. He believed it was an infective disease, and thought that the true organism had not been discovered.

Dr. MUSSER said there were forms of adenitis, tuberculous in origin, which were, as far as was known, associated with recurrent fever. Then there were cases of lymphadenoma associated with recurrent fever. The question of accurately determining whether it was tuberculous or not was most difficult. One examination would not be sufficient positively to set aside or accept tuberculosis. The speaker did not think the term pseudo-leucæmia was a satisfactory one.

Dr. OSLER said the only case they had had clinically that they regarded as Hodgkin's disease had turned out to be very characteristically lymphosarcoma. There were histologically perfectly ready means of testing between the lymphadenitis of tuberculosis, of true Hodgkin's disease, of lymphosarcoma, and of adenitis or leucæmia.

Splenic Anæmia and its Varieties.—Dr. WILLIAM OSLER, of Baltimore, had seen many cases last for twelve years; one, in particular, had lasted for twenty years, showing chronicity. In more than half of his cases the duration had been over seven years. The spleen had been very large, equalling almost in size the lithæmic spleen and remaining unchanged for a long number of years. There was absence of any enlargement of the lymph glands. The blood changes were those of chloro-anæmia. There were hæmorrhages from kidney and stomach. When we reflected that forty per cent. of the blood of the stomach was discharged in the splenic vein, we could understand what great fulness there was of the veins at the cardiac end of the stomach. There was pigmentation of the skin, which was sometimes mottled. In the late stages there was reduction or enlargement of the liver; jaundice sometimes occurred. To this group of cases had been given the name anæmia splenica. There had been at the Johns Hopkins Hospital operations in three cases. One operation was performed four years ago. In that case there were enlarged spleen, hæmorrhages, and marked pigmentation; the patient was still living. The two other patients died. The speaker said that the nature of this disease was unknown; whether it was due to the spleen was as yet unsettled. The only point in favor of the spleen having something to do with it was that a certain number of the patients had recovered after removal of the spleen. It was more probably a chronic malady of unknown ætiology in which the enlarged spleen was only a single expression. It was not so rare a malady as had been supposed. There had been reports of forty-two cases, which indicated that anæmia with enlarged spleen was by no means so uncommon as had been thought.

Dr. MUSSER reported two cases, one conforming to the history of splenic anæmia. The patient had been under observation for seven years, and had been in a number of hospitals. There was moderate anæmia with a very large spleen. The patient had a very grave diabetes. He remained in the University Hospital from July 27th until his death, which took place about the last of December. Shortly, within two months of his admission to the hospital, sugar disappeared from the urine. The spleen remained large and was always demonstrable to the students. In October the man began to cough, and a rapid tuberculosis developed, death ensuing from this infection. Sugar was absent from the urine for three months. The anæmia continued. There was an increase in the leucocytes two weeks before death; they were 6,000. Post-mortem examination showed moderate enlargement of the liver, with marked evidence of cirrhosis. There was no distinct proliferation of the bile ducts or chronic pancreatitis. The second case was similar to Dr. Osler's in that the patient was leucæmic. The patient died, but no post-mortem was allowed.

Dr. CABOT reported eight cases, following the type of Dr. Osler's. They occurred in adults and all had enlarged spleens. In no case were the lymph glands enlarged; all had anæmia, but there was no pigmentation of the skin. The speaker said he always found enlargement of the spleen in Armenians. He did not see any good reason for the term "splenic anæmia," and thought that it was a term which should not exist.

Dr. STENGEL reported a most striking case, that of a Frenchman, fifty years old, who had served in the French army in Africa and Mexico. So far as he knew, he had never had malarial disease. He had had dysentery, or, as he termed it, "the bloody flux." The liver was enlarged. The man was stunted in growth; his fingers were markedly clubbed, and he had a history of long-continued gastro-intestinal disorder, manifesting itself as a diarrhoea during the two years he was under the speaker's care. The blood count was very peculiar. There was no change in the differential count. The patient eventually died of exhaustion. At the autopsy there was a very large spleen, showing increase of trabecular tissue, rather firm substance, peculiar hæmorrhages, almost microscopic, with deposits of pigment. The liver was found smaller than normal. There was history of jaundice before he came under observation. No other lesions were found.

Dr. M. ALLEN STARR said: "We have with us to-day Dr. Stiles, of the Department of Agriculture, who has made a special study of splenic enlargement arising from intestinal parasites."

Dr. ALFRED STILES said: "In cattle we frequently find a tremendously enlarged spleen in anæmic conditions. I have found this in outbreaks of the disease in the cattle of Texas. Post-mortem examinations were performed; the temperature was 105° and higher. In the outbreak where we had extreme anæmia in cattle and a very much enlarged spleen, I traced the cause of the outbreak to a strongyl infection of the parasites. The parasites were so thickly set in the walls of the stomach that I should have thought I had a case of trichinosis before me. There is in man the strongyl in the

stomach. One case has been reported in Japan and one in Egypt. I would suggest the advisability of looking for intestinal affections in obscure cases of anemia. I am convinced that we have a great deal of anemia in this country which is due directly to the strongyl." The speaker then showed the parasites that infect man in this country, Puerto Rico, Italy, Japan, and Egypt, and those infecting cattle.

Dr. CHARLES CAREY, of Buffalo, reported two cases.

Dr. WILLIAM H. THOMPSON, of New York, reported four cases as having occurred in Roosevelt Hospital.

Dr. OSLER said that he did not father the term splenic anemia—far from it—and had only used it because there was nothing else at hand.

A Case of Albumosuria Associated with Pernicious Anæmia.—Dr. H. F. VICKERY, of Boston, reported the case of a man, aged forty-seven, with albumosuria and the general course of a progressive pernicious anemia, but only two megaloblasts to seventeen normoblasts. There were no symptoms or external evidence of bone disease. An x-ray examination was negative. There was a rather sudden termination by syncope. A post-mortem was not obtained. There was no change in the bones, nothing but the albumosuria. The striking thing was the condition of the blood, which suggested a case of typical anemia.

Dr. MUSSER related a case of anemia in which albumosuria was found. At the autopsy there were negative findings in connection with the bones. The point of interest was the extraordinary degeneration of the intercostal muscles.

Acute Hæmorrhagic Polymyositis.—Dr. W. S. THAYER, of Baltimore, reported a case in which there were repeated attacks of edema and hæmorrhage into different muscles. The case corresponded apparently to those classified by Lorenz as polymyositis hæmorrhagica (angiomyositis, Lepine). The author went over the physical signs, prognosis, recovery, and death in certain cases. He reported a rare case in which the patient recovered.

A Report of the Cases of Thermic Fever Treated at the Pennsylvania Hospital in the Summer of 1901 by Dr. M. J. LEWIS and Dr. F. A. PACKARD, of Philadelphia, was read. There were one thousand patients treated. The greater number of patients were received from 11 a. m. to 5 p. m. The most severe cases were found in males. They ranged in age from seven to seventy years, but the average age was about thirty-seven. Six were negroes.

Dr. FRANK BILLINGS, of Chicago, related the case of a farmer who was struck down on the street, where he remained for some time undiscovered. He was then brought to the hospital, placed in a tub, and rubbed with ice. His temperature sank rather slowly down to 100°. He was placed in bed with blankets. His temperature continued to sink and he then collapsed. Hot applications were made, with the result of raising the temperature to 110°. He ultimately recovered. His cornea suffered, however, because he was allowed to lie with the eye exposed undiscovered.

Dr. MUSSER reported six cases at the Presbyterian Hospital; two patients recovered. Intravenous salt solution was used.

Dr. PACKARD in closing recommended normal salt solution.

A Clinical and Experimental Investigation of the Value of Gelatin as a Hemostatic.—Dr. A. STENGEL and Dr. D. L. ESALL, of Philadelphia, presented clinical and experimental studies of gelatin as a hemostatic, also reports of cases of hæmorrhage in typhoid fever, tuberculosis of the lungs, gastric ulcer, etc., treated with injections of gelatin. Reference was made to the direct effects of gelatin on the blood and its agglutinating action, as well as to the effect on coagulation, the relations of its calcium contents, its acidity, and its physical properties on agglutination and coagulation. The authors had used injections of gelatin as a food in typhoid fever patients and one afflicted with phthisis, a patient with hæmorrhage, also in cases of gastric ulcer. The patients suffering with typhoid were in a grave state. The authors did not believe that the acidity was the active factor, but it might be a contributing factor. The viscosity had some bearing. To their minds sodium chloride, calcium chloride, and bichloride of mercury did not produce any effect. They pointed out that the use of gelatin was not wholly free from danger.

Dr. M. H. FUSSELL had injected gelatin under the skin of a patient with typhoid fever hæmorrhages, and the hæmorrhages stopped. He thought a different preparation would have to be made, however, owing to the slough left at the point of injection.

Dr. GEORGE L. PEABODY, of New York, said that he had found a one-per-cent. solution, if not sterilized carefully, produce redness, induration, and pain. If the solution was carefully sterilized, no such local manifestations would ensue.

Dr. BILLINGS had returned to chloride of calcium and normal salt solution on account of pain produced by the solution, the patient complaining not only of the pain, but of a soreness remaining at the point of contact.

Dr. TYSON had used gelatin in the hæmorrhages of typhoid fever, but thought it too early to draw any conclusions as to its efficiency.

Dr. STENGEL said that he had not had any experience with the use of chloride of calcium hypodermically.

The Evening Session was devoted to exhibitions with the projectoscope.

A lantern slide demonstration was made by Dr. FRANK BILLINGS and Dr. J. L. MILLER, of Chicago, of the presence of *Anguillula aceti* in the urine of two patients mistaken for *Strongyloides intestinalis*.

Dr. SIMON FLEXNER, of Philadelphia, demonstrated the hæmolymp glands for Dr. A. S. Warthin, of Ann Arbor. Dr. CHARLES BOND, of Richmond, Ind., demonstrated specimens of mitoses in cells in the circulating blood for Dr. George Dock, of Ann Arbor.

The Prognosis of Pleurisy with Effusion.—Dr. R. C. CABOT, of Boston, read a paper in which he said that out of 300 cases he had started to investigate, he had obtained a knowledge of 154, pretty evenly distributed from 1880 down to the present time. Eighty of the subjects remained in

sound health, so far as their own feelings and physical examination showed, for twenty-one years. He then pointed to the interesting table which he had prepared and hung up:

Serous Pleurisy, 154 Cases.

	Cases.
Sound health for from 12 to 21 years...	21
Sound health for from 10 to 15 years...	23
Sound health for from 5 to 10 years...	36
—	—
Total over 5 years.....	80
Sound at the end of 4 years.....	14
Sound at the end of 3 years.....	7
Sound at the end of 2 years.....	16
—	—
Total under 5 years.....	37
Contracted tuberculosis:	
Appearing 16 years after pleurisy.....	1
Appearing 10 to 15 years after pleurisy...	4
Appearing 5 to 10 years after pleurisy....	8
Appearing 1 to 5 years after pleurisy.....	10
—	—
Died of other diseases.....	14
Total cases of tuberculosis.....	23
—	—
Total.....	154
Eighty per cent. well five years after the pleurisy.	

Dr. HARRIS, of England, said that the paper had interested him. Practice in England was based on statistics which were much more unfavorable than these. These mixed cases of pleurisy occurring at all ages, it was difficult to separate those which were tuberculous from those which are not, but in England the effect of pleurisy was certainly regarded more seriously by the large insurance companies. The large offices would not accept any person that had had pleurisy within a period of five years. The question was: Was not the rule too strict and too much in favor of the insurance companies? It should make us considerably more careful with our cases of pleurisy.

Dr. JACOB said that one fact that showed that these figures were correct was that when one examined a man carefully all over, one would find remnants of an old pleurisy; there was dullness on almost the whole side of the chest, which could be explained by nothing else than pleurisy. The prognosis in pleurisy should not be regarded as so favorable as it generally was.

Dr. VAUGHAN said that some fifteen or twenty years ago Fleming had laid down the law that pleurisy meant tuberculosis, but we knew that was not true. It seemed to him that Dr. Cabot's figures were a little too rosy. "Some of these cases date back twenty-one years. There were 300 cases, and Dr. Cabot is enabled to find 152 cases. Is it to be presumed that the 148 that you didn't find are mostly all dead? What did they die of?"

Dr. CABOT: "I couldn't answer that."

A Clinical Study of Cases of Empyema, based on the Bacteriological Findings in the Exudate.—Dr. C. F. WITTINGTON, of Boston, had analyzed a considerable number of cases of empyema, clas-

sified according to their bacteriological character with reference to their cause, clinical course, and outcome. Tuberculosis was known to have been present in twenty cases. Operations were performed on 115 cases. Of the patients who were not operated upon ten died and ten recovered. The mortality in the hospital was forty, which was twenty-nine per cent.

Dr. WELCH wished to know whether the empyema was due to the streptococcus or the *Bacillus lanceolatus*. It was well known that the latter might grow out and be encapsulated and have no virulence when brought in contact with the laboratory animals.

Dr. BILLINGS said that it was now possible in cases of streptococcus-infection to determine the capsule, which was the important mark of distinction.

Dr. KOPLIK said that in eight cases of empyema in children examined in the last year and a half he had found most of them, ninety per cent., in children with a metapneumonic condition.

Dr. OSLER said that there had been a great increase in the number of cases of empyema following pneumonia, and Dr. Haywright attributed it to influenza.

(To be concluded.)

Miscellany.

Report of a New Case of Syphilitic Tumor of the Stomach.—Dr. MAX EINHORN, at the Saratoga meeting of the American Medical Association reported a new case of syphilitic tumor of the stomach, in addition to some published about two years ago. He divides syphilis of the stomach into three distinct groups: (1.) Gastric ulcer of syphilitic origin. (2.) Syphilitic tumor of the stomach. (3.) Syphilitic stenosis of the pylorus. This new case belongs to the second group. Several competent physicians had made the diagnosis of cancer and had advised operation. Einhorn at first also entertained a similar view. On further reflection, however, there were several features which spoke against cancer of stomach, viz., the long duration (seven years) of the disease, absence of considerable loss of flesh, presence of free HCl, absence of isochromia, and the history of a distinct syphilitic infection. The patient rapidly improved under antisyphilitic treatment (sodium iodide and mercury inunctions) and the tumor entirely disappeared in six weeks. While the above symptoms (gastric disturbance of long duration, etc.), if all present, may justify the surmise of a luetic nature in a palpable growth of the stomach, still a positive diagnosis can be made only under the following conditions: 1. Antisyphilitic treatment improves the subjective symptoms. 2. It also effects a gradual disappearance of the growth, so that ultimately it cannot be discovered by palpation.

The Treatment of Acetabular Disease of the Hip Joint.—Dr. E. H. BRADFORD, in a paper prepared for reading before the Saratoga meeting of the American Medical Association, said that

where hip disease was chiefly located in bones forming the acetabulum with comparatively slight invasion of the head, the treatment manifestly offered special difficulties. The sinuses often discharged inside the pelvis, and complete drainage was not provided. Amputation of the hip joint furnished perfect drainage, but was manifestly inapplicable to any but desperate cases. The ordinary excision of the head of the femur did not give satisfactory drainage, as, owing to the subsequent muscular contraction, the remaining portion of the femur, by plugging the acetabulum, interfered with drainage and acted by friction as a cause of irritation, preventing the natural healing process. Excision of the acetabulum had been attempted, but the operation was a severe one and the mortality statistics were high.

It was manifestly necessary to promote drainage and to allow healing by the prevention of the irritation caused by the friction of the diseased bony surfaces. In the natural cure of hip-disease, this was accomplished. A dislocation took place, relieving the pressure of the inflamed bony surfaces, pressed together by the spasm of irritated muscles, and pathological specimens showed many instances of healed acetabula after subluxation of the head.

The indications for drainage and prevention of friction of the inflamed surfaces were clear and could be met, in cases of acetabular disease, by cutting down upon the joint, dislocating the joint upward, and inserting into the acetabulum a large, in-collapsible drainage tube of glass, or preferably of celluloid, through which applications to the acetabulum—peroxide, carbolic, etc.—could be made, as to an ulcerated os. The dislocated limb could be temporarily secured in a plaster-of-Paris bandage, and later left free. The patient was allowed to walk about on crutches. Correction by subtrochanteric osteotomy could be performed after the acetabulum had become healed. The operation had been done with success in three cases. The technics of the operation was described and cases reported.

Appendicitis.—Dr. B. Merrill Ricketts, in a paper read recently before the Ohio State Pædiatric Society, at Toledo, said that the removal of the appendix was designed and accomplished in five of the seven patients whose cases were reported from January 4, 1885, to March 3, 1889, with the recovery of all as well as of the two in whom the appendix was not removed. Dr. Morton is given the credit of having first removed the appendix. The case of a cowboy was reported by the author, in which the patient himself opened an appendicular abscess with a dagger, recovery ensuing.

Appendiceal surgery was given credit for having greatly influenced and given encouragement to surgeons to operate for typhoid perforation, which had now become an established surgical procedure.

Removal of the appendix through a lumbar incision could never become ideal.

Purulent accumulations were divided into four classes: 1. Intra-appendicular, 2. Circum-appendicular, 3. General peritoneal, 4. Retrocæcal.

In order of supposed frequency: Drainage in the first condition was not to be considered; removal of the appendix and closure of the belly wall being all that was necessary. The second condition was

more complicated and diversified in character. It was highly probable that the cases of this class requiring drainage were limited to those in which there was a perforation of the gut or the appendix itself, or both, especially the former, and the latter, too, if not removed when perforated. There were a certain number of cases of rupture of the appendix in which closure without drainage would be appropriate. This was possibly true of direct perforation into the intestinal cavity as well.

The third class, (general) might be the result of any of the other three types, with or without perforation; usually perforation of the appendix, or gut, or both, was present. It was this class of cases which frequently terminated fatally. Seventy per cent. of the author's deaths had occurred in this class of cases, while the inflammatory process might be general, the pus might be localized or general. The fourth class included all retroperitoneal abscesses, and was less frequent than any of the three preceding types.

There might or might not be perforation of the cæcum or appendix or both.

Rupture of abscess might be into gut, general peritoneal cavity, pleural cavity, lung, or all of them, or it might rupture externally at almost any part of the body, from the shoulder to the knee, or into vagina or rectum. This was the most difficult condition to drain. Pus was usually very offensive and must be subjected to constant drainage. Thirty per cent. of the writer's deaths in appendicectomies had in this class no doubt been due to imperfect drainage. A more perfect system of drainage in this class is desired. The so-called flank drainage appeared ideal, but as yet no perfect method had been inaugurated—one that would give perfect and lasting drainage—things that are absolutely necessary for a successful termination of such cases.

Drainage tubes, gauze, and the various substances for drainage, should be discontinued in a great majority of pus cases, if not in all. They were foreign bodies and were known to be more or less objectionable.

Phagocytosis was the probable ground on which to base any hope for the discontinuance of the use of tubes, gauze, and the various substances so frequently used. If this theory was correct, and the evidence was rapidly accumulating to substantiate it, the fact should become more generally known and the method of its application better understood. Pus in all cases should not be subjected to phagocytes, neither should pus in all cases be removed by drainage.

If opening the abdominal cavity, together with removal of fluid and immediate closure of that cavity in tuberculous peritonitis, was all that was necessary to cure it, why should not the peritonæum (being nothing more or less than a lymphatic gland) be able to absorb and destroy bacteria, as suggested by Metchnikoff? To phagocytosis we must look for a more rational method of dealing with certain types of pus within the peritoneal cavity.

Robinson, who was frequently quoted, believed that fluids entered the interstitial spaces, and, secondly, the blood vessels, and that the chief factors were osmosis, filtration, stomata, and inhibition, and that the lymphatic channels were the real drains or depleters of the interstitial spaces, the sewers.

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Original Communications.

MY SUMMER IN WOOD'S HOLE.

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This paper has come about in an unusual way. The other day in conversation with a friend we were mutually bemoaning the lack of material on which we could draw for scientific papers for this and other medical societies during the coming winter. I said that I had practically wasted the summer, so far as the acquisition of scientific matter directly bearing on medicine was concerned. My friend suggested that a paper on my experiences at Wood's Hole, where I spent the summer, might not prove uninteresting and might serve to open a new channel for thought, even though it might not contribute any actual scientific facts to the medical profession. With this bow of apology I greet you and hope that I may be able in the following paper to give you some idea of the scientific atmosphere that belongs to this ideal school of research and give you a glimpse of the fields of thought and knowledge that are opening up under the patient investigations of the men who work there.

Wood's Hole is at the extreme elbow of Cape Cod, very near the point where the cape joins the mainland, located on the south coast of the peninsula, and separated from the nearest one of a chain of islands by a whirling tide.

The winter inhabitants of the place number about two hundred souls, mostly of old New England stock, whalers and fishermen, with here and there a recently invading German or Italian immigrant. The townsman creeps into his house in the winter, avoiding outdoor life as much as possible and keeping away from contact with the wind-swept peninsula. In the summer he comes joyously forth to meet the invaders from the cities, who begin to arrive about the Fourth of July. The very characteristics which make Wood's Hole an undesirable winter place tend to increase its attractiveness during the summer as a resort. The tongue of land jutting out into the ocean is exposed to the cool breezes of the adjacent waters, and in this, a hot and most debilitating summer, the extremes of temperature

were 80° during the two hottest days, and each night was so cool that a blanket was comfortable.

The summer contingent is of two kinds, the cottagers and the scientists. The cottager is usually the possessor of a considerable degree of wealth, while the scientific contingent is as poor as the proverbial church mouse, but what he lacks in dollars he makes up in numbers. Between those living in the cottages and those who go to work in the laboratory there is a strong contrast in interest. It is a pity that at Wood's Hole, as in many other places, there seems to be such an absolute divorce between wealth and brains. It is in most cases certain that poverty and science go hand in hand, and it is probably also true that many of the wealthy class fail utterly to appreciate the men who work all their lives in trying to wrest from Nature her secrets in their silent, patient, enthusiastic way. A few of the cottagers there have a proper appreciation of scientific methods, but most of them see fit to interfere with or to look with disfavor upon the botanist, zoologist, or entomologist who ventures on unoccupied grounds belonging to them. This is most unfortunate, for it indicates a spirit of antagonism that sooner or later may debar the botanist and naturalist from his harmless, silent studies in woods and fields in the vicinity and compel him to gain what knowledge he can of birds and flowers and insects from such observations as he can make on the public highways.

Many of the representative zoologists of America visit the place partly for pleasure and partly to meet and talk with other scientists, to keep in touch with the trend of latest investigative thought.

Of the students themselves there is something to say. Both sexes are represented, and the buxom, rosy-cheeked female students are found as well as the typical scholar, bowed and spectacled, the college girl and the college man mingling in the most beautiful social democracy, devoting their energies to congenial pursuits in the search for scientific truth. One of the great attractions of Wood's Hole is the spirit of democracy that pervades the entire institution. All of the time, however, is not given to work, and after the working hours are over there are swimming, boating, most delightful walks, and excursions to form a pleasant pastime. The evenings are spent in one of the two libraries or in various local gatherings, where the serious affairs

of life are forgotten in the exercise of elocution, singing, conversation, the making of fudge, and other such occupations. However, while some time is devoted to recreation, it is astonishing how much work is accomplished during the time devoted to the laboratory and to study.

On arriving at Wood's Hole one is struck with the lack of hotel accommodations in the village. The student searching for a place to room finds among the people a disposition to be fair in regard to the rental of rooms, and yet they charge a price which is sufficiently large per week so that at the termination of the laboratory session enough will have been collected from the room rent to pay the annual rental of the home. This lucrative business meets with the approbation of almost all the villagers, and rooms are plentiful. Of course the most desirable rooms in the best localities are earliest chosen. The modest sum of three or four dollars a week secures a large room, comfortably though simply furnished, with sufficient lamp oil, bed linen, towels, and water for the most exacting. Occasionally the summer boarders are taken into the bosom of the family and enjoy the comforts of home, but usually every avail-

wholesome, substantial, and sufficient. It is not epicurean, particularly toothsome, or elaborate. But it is so much better than board furnished at the hotels in the neighboring towns that those who have attempted other fare gladly return to the mess.

I have never before found in America a colony of students so mutually agreeable and so interested in a common work. I have never seen a colony of students anywhere else where problems were so freely discussed for the benefit of those who might wish to work along similar lines of investigation or where sympathy and assistance were so generously dispensed to fellow workers. Of course there is some reticence among those working on absolutely original lines, but that is to be expected and is necessary to preserve the original character of the particular piece of work. This laboratory seems to be the Mecca to which all students flock during the summer months, and not only students but representative men of science are to be found there, some at regular research work and some coming only to deliver a course of lectures. The scope of these lectures varies from the merely popular to the purely scientific and technical. Mention must be made of the very interesting lectures on the protozoa delivered by Professor Calkins, of Columbia University, this year. These lectures present the theme in a most attractive, fascinating way. The great familiarity of Dr. Calkins with his subject, an excellent delivery, and his personality and enthusiasm added much to the popularity of the invertebrate course. Professor Parker, of Harvard, delivered three very interesting and instructive lectures on the sense organs of the lobster. A comparison of the manner in which these sense organs work in the lower animals and in man gives to the physician much material for thought.

Many lectures are given in the evening and are attended by the students and occasionally by many of the villagers and cottagers when popular subjects are being discussed. The course this summer was very diverse and all lectures were generally well illustrated by lantern slides. The mere attendance on these lectures would have a tendency to extend one's observation and to improve one's literary style in making his own contributions to the lecture hall. The regular courses in zoology, botany, physiology, and embryology would be the work of particular interest to the physician. Of these, the physiology and the embryology appeal most directly to the medical man, and there is a great deal that might be applied directly to clinical work in the interesting physiological lectures of Professor Loeb and Professor True. The work of Professor Loeb was particularly interesting to the physician. This eminent physiologist believes that the tendency of all scientific investigation in medical lines should bring forth



The Laboratory.

able room is rented and the family live in such unrentable space as small rooms, cupboards, etc., so that association with them is not an unalloyed joy, and the student usually prefers to limit his acquaintance to the members of the laboratory mess.

The laboratory mess is one of the features of the place. Gathered under an enormous barnlike structure three times a day, the students meet to refresh the inner man, afterward lounging about the yard surrounding the building or going back to the laboratory to work. Not much can be said in favor of the quality of the board furnished at the mess, neither can anything be said against it. It is plain,

practical results in clinical work, and most of his writings show that he has not lost sight of this fact. At the end of his most interesting articles on the effects of osmotic pressure he draws a number of practical conclusions. He is such a man as most of us would appreciate, and his startling originality, his persistence, his thorough good sense endear him to every physician who enjoys the privilege of attending his lectures and repeating his experiments. It is most useful to appreciate the effects of light upon the human cell after working out the fascinating experiments of Professor Loeb upon the influence of light on the lower forms of life. Certain forms of larvæ so obey the attraction of light that they will leave food in order to obtain light. They will starve to death rather than be deprived of light. Professor Loeb has also shown that osmotic pressure is one of the constant and potent factors in physiology. In regard to generation, he has proved that segmentation of the ovum is possible without the approach of any male element. He has shown that by simple agitation and osmotic pressure it is possible to stimulate segmentation to the sixteen-cell and thirty-two cell stages of embryonic development, also that by chemical pressure, without fertilization, he is able to develop a free swimming animal from the ovum of the sea urchin. He believes that his failure to produce an entire adult animal is only due to ignorance of the laws of chemical pressure.

The physician will find a very instructive course in plant physiology; this was given last year by Professor True, of Harvard University. It may seem unusual that the study of plant physiology should be of value to the physician, but as the subject was presented by Dr. True it proved of the greatest value to me. The course was constructed upon the plan of human physiology, and comparisons with human physiology were carefully developed and the differences between the same force working in the animal and plant prominently demonstrated. The particular value of this course was in the study of plant protoplasm. The protoplasm of plants and animals seems to be about the same chemically and physiologically. The results of its protoplasmic activity are conspicuously different, although the laws controlling the cell protoplasm of both plants and animals are the same. The study of forms of life which neither the botanist nor the zoologist could definitely classify as plants or animals was particularly interesting. On this subject Professor True was fascinating. He pointed out the function of protoplasm and developed the influences of environment on its growth, nutrition, and reproduction. He elaborated the problems of cell secretion, excretion, and death. These subjects were presented in a most attractive way and furnished

much matter for thought as the botanist compared them with similar conditions of the animal cell. The lower forms of plant life or the lower forms of animal life, as we please to call them, are particularly adapted for the study of the influence of light, heat, electricity, osmotic pressure, and the effects of gravitation, and the power to overcome resistance. And what is true of the lower forms of the animal and plant containing protoplasm as to its integral part is equally true of the action of each cell which forms a part of the mucous membrane of the respiratory tract or any other compound tissue of the human animal.

Dr. Davis and Dr. Shaw also give an interesting series of lectures on the fungi and algæ. The study of these monads and seaweeds forms an interesting addendum to the other courses, even if one only attends the public lectures without taking up the work of the regular course.

The zoology course conducted by Professor Drew, of Maine University, with able assistants from Columbia and Yale, is interesting if the physician is desirous of studying the unity of structure, the apparent unity of origin, or of developing the theory of evolution. Hereditary variations of species and the idea of evolution are not forgotten in these courses. I might state that the policy of the school in regard to the Darwinian idea is non-committal; the teaching is broad and the student may draw his own conclusions.

The course in zoology embraces mostly the study of the marine invertebrates, but much information of value may be received by the physician student taking this course. It is apt to make him think of



A Lecture in Zoology.

unity of structure and of the common origin of animals and to widen his views of life and creation. The study of the unicellular organisms is particu-

larly interesting to the medical man, and, as these are rather fully studied and extra lectures are given by different men upon the classification, reproduction, etc., of these creatures, the student finds a good deal of material at his disposal. In the classes of embryology and of comparative physiology the most practical work for the physician is done. The embryological course, besides treating of the laboratory technique necessary to study structures and development of forms of life, fertilization of eggs, etc., takes up a comparative study of embryology, using as material the simplest forms of sea animals, which are easily obtained for experimental purposes. Here it is that the original work at Wood's Hole has its greatest scope. The embryology of the leech has been a matter of close study by Professor Whitman. The *Crepidula* egg has been made famous in the hands of Professor Conkling, and the egg of the sea minnow has received considerable attention from Dr. Lilly and Dr. Summer. The course in embryology is necessary for one wishing to study any particular part of the anatomy from a developmental standpoint, and could be made very practical in studying the common source or origin of any special tissue or structure. Such a study would be beneficial to the practising physician and surgeon and for the study of surgical anatomy. The physiology course conducted by Professor Loeb, assisted by Professor Clark and Dr. Matthews, is, *par excellence*, the course of interest



The Schooner for Shallow Water Dredging.

to the physician. Frequent lectures and seminars are given in the physiology course, but the laboratory work is never neglected, and the student is constantly at work experimenting with living material upon the problems suggested in the lectures. The work done here in embryology has done much to dispel some of the fairy tales that clung for so long about the subject of development and fertiliza-

tion, and the experiments seem to point to the solution of the problem along the lines either of mechanical agitation or of differences in osmotic tension and pressure. If the physician were to take the physiological course alone, he would come away from this ideal summer resort much broader in experience and in thought.

Wood's Hole cannot be compared as a summer resort with any of the great seaside resorts of the



The Fish Hawk, the Government Boat for Deep Sea Dredging.

country, but as a place where a busy man can take his brief vacation it is scarcely short of ideal. It is two hours from Boston and ten hours from New York. All the outdoor recreations in the way of rowing, walking, sailing, swimming, driving, and golf are at his command, and he may also spend some of his time in the recreation of a different occupation, namely, attending lectures or working in one or more of the courses at the institute. One cannot feel that a summer spent here is wasted even if the acquired material cannot be worked up into shape and presented as something new to the medical world.

It is but natural that you should ask, "What benefit will all this be to a practising physician, and how will the reviewed or acquired knowledge influence his clinical work?" I answer—The mind of the physician has been the recipient of new thoughts; if zoology or botany or kindred subjects have been studied during college years, the chances are that not only is the subject matter lost but the partially formulated companion thoughts which always go hand in hand with the book matter are entirely obliterated. A review of any branch of biology brings conspicuously forward the fact that what we deal with in our profession are the many problems of complicated animal life, and that much of our work consists in worthless literary contributions written on prescription pads and read by

the corner druggist. We are reminded that we are administering to a disordered, very complex cellular structure a quantity of poisonous material. It may be truly said that we are still mostly in ignorance of the finer and ultimate effects of remedial agents. Another subject which the physician may think about as a result of work in the Biological Laboratory is the wonderful reparative power of Nature. It is here that he sees cells working at their best. Here he sees reproduction at its highest point. Whole organs and entire series of organs, wonderfully complicated, organs of alimentation and circulation as well as organs of sight and touch, are completely regenerated in these lower forms of life. Grafting of animal cells also presents interesting studies. The half of one animal is grafted to the half of another. A work of this sort was carried on in the hydroids by splitting individuals longitudinally and horizontally and grafting, thus making a single individual, each half of which was composed of the halves of two others. In the lower forms of life, the study of protoplasm and the laws which control its action and reaction, the physician finds much food for reflection. In the simplest cellular structure he finds complicated functions performed in the same satisfactory, though in an extremely simple, way. It is interesting to work from the simplest form of cell life, where one finds all the functions of the higher cellular structural types, to the higher forms themselves. One studies a part of one cell, next accumulations of cells, and finally a colony of many different kinds of cells acting as organs, simple or compound. From the extremely primitive to the more complex, all are efficient in function.

Besides matters of practical application which the physician may use in his daily experience, his horizon of thought has been widened by the understanding of a few facts which, perhaps, he may never have studied before. The many points of similarity between animals and plants also bring up the study of their dissimilarities. The differences seem less and the plant and the animal are drawn together more closely in point of origin when one has gone over the ground of the subject as pursued at Wood's Hole. The fascinating study of the gradual development of organs and specialization of function is perhaps nowhere so well presented as in the courses given at this place. It is most interesting to study a single-celled organism and to see different parts of its protoplasmic interior subserve different functions, and to gradually study the forms of life from these simplest ones to the higher and see the organism develop, its special cell activities resulting in differences of function, its adaptation of these functions, and in the still higher types, the more complex arrangement of the cells which

result in the higher development of animal life. Environment is one of the most impressive forces elaborated in the zoological course, particularly the effects of environment in the development of mechanism and organs constructed for seizing, killing, and digesting prey. Problems in generation are also of interest, and the question of whether the original stimulus which produces segmentation may not be purely accidental is of great importance to the physician. All work need not be done with the microscope or in the laboratory. There is abundant opportunity for botanizing and being out of doors collecting specimens and studying the characteristics of plants and insects and birds in their natural home. These studies lead the indoor man out of doors and recreate the mind and body of the student of morphological construction and microscopical technique. The physician having spent a summer in this manner has been the recipient of new and interesting thoughts, his mind has been broadened, old and partially forgotten subjects have been unearthed and brightened and admired as one wonders at a long buried antique, and, on the whole, he has received a new and healthy stimulus, an awakening of his dormant scientific spirit which will surely make itself felt in whatever future work he may attempt.

TENOTOMY AND MYOTOMY, WITH REPORTS OF EIGHT ILLUSTRATIVE CASES.

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Andry, who has been generally regarded as the founder of orthopædic surgery, in 1741 originated the name tenotomy, although the operation had been performed for wry-neck by Isacius Minius, a Dutch surgeon, in 1685. Lorenz, of Frankfort, in 1782 divided the tendo Achillis for the relief of club-foot for the first time. *Subcutaneous* tenotomy was the result of the energy and genius of Stromeier, of Hanover, who performed his first operation in 1831 and published accounts of his first six cases in 1834. The value of this means of correcting deformity was brought to the attention of the surgeons of the United States in 1834 by the work of Rogers, Dickson, and especially Detmold (1). Since that time section of muscles and tendons has become one of the most frequent of operations, and it is now employed in a large and ever-increasing number of conditions. The experiments of Hunter, Sir Astley Cooper, Adams, and Tubby showed the excellent repair following separation of the cut ends of the tendon and

placed the operation on a firm basis. The advent of aseptic surgery removed the danger of the procedure, and clinical experience has demonstrated its usefulness and the good results regularly obtained. It is the operation performed most often by orthopaedic surgeons, and it is invaluable to them in their work.

After division of a tendon separation of the two portions follows, part of the sheath of the tendon forming a connecting link. A variable amount of blood is poured into the intervening space. The sheath of the tendon becomes vascular and furnishes cells, called fibroblasts, which replace the blood clot and form a splice of connective tissue closely simulating true tendon. This new tissue changes its character gradually until it can hardly be distinguished from the old. The fibrous fasciculi are more irregular and the appearance is more like that of scar tissue (2). The tendon proper does not participate in the repair. After section of muscle or fascia, cicatricial tissue only results. "There is no evidence to demonstrate that tenotomy, when properly performed, exerts an unfavorable influence upon the muscle. If treatment is carried out with ordinary care and skill on a healthy subject, a perfect, useful muscle of the normal length is obtained" (3). The one unfavorable comment concerning the operation which the writer has seen occurs in Bradford and Lovett, who say: "Tenotomy of the extensors and flexors of the fingers has, in a few instances, led to loss of mobility from non-union of the tendons" (4).

Subcutaneous tenotomy has of late years been superseded by the open operation. If careful asepsis is observed, no dangers result from a free incision, which allows the operator to divide accurately all resisting structures—fascia, muscles, tendons, and ligaments—and to avoid important vessels, nerves, and the tendon sheath so necessary for reparative purposes. There is no advantage in employing the subcutaneous method except in the case of the tendo Achillis (5), in early types of club-foot and also in rare instances where it is unessential to divide the entire muscle (see Case I). For example, Keen stated (6) in 1895: "I have entirely given up for several years any attempt to treat such cases by subcutaneous division. Modern surgery enables us to effect the widest division of such parts by open wounds with no resulting evils."

An inch-and-a-half incision is made, usually parallel to the median line of the limb, and the tendons, muscles, and fasciæ are caught up by a blunt hook and rapidly divided with a narrow, short-bladed tenotomy knife. In operations upon the extremities an Esmarch rubber bandage may be wound above the site of incision to obtain a bloodless field. No ligatures are used, but the skin, if not sharing in the contraction, is tightly sutured with catgut and covered with a sterile dressing. The limb is im-

mediately placed (7) in such a position that the tendon will be lengthened to the desired extent, and a plaster-of-Paris bandage applied. One or two weeks are allowed to elapse before dressing, and after three weeks daily passive and active motion and massage are instituted. Apparatus may be needed temporarily, and in many cases faradaic electricity for fifteen minutes each day is of service. The after-treatment is of great importance and is too apt to receive scant attention.

In subcutaneous operations a straight, narrow bistoury is entered through skin and fascia beneath the stretched tendon, and then, after passing a blunt-pointed curved tenotomy knife in its place and turning its cutting edge outward, the tendon is divided by a gentle sawing motion. During this procedure the joints must be so manipulated that the muscle is held taut. If desired, the tenotome may have its rounded end sharpened so as to dispense with the preliminary use of a sharp bistoury. A tendon may be divided by passing the knife over it and cutting away from the surface toward the bone, but in general the opposite is to be preferred. Various methods of cutting and suturing a tendon have been introduced to obtain an exact lengthening, an operation called tenoplasty (8).

The question as to the advisability of stretching contracted tendons by traction or of cutting them has been discussed at intervals ever since tenotomy first came into use. In other words, supposing we have a case in which a joint has been held by contracted muscles in bad position and without restraint for some time, is it proper to apply traction by apparatus or is it proper to accomplish correction immediately by the knife? Most authorities state that "mild" cases are amenable to traction, "severe" cases require division of the shortened tissues, and they do not define any line of division between the two. In fact, the reader, encountering a doubtful case, must try traction first and, if that is unsuccessful, tenotomy. The difference between the mild and severe cases is this: In the mild case simple spasm of the muscles is present, yielding readily to traction; in the severe case time has allowed structural shortening to occur and traction aggravates the symptoms without elongating the tissues. In the words of Sayre, in the first case we have a "contracted" tendon, in the second a "contractured" tendon. "It has never been satisfactorily demonstrated that a shortened tendon could be stretched. When the resulting apparent correction has been obtained by mechanical means only, it has most likely been produced by the yielding of other structures than the tendon, hence precise tenotomy in conjunction with scientific mechanical aid are the procedures of to-day (9). It must not be forgotten that other tissues, especially the fascia, share in this contracture, and the writer has

had repeatedly to divide prominent bands of fascia after section of the tendons before the extension was complete. Gowers (10) states: "It is of great importance to distinguish the shortening of muscles due to tissue changes in them from the active contracture that may closely simulate it. In the latter, gentle extension, kept up for a few minutes, restores the muscle to its normal length." For some years past the earlier use of tenotomy has been advocated in order to save time and discomfort, as, for example, division of the hamstrings for acute tuberculosis of the knees. The most exact rule which the writer has seen formulated to enable one to distinguish between a contracted and contractured tendon, was urged with great persistency by Lewis A. Sayre (11), and employed by him in hundreds of cases without a failure in a single instance of its proving to be correct. "Put the parts to be examined upon the stretch to their fullest extent, and, while thus stretched, press with the finger or thumb upon the tendon or fascia thus made tense; and if this additional point-pressure produces reflex contractions, that muscle, fascia, or tendon must be divided, and the point of pain is the point for the operation. If, on the contrary, the additional point-pressure thus applied does *not* produce reflex contractions, the contraction can be overcome without cutting and by the application of constant elastic tractive force." He details case after case of all varieties in which traction by apparatus had been used unsuccessfully for one or two years. Reflex spasm of the muscles upon point-pressure was invariably present and tenotomy cured the conditions in a few weeks. The following is quoted from a personal letter from Dr. R. H. Sayre to the writer: "My father always continued to hold the same views as to tenotomy. I myself believe that if you get a spasm of contracted tissue on point-pressure, it is an indication that it has reached the limit to which it can be stretched, and if it is elongated it must be by cutting or tearing, and under these circumstances I prefer to cut." Although this rule has not been generally accepted by the profession, there has been a growing tendency, as already mentioned, to employ early tenotomy. Reflex spasm yields under anæsthesia; hence if an operator finds that correction has unexpectedly taken place, he may immobilize the part and omit the tenotomy. In not one of the cases detailed below was correction possible without operation after the giving of the anæsthetics.

Surgical text-books dismiss the general subject of tenotomy with a brief account of the operation only and without a summary of the indications for and against. Orthopædic works rely on the discussion of the treatment of each separate deformity, and the writer has not yet seen a résumé of the conditions in which tenotomy and myotomy are of

service. A search through the literature of the subject reveals the following opinions as to the present indications.

In cerebral paralysis division of the spastic muscles has greatly simplified the treatment. The tendo Achillis, plantar fascia, tibials, hamstrings, thigh adductors, and various tendons of the arm and hand may all require cutting, depending upon where the spasticity and incoordination exist. Traction is of no service, as deformity recurs immediately. Bradford and Lovett say: "The writers are in favor of free division of all contracted tendons or muscles if necessary in spastic paralysis. Their experience has led them to regard the operation as a most useful one, and they have never seen any bad results from it. Even in adults the operation is permissible and useful." The after-treatment of immobilization by plaster-of-Paris, bed-frame, or apparatus must be employed for several months and supplemented by massage and exercises. The advantage of the operation, as evidenced by numerous authorities, is that by the elongation of the tendon the response to exaggerated motor impulses is lessened, the muscles become less spastic, and the patient obtains voluntary control of the limbs. Ketch (12), after considerable experience with patients of this character, concludes that the greater the irritability and spasm the less favorable the result is apt to be. As patients approach adolescence the irritability lessens and the contractions assume a more fixed type. According to him, therefore, it would seem, in selected cases, rational to delay tenotomy until puberty approaches. Rupperecht and others state that an operation exercises an indirect effect upon the mental and physical condition of these unfortunate children, for they are more readily taught and trained.

In infantile spinal paralysis flexion at the hip, except in very severe instances, is best treated by traction in bed, or partial tenotomy followed by traction, as tenotomy in this region is rather formidable, owing to the fact that, in advanced cases, everything down to the capsule of the joint requires cutting before correction is complete (13). At the knee mild flexion may yield to bandaging or plaster-of-Paris splints, but the hamstrings are ordinarily severed and suitable apparatus is provided as advised by Myers (14), Porter (15), Calot (16), and McKenzie (17). Deformities of the feet require tenotomy and immobilization in the corrected, not overcorrected, position. It must not be forgotten that in this condition the active muscles have held the paralyzed muscles stretched to their full extent at a great disadvantage. The slight remaining power often present may be greatly improved by correction of the deformity followed by electricity, massage, and exercise. Porter has found increased nourishment of

the limb and gain in power and function after tenotomy. E. Noble Smith (18) discovered that after section of the *paralyzed muscles themselves* an increase in strength and a change from the reaction of degeneration to active response occurred. Tubby (19) and McKenzie (20) advocate the more frequent employment of tendon-grafting, aiming at a redistribution of the remaining power in the muscles. This tendon-grafting or transplantation and arthrodesis are comparatively new operations, but are already enjoying a wide reputation, and deservedly so. A division of resistant tissues may be required before a tendon transplantation can be made.

Homer Gibney, at a meeting of the New York Academy of Medicine, November 15, 1901, reported two cases of Friedreich's ataxia in which marked improvement in locomotion followed operation. Inco-ordination was overcome by tenotomy and fasciotomy, and apparatus had been worn for a long time. At the same meeting Elliott reported a case in which the patient had been bedridden for three years because of post-typhoidal contractures of spinal origin, in which the patient was enabled to walk after tenotomy, manipulation, and adjustment of apparatus. This case is a fac-simile of numberless cases of diseases of the nervous system who may be found in asylums and county hospitals, in which the condition can be immensely improved by proper care (see Case I). Patients afflicted with pseudo-hypertrophic muscular paralysis may in the late stages have deformities of the feet requiring operation (21). Where hysterical contractures have remained unchanged for years, structural changes in the muscles occur and excellent results follow tenotomy. For example, Keen (22) says: "In hysterical contractures I have obtained unexpectedly good results even in the most severe cases. In order to obtain the best results, this tenotomy will generally have to be very extensive and thorough; all the contracted parts, whether they be tendon, contracted fascia, or fibrous tissue, must be divided even down to the bone. Church (23) advises tenotomy as the treatment for the contractures following multiple neuritis, and McKenzie (24) reports a most interesting case of multiple neuritis caused by typhoid, in which the patient had not walked for eighteen months. A cure was effected by tenotomies of the hamstrings and calf muscles, followed by massage and exercises. Weir Mitchell and Keen (25) reported in 1864 a case of shell bruise on the right brachial nerves followed by analgesia and tonic spasm of the wrist flexors. Tenotomy one year later cured the condition.

A difference of opinion prevails as to the treatment of the flexion deformity in hip disease. Early cases yield readily to traction, but where structural change has occurred, in cases free from abscess and sinuses, Whitman (26) advises tenotomy of the

adductors and muscles about the anterior spine and the application of force by direct extension followed by immobilization. He says this method is free from danger and has become almost the routine in the indoor department of the Hospital for Ruptured and Crippled, one death from fat embolism occurring in 329 instances. If ankylosis of the joint is present, or if it is feared that violence may stimulate dormant disease, or if there is such a degree of upward displacement of the femur upon the pelvis that the deformity is likely to recur, Gant's subtrochanteric osteotomy is advisable, in connection with which it may be necessary to add tenotomy of the tissues about the hip. This operation has been performed 147 times without a mishap at the hospital. Ridlon (27) uses the Thomas hip splint for mild cases, immediate reduction by force under anaesthesia, or osteotomy in severer cases. Bradford and Lovett (28) also prefer immediate reduction without tenotomy or else an osteotomy.

John Hilton (29), in his admirable lectures on *Rest and Pain*, reported cases operated on from 1844 to 1860, of acute flexion deformity caused by tuberculosis of the knee. He divided the hamstrings and immobilized the joint in extension, obtaining very promptly reduction of the signs of inflammation. He argued that in the reflex spasm, which is Nature's effort to afford rest to the joint, the flexors, being the stronger muscles, overcame the extensors, held the joint in bad position, and augmented the irritation. The quickest and best way to obtain cure was to cut the hamstrings and provide "rest." Sayre advocated and employed the same procedure in 1885 (30). Ridlon (31), relying on his large clinical experience, said that he believed no more in gradual correction, and that it prevented the healing process. The sooner the deformity is corrected, the sooner begins the cure. He employed force without tenotomy, however, a rather dangerous procedure, as evidenced by Griffith, Ketch, and Shaffer (32). The majority of surgeons conservatively recommend traction and immobilization. When the disease becomes quiescent and there is flexion with posterior dislocation, new indications arise. It is customary at the Children's Hospital, Buffalo, to divide the hamstrings and lift the tibia forward gently by the osteoclast, keeping the uppermost ring against the epiphysis of the femur and thus avoiding the possibility of its separation from the diaphysis. Townsend (33) and De Forest Willard advise forcible manual correction, aided occasionally by tenotomy. Whitman prefers tenotomy in very resistant cases. Vulpius (34), in discussing ankylosis of the joint, argues against slow extension because of the time required and of the danger of rupturing the vessels. He employs tenotomy in all cases, adding forcible manipulation, osteotomy, or resection, according to the degree of the deformity

and the presence or absence of ankylosis. Myers (35) states that unless the head of the tibia is pressed well forward, the posterior luxation may be increased or the rotation may not be improved. His method of reduction by longitudinal and lateral traction is very interesting. R. H. Sayre (36) found that the spine of the tibia might become greatly hypertrophied and present a firm barrier to reposition without open operation. In old cases with firm ankylosis, osteotomy or excision is indicated, excision being deferred until the bone has reached full growth.

When removal of the astragalus for tuberculosis of the ankle joint is necessary, the operation may be facilitated by section of the peronei tendons and subsequent suture of them. Severe cases of the psoas contraction of Pott's disease require tenotomy of the iliopsoas muscle to straighten the limb.

All surgeons recognize the value of complete division of the affected muscles in congenital and acute spastic torticollis. The subcutaneous has now yielded to the open method. Stumme (37) has recently summed up the results in thirty-four patients, twenty-eight of whom were studied from seven months to nine years after operation. The head was absolutely normal in fourteen cases, while a trace of inclination remained in ten others. Movement of the head was free in twenty cases, and the first twenty-one patients were completely cured.

One of the greatest advances in the surgery of the foot was introduced by A. M. Phelps, of New York, who in 1878 performed his first operation by the open method on a club-foot. Since that time he has operated (38) upon 1,650 patients suffering from that deformity. In the last 1,100 cases he has never resorted to osteotomy, but has amputated four times. The mortality in these 1,650 patients was nil, while the reports of the osteotomies of other surgeons show from three to five per cent. mortality. His operation is suitable for any foot at any age, and in old relapsed cases there is needed at most, in addition to the open operation, a linear osteotomy through the neck of the astragalus or a cuneiform section from the body of the os calcis. The vast majority of cases require the open division alone, a scientific operation which simply lengthens the contracted side of the foot. After a subcutaneous tenotomy of the tendo Achillis, an open incision one quarter of the distance across the foot should be made, beginning directly in front of the inner malleolus and carried down to the inner side of the astragalus. Then all resisting structures are cut across—tibialis anticus and posticus, abductor pollicis, plantar fascia, the short and long toe flexors, deltoid ligament, and peroneus longus. The external plantar vessels must be carefully avoided. The foot is very forcibly twisted outward and encased in plaster of Paris. Healing occurs in about four weeks. Inward twist

of the tibia, often present, requires osteoclasis. In cases watched for years Phelps has seen no sensitive scars, no flat-foot and no paralysis. The scar does not contract, but stretches. Flexion of the toes returns in nearly all cases. In a series of 538 cases relapses amounted to six per cent., due, invariably, according to Phelps, to neglect of after-treatment by the patient. Wilson's statistics of 435 bone operations give 13.81 per cent. of failures. No case is free from relapse until the heel strikes the ground first in walking. Phelps uses manual manipulation and fixation from birth to the fourth month. If these mild measures fail, subcutaneous tenotomy, and if that is insufficient, open incision. Phelps's operation is now widely used, and Fig. 3 pictures a successful result.

In mild cases of club-hand, manipulation and tenotomy may effect a cure, but when the radius is absent an operation on the ulna is necessary. For example, Park (39) has removed part of the carpal bones and implanted the sharpened end of the ulna in the carpus. Sayre (40) has done the same. Bardenhauer (41) has split the ulna and inserted the carpus between the two ends of the bone. Severe cases of the contracted foot, *i. e.*, the non-deforming club-foot of Shaffer, demand division of the contracted parts and forcible correction of the deformity. Franke (42) has described a new operation for flat-foot. He shortens and sutures the tibialis posticus tendon at the internal malleolus, thus inverting the foot and giving the muscle a chance to act at better advantage. The cavus existing in cases of paralytic talipes equinus should be corrected by forcible reduction and section of resisting bands of plantar fascia. Robert Jones (43) has advised division of the extensor of the great toe in operating upon hallux valgus. Goldthwait and Painter (44), for the relief of congenital elevation of the scapula, have divided the trapezius, rhomboids, levator anguli scapulae, and part of the serratus magnus with successful results. Bolten and Eulenburg (45) have also employed tenotomy for these cases. Generally speaking, after mild, passive movements and hot-air baths have failed to cure fibrous ankylosis of any joint, it is best to use *brisement forcé*, with or without tenotomy, followed by immobilization and the application of cold (46). Roberts and other surgeons advise tenotomy of the tendo Achillis in fracture of the lower end of the femur if spasm prevents displacement, and also in fracture about the ankle when the same condition exists. Whitman occasionally employs section of the same tendon while doing osteotomy for anterior curvature of the tibia. Forbes (47) has devised a simple tenotomy for liberating the ring fingers in the hands of musicians and affording to these fingers free extension. His method is to have the fist doubled and to inject a drop of cocaine solution

under the skin between the ring and little fingers. A sharp-pointed tenotome is pushed in under the accessory band connecting the tendons of the extensor communis digitorum, and the vincula are quickly divided. Forbes has operated in 466 cases with excellent results. Tenotomy of the eye muscles, of great service to ophthalmologists, needs no discussion here.

CASE I. Syphilis of the Spinal Cord; Spastic Paraplegia with Contractures; Tenotomy; Great improvement (see Fig. 1).—A woman, aged thirty-nine, married, admitted to the Erie County Hospital September 7, 1901, and referred for operation by Dr. J. W. Putnam. The patient had always enjoyed good health until seven years ago, when she had a miscarriage. Shortly afterward she had a second



FIG. 1.—Case I. Spastic Paraplegia with contractures. Tenotomy. Great improvement.

miscarriage, and later she gave birth to two children, each of whom soon died in convulsions. For five years past she had had a great deal of headache, worse at night, with marked tenderness of the scalp. During this period also walking became gradually difficult and paralysis of the lower extremities with marked flexion of the legs and thighs appeared. For seven months she had been confined to bed. Pain in the legs due to the spastic condition of the muscles had produced the morphine habit, and one grain of the drug daily had been taken. The usual sharp pains of spinal syphilis were absent. There were incontinence of urine, constipation, and loss of flesh

and strength. Examination showed no marked change in sensation: the thighs were drawn up in flexion, the adductors kept the thighs crossed, and the legs were so held by the spasm of the hamstrings that no knee reflex was obtainable. She was treated by mercurial inunctions and potassium iodide, and on October 27, 1901, the writer divided all of the hamstrings on both sides by open incision. A subcutaneous tenotomy sufficed for the adductors, as it was believed that the treatment would control the symptoms. Plaster casts were applied and the thighs separated to form an acute angle. In fifteen days' time the pain had stopped, with cessation of spasm in the muscles. The bladder had regained its functions, and the headache and soreness of the scalp had disappeared. The morphine was discontinued and passive motion and massage were instituted. Six weeks after the operation slight spasm in the calf muscles only was present and she could walk with assistance about the room. The photograph was then taken. Subsequently, through an interne's error, all medication was stopped and on February 25, 1902, the old symptoms had recurred with pain and great spasm of the iliopsoas, quadriceps extensors and calf muscles. Increasing doses of mercury and the iodide were ordered, but the relapse proved to be very severe and it became a race between medication and the specific process. Believing it was necessary to produce toxic symptoms, the writer pushed the remedies until on April 12th salivation at last appeared. At that time she was receiving large inunctions daily and was taking the protoiodide, 1-6 of a grain four times a day, and potassium iodide, 480 grains daily. Coincidentally the pain ceased, likewise all spasm, and voluntary control of the muscles reappeared. On April 17th the patient was very comfortable and could again walk about with assistance. A good prognosis is certain, provided the medication is properly continued.

CASE II. Chronic Myelitis with Contractures; Tenotomy; Hemorrhagic Cystitis; Death.—A woman, aged twenty-six, referred by Dr. J. W. Putnam for operation. This patient, after an attack of influenza in 1900, was seized with neuritis of the upper extremities, which persisted for several months and was followed by a severe transverse myelitis at about the junction of the cervical and dorsal regions. The usual symptoms were in evidence when the writer saw the case for the first time, in February, 1901. The muscles became steadily more spastic and contracted, causing flexion of the thighs and legs with adduction. On June 6th the adductors and hamstrings of the right leg were divided, and on June 11th the same muscles of the left leg. The result was very satisfactory and there was no recurrence of spasticity or contraction. Six months later the lengthened tendons could be distinctly felt and showed excellent repair. The patient improved for a time, the cystitis which had developed in 1900 lessened, and slight power returned in all the muscles. In October, 1901, chronic indigestion and a hemorrhagic cystitis appeared in spite of all precautions, and she died on November 11, 1901.

CASE III. Lesion of the Spinal Cord, probably Anterior Poliomyelitis; Contracture of the Hamstrings; Tenotomy.—A lad, aged seventeen, referred for operation by Dr. F. S. Crego. This patient en-

tered the Erie County Hospital in April, 1902, and said he had never been seriously ill until September 2, 1901. An attack of fever with pains in the legs confined him to the house, and on the next day while walking he fell, owing to increasing weakness of the legs. Constipation and slight difficulty in urinating continued for a few days. On the fourth day of the illness the fever and other symptoms disappeared, but the legs were paralyzed. In about six weeks flexion of the legs on the thighs was noticed. The



FIG. 2. Case VI. Old tuberculous osteitis of the inner condyle of the left femur. Flexion deformity. Tenotomy and excision of local focus.

patient had had no treatment. Examination showed no power in the muscles except in the hamstrings, glutei, adductors of the left thigh, and external rotators of each thigh. Passive motion was free, except that the legs could not be extended beyond 135° , owing to the contracture of the flexors. No tender points over the nerves could be found. The knee-jerks and Babinski's sign were absent. Atrophy was well marked, but sensation was very accurate. The reaction of degeneration to the electric current was present in all the muscles affected. On April 23 the biceps, semitendinosus, and part of the semimembranosus of each thigh were divided and the legs held extended in plaster. The patient will shortly be treated by massage, electricity, and passive motion, and at a future date the advisability of arthrodiesis and tendon transplantation will be considered.

CASE IV. Cerebral Palsy with Contractures; Tenotomy.—A girl, aged two, an inmate of the Children's Hospital. A feeble child, unable to walk, with marked mental impairment, strabismus, and weakened muscles. A spastic condition of all of the muscles of the lower extremity, especially the hamstrings, was present. On April 18, 1901, the hamstrings of each thigh were divided by the open operation and plaster was applied. The subsequent course was uneventful and the spasticity was relieved, but six weeks later whooping-cough developed and the patient died.

CASE V. Subacute Tuberculous Osteitis of the Inner Condyle of the Right Femur; Flexion Deformity.—A girl, aged three, entered the Children's Hospital in April, 1901. Two years pre-

viously she had been attacked with acute symptoms of disease at the right knee. Of late there had been an increase of the same symptoms. Examination showed considerable tenderness over the inner condyle of the femur, enlargement of the bone, swelling of the superficial tissues, and local heat. She was kept in bed a week preparatory to an operation for excision of the local focus and a tenotomy of the hamstrings to relieve the permanent flexion. Meanwhile the inflammatory signs decreased rapidly, so that on May 2, 1901, the flexors were divided and the bone was left undisturbed. In six weeks all acute symptoms had disappeared and the leg was in extension. She left the hospital walking comfortably on a Thomas knee splint.

CASE VI (see Fig. 2). Old Tuberculous Osteitis of the Inner Condyle of the Left Femur; Flexion Deformity; Tenotomy and Excision of Local Focus.—A boy, aged ten, a patient of Dr. Bernard Bartow's at the Children's Hospital. Three years previously this boy began to experience pain, tenderness, and swelling in the left knee. The acute symptoms gradually subsided, but a limp remained, with inability to fully extend the leg. He had had no treatment. The inner condyle of the left femur was enlarged. Flexion was free, but extension was prevented beyond 145° , owing to contractured flexors. The writer operated, July 12, 1901, through the courtesy of Dr. Bartow. A longitudinal incision one inch long was made over the inner aspect of the condyle, and the periosteum elevated. With a curette a small opening was made in the bone through which the diseased tissue was removed, a condition of osteoporosis being found. The cavity was swabbed out with zinc-chloride solution, 25 per cent., and washed with sterile boric-acid solution. Open



FIG. 3.—Case VII. Talipes equinovarus (single), seven months after a Phelps's open operation.

section of the fascia and tendons allowed extension to a straight line. Primary union followed, and two months later the boy returned home, using crutches and wearing a removable plaster splint. He was instructed to discard this support at the end of another month.

CASE VII (see Fig. 3). *Talipes Equinovarus (single)*; *Phelps's Open Operation*.—A boy, aged three and a half, admitted to the Children's Hospital in June, 1901. This deformed left foot had been operated upon previously elsewhere by subcutaneous section, but relapse had followed. On June 21st the writer divided through an open incision the tibialis posticus, abductor hallucis, flexor brevis digitorum, flexor accessorius, flexor longus digitorum, flexor longus hallucis, internal plantar vessels, and plantar fascia. Manual force caused the forefoot to swing limply around into the overcorrected position. The tendo Achillis was divided subcutaneously and a plaster dressing was applied. Healing was prompt and, owing to the age and activity of the patient, no brace was subsequently worn, as walking constantly everted the foot. A special shoe was ordered in which the front axis was turned well outward, correcting any tendency to inversion, and in which an insole was placed, raising the outer border of the foot, the highest point being placed at the junction of the os calcis and cuboid. The condition of the foot on January 13, 1902, is shown in Fig. 3. If any tendency to recurrence appears, a moulded leather splint will be made, to be worn at night only, to hold the foot corrected at that time.

CASE VIII. *Double Talipes Equinovarus; Phelps's Open Operation*.—A boy, aged two, entered the Children's Hospital in September, 1901. Subcutaneous tenotomy had been performed elsewhere and failure had resulted. Phelps's open section was made on September 25, 1901, Dr. Bartow operating on one side, the writer on the other. The subsequent course was uneventful, and proper shoes and braces were obtained. The child is brought occasionally for inspection to the hospital.

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ACTIVE MOVEMENTS IN THE CHRONIC STAGE OF PARALYSES.

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Of the article of Dr. Browning, *The Management of Cerebral Hæmorrhage*, published in the *New York Medical Journal* for February 15th, I was particularly interested in that part referring to the chronic stage. If the motor centres and the conduction paths have not been injured to such an extent as to make restitution impossible, it becomes of the utmost importance to restore them to activity as early as possible. In the case of cerebral hæmorrhage, as well as in cerebral and spinal paralysis of inflammatory character, attempts at restoring activity should be made so soon as hæmorrhage or inflammation has stopped and absorption of hæmorrhage or inflammatory exudate has begun, provided the condition of the patient warrants the conclusion that such attempts will not invite a recurrence of hæmorrhage or inflammation. If this is not done, then the motor centres, when restored to functional ability, may find the conduction paths so difficult to travel for the weak stimuli emanating from the weakened centres that the stimulus never reaches the executive organ, i. e., the muscle. On the other hand, the peripheral organ may have undergone atrophy to such an extent that it could not respond to an even normally strong stimulus, much less to the weak stimulus coming from a weak centre over an obstructed path. The use of electricity, massage, and passive movements, will keep the peripheral organs in good shape to receive and execute the commands of the motor centres, should these resume activity. The peripheral stimulation is further useful, in that it may open the sensory paths, awaken the sensory centres to activity, and, if the connecting link between sensory and motor centre has not been destroyed, it may stimulate that centre, and therefore help it to recommence its activity. The early employment of the above mentioned means is, then, of prime importance.

Yet, however early these means have been had recourse to, however faithful and intelligent the application has been, in a great many cases no progress beyond keeping the periphery intact seems to be made, inasmuch as volitional control does not follow; this, too, and quite frequently, in cases the behavior of which otherwise would lead us to expect favorable results. Several such discouraging experiences and the fact that quite a few paralyses, especially the so-called infantile, tend to more or less complete restoration of volitional control of muscular movements, made me some years ago propound to myself the question, whether the lack of volitional control in a great many otherwise favorable paralysis cases was not simply apparent. If

I assumed the nervous apparatus to be functioning, if I knew of no reason why the bony, joint, and muscular apparatus, under proper nervous guidance should not function, then the only explanation of volitional movements not occurring could be found in too great mechanical resistance outside of the body.

The removal of all restricting garments suggested itself first, but did not furnish very good results. Gravity seemed the next obstacle. This I overcame by having the movements all done in a horizontal plane if possible. That measure proved quite satisfactory in ambulant cases, where the arm could be placed on a table, the foot on the floor. Horizontal movements of the legs and arms in patients confined to bed were so much obstructed by the unevenness of the bed clothes that the employment of smooth boards for such movements was next tried, much in

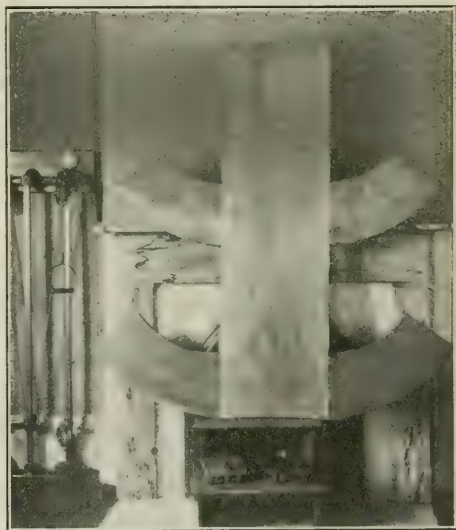


FIG. 1.—Smooth board for bilateral movements. Cars on lower steps.

the manner as that described by Dr. Browning, the inclination of the board, however, never suggesting itself to me.

I had to contend a great deal with the resistance between the nude part and the board, which was much increased by the clammy stickiness of hands and feet so often found in paralyzed parts. In order to do away with this, I built a little car with a groove on top for the reception of the part, a strap securing it still further to this groove. Four hardwood ball-bearing castors made the movements of this car on a smooth board with a minimum of resistance possible. This gave astonishing results; it showed volitional control to be present where one would little have suspected it.

As a matter of convenience I gave the board the form as the picture (Fig. 1) shows. This allows of flexion and extension of the extremities and of abduction and adduction of the same. It is made double-sided, once more as a matter of convenience, then so as to allow of the simultaneous movements of like extremities, as arm and arm, or of similar ones as arm and leg, of the importance of which I shall presently speak. When movements on this contrivance have become fairly easy for the patient, and when they are executed with quite a little vigor, and one tries now to have the movement done in a

means indicated by Dr. Browning, on the nature of which I shall enlarge somewhat.

If a certain movement is wanted but is not forthcoming, one passively performs the antagonistic movement to such a degree that the soft parts are put on the stretch; the patient is then, as one lets go of the part, told to perform the desired movement, when some voluntary movement may occur. The pull which the elasticity of the soft parts, trying to regain their former position, exerts, is sufficient to start the movement, which, once begun, is continued by voluntary contraction of the muscles. An an-

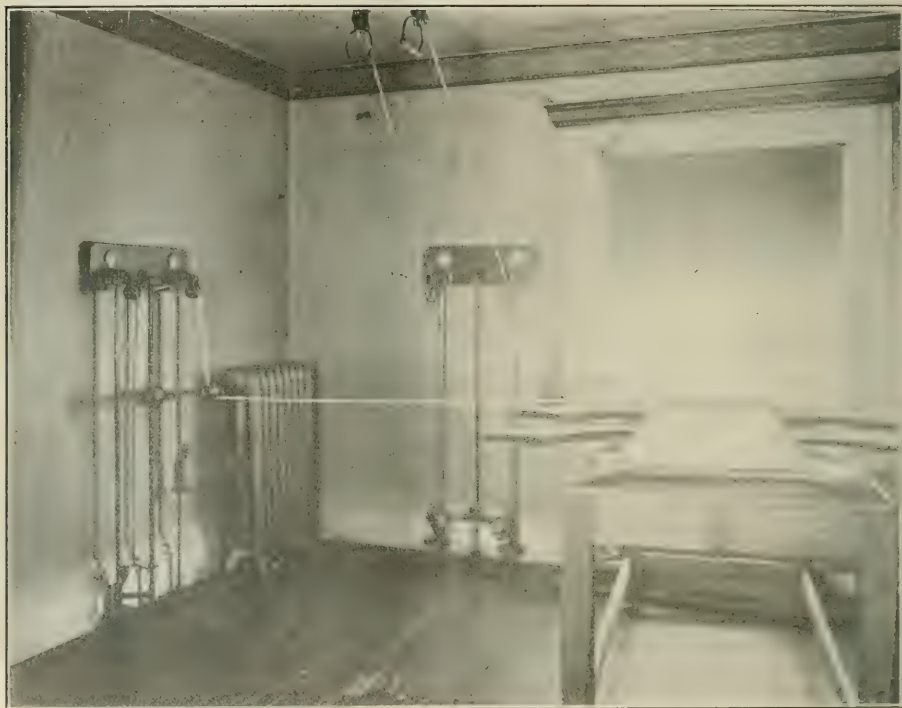


FIG. 2. Board in situ. Pulley weight arrangement, supposed to be attached to a cat

vertical plane, one finds this often yet beyond the power of the patient. To lead up to such movements, I increase slowly the resistance against the horizontal movement, by attaching by means of a hook, rope, and pulley (Fig. 2), so much weight as the patient can pull without much exertion and fatigue. Where careful gradation of resistance is needed a little bag at the end of the rope, into which as much shot as is desirable is placed, and the amount added to as one progresses, will be found convenient. Yet, if with all these means voluntary movements do not occur, I have recourse to the

tagonistic movement is furthermore a nervous preparation of the motor centres concerned in the direct move; it seems to help over the mechanical as well as mental dead point, if one may use the term. If our efforts are still not crowned with success, we may yet try another way of inducing voluntary movements. The close nervous connection which exists between the centres of counterparts makes the attempt at simultaneous movement of the sound and paralyzed part advisable. Letting alone, for the present, the possibility of moving both parts by one centre, so long as the bridge between the centres

is intact, it is plausible enough to expect the activity of a sound centre to supplement the effort of the affected and weak one. Clinical experience often justifies the expectation. The nervous relation between similar parts, as arm and leg, is, of course, less strong, yet it exists and may be made use of by asking the patient to perform movements of like nature with arm and leg. It would seem as if I went to much circumstance to secure voluntary movements, and yet, if one considers that all other efforts, so far as overcoming the paralysis is concerned, are wasted if we cannot secure volitional movements, anything which promises results is well worth the effort of the physician as well as of the patient.

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ON THE REMITTENT LIMP IN THE FIRST APPARENT STAGE OF HIP JOINT DISEASE, WITH REMARKS ON THE EARLY DIAGNOSIS OF THIS DISEASE.*

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CHILDREN.

On the 12th of November, 1901, I saw in consultation with Dr. J. F. Lyon, a boy, J. V., aged six, who presented the following history:

Early in April, 1901, the patient, after a slight accident, commenced to limp. The limp was quite pronounced, but was unaccompanied by any pain. The patient was a very active little fellow—a sort of leader among the children of his neighborhood, a quick runner and a good jumper. His parents thought at first that the limp was occasioned by the slight sprain referred to. But little attention was paid to the matter for the first few days, but as the limp persisted and was worse after rest, and especially so after getting out of bed in the morning, it was thought that the condition might be due to rheumatism, and this view was emphasized by the fact that the limp was favorably modified by exercise. The boy essentially, and I think instinctively, modified his activity during this time and voluntarily gave up his most active out-door exercises. After the first ten days, the limp steadily improved and finally disappeared in about two weeks. He then gradually resumed his wonted excessive activity and again became the leader of the street in "stunts" of various sorts. The parents and neighbors assert positively that the limp entirely disappeared and that the boy became as agile and as active as before the attack. No treatment whatever was given.

Nothing unusual presented in the history of the

boy until the August following, when he again commenced to limp. On this occasion there was no apparent cause—that is, the limp could not be traced to any distinct sprain or wrench. It was supposed to be rheumatism by the parents, who, as on the previous occasion, did not seek professional advice. The child had no treatment whatever. The limp was pronounced, more so than in the previous attack, and presented, generally speaking, the characteristics mentioned above. It was also a little more persistent, and nearly a month went by before recovery occurred. The incident did not attract special attention. The boy had simply, in the parents' minds, recovered from a slight attack of rheumatism. So far as the parents could see, recovery was complete and the boy went on the street again to his usual sports and games.

About a month before I saw the patient, he had had a third attack of limping, which was again disregarded by the parents. The matter attracted only casual notice, as he had already recovered from two previous attacks without any professional advice. On this occasion, however, the symptoms were more persistent; the limp became gradually worse, instead of gradually better. After a while the patient could scarcely walk, and yet he had no pain. Locomotion became very awkward, then difficult, and finally an explosion of acute symptoms occurred. When I saw him he was in extreme pain, the thigh was flexed badly, abducted, and rotated outward, and any movement of the bed even was followed by excruciating pain. In short, the patient was suffering from hip joint disease in its most acute stage.

I venture to cite this interesting history because it is typical of a large number of cases which have come under my observation, and because I think that this early remittent limp is not as yet sufficiently recognized, nor is its importance fully appreciated by the medical profession, although Barwell in his classical work¹ says: "The limp therefore may be absent a week or so and then return, perhaps to remain permanent, perhaps again to intermit."

On the occasion of the third annual session of this association, held in Boston in September, 1889, I read a paper "On the Principles of the Mechanical Treatment of Hip Joint Disease"² in which I say: "It is well known that in this first stage of hip joint disease—the stage of vulnerability, . . . the limp referred to as occurring in the first stage may disappear . . . I have known this to occur seven times in one patient before the symptoms became so pronounced that a diagnosis was made—the surgeon in attendance being unfamiliar with the fact that a remission of the limp was likely to occur in the early stage."

¹ *A Treatise on Diseases of the Joints*. By Richard Barwell, F.R.C.S., 2nd Edition, London, Macmillan & Co., 1881, p. 437.

² *Transactions of the American Orthopaedic Association*, Vol. II, 1889; also *New York Medical Journal*, November 23, 1889.

* Read before the American Orthopaedic Association, Philadelphia, June 5, 1902.

It would seem that I was mistaken in saying that the remittent limp was "well known." One of my hearers—a prominent member of the association, in the discussion which followed, said: "The statement has been made to-day that in certain cases the limp disappeared. . . . I confess I have never seen a patient who once began limping with hip disease lose the limp until the case had been some time cured."³

The only other reference to the matter at the Boston meeting in the prolonged and interesting discussion which followed a Symposium on Hip Joint Disease (my paper being one) was made by Dr. Herbert L. Burrell, of Boston, who said: "There is one point I should like to refer to, and that is with reference to the subsidence of the limp during the course of the disease. . . . I feel quite sure I have seen this in certain cases, not, however, without treatment. We have cases that come to the Children's Hospital where it is difficult to make a diagnosis. The child perhaps has a slight limp; we send it home and request that it be kept in bed a week. The mother returns with the child, there is no limp, and the limb remains this way for possibly a month or two, when the child returns with a recurrence of the limp."⁴

I was led to say in my paper that the remittent limp was well known because Barwell and others had described it, and I had taught that it was a frequent factor in the histories of many patients coming under my observation, and I have been in the habit of emphasizing the value, as well as the danger, of this significant manifestation of the first apparent stage of hip joint disease, both in my lectures at the New York Orthopædic Dispensary and Hospital (1876-1898) and in my lectures at the University Medical College (1882-1886). These facts are my excuse for bringing the matter thus prominently to your attention.

More recently, however, the matter has received attention. Bradford and Lovett, under a special caption, Remissions, in their chapter on Hip Disease, say: "Any account of the symptoms of hip disease would be incomplete without speaking of the remissions in the course of the affection. In the early stage this is especially noticeable, and a patient may, to outside appearances, entirely recover from the symptoms of pain, lameness, and discomfort for some days or weeks."⁵

Whitman says: "In the early stage of the disease the limp may even be intermittent, although it is probable in most instances some change from the normal gait may be detected by the practised

eye."⁶ Quite a number of works on orthopædic surgery do not mention the remittent limp.

These quotations are, however, sufficient to show that the remittent limp is not, as a prominent general surgeon once said to me, "a creature of your own imagination." On the contrary, it is a most important sign of the early stage of the disease, which, taken in connection with other signs and symptoms, enables one to establish an early diagnosis and in a certain number of instances to abort, or at least to shorten, the course of the disease.

In the paper already referred to I also state as follows: "It has happened several times in my experience that the limp has disappeared without actual treatment while the patient was under observation."⁷ This distinctly emphasizes Dr. Burrell's statement, already quoted. I further remark: "I have watched these cases with much interest and I have found that *the muscular protection of the joint did not wholly disappear as the limp did.*"⁸ Indeed, in this essay I dwell at some length upon especially the diagnostic value of the reflex muscular spasm in tuberculous disease of the hip in all its stages. Some of the important views there expressed have been pretty generally accepted, if not adopted, by some of the recent writers on orthopædic surgery.

The important point, however, to be established is that a limp, whether accompanied by pain or not, in childhood, even if it has an apparently direct traumatic cause, should not be passed over lightly. It would be well if all parents knew that a slight limp may mean the first apparent stage of hip joint disease, even if it should wholly disappear. I take occasion, both in my college lectures and in my lectures to the trained nurses at St. Luke's Hospital, to point out this fact, and I trust every member of this association will make use of suitable opportunities to make the fact more generally known.

I venture, in this connection, to recite a bit of history. During the summer of 1872, while in my first provisional year of service as the orthopædic surgeon to St. Luke's Hospital, a patient, a girl, four years old (L. G.), giving the history of a remittent limp, with slight muscular resistance in all directions, was under the observation of the late Dr. James L. Little and myself in the children's ward of the hospital. The symptoms were so slight and the disability was so trivial that Dr. Little questioned my diagnosis of hip joint disease. As a matter of test, and at my suggestion, we administered ether and the muscular protection of

³ *Transactions of the American Orthopædic Association*, Vol. II, 1880, page 191.

⁴ *Op. cit.*, page 193.

⁵ *Treatise on Orthopædic Surgery*, By Bradford and Lovett, 2nd Edition, New York, William Wood & Co., 1899, p. 222.

⁶ *A Treatise on Orthopædic Surgery*, By Royal Whitman, M.D., Philadelphia, Lea Brothers & Co., 1901, p. 227.

⁷ *Op. cit.*

⁸ *Op. cit.*

the joint disappeared, only to return, however, before the patient was wholly conscious, and before we left the operating room Dr. Little asked me to explain this muscular phenomenon. I said: "The muscular symptom, as shown by the ether test, is a purely reflex affair, and the muscles are affected with a true reflex spasm." So far as I know, this is the first occasion where the term "reflex spasm" was applied to the conditions existing in hip joint disease. I certainly had never heard it used by anyone, and thenceforth I used the term "reflex spasm" in describing the conditions now so familiarly known by us all. I know that Barwell with his acute reasoning mentions "neuromuscular irritation and contraction" as being the factors which "fix the thigh at certain lateral and anteroposterior angles with the pelvis."⁹ And he also refers to the "spasm of certain muscles" in connection with "the dull aching and with the sharp intermittent pains"—in other words to the "spasms" which are "chiefly prevalent at night when the patient is sinking to sleep,"¹⁰ but nowhere in his writings have I found any reference to the "reflex muscular spasm" as we understand it to-day.

I believe that the first real demonstration of the true nature of the reflex character of the muscular condition at the hip, in hip joint disease, occurred in St. Luke's Hospital, under the condition named, in 1872.

While I feel privileged to make this statement, I shall always be glad to waive any claim to originality or priority.

DIAGNOSIS IN ABDOMINAL LESIONS.*

By THOMAS H. MANLEY, M. D., Ph. D.,
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(Concluded from page 225.)

ACUTE INTESTINAL OBSTRUCTION.

A sudden impediment to the alimentary and vascular currents from mechanical causes, a perforation of the intestine, or parietic dilatation of its walls in peritoneal inflammation not infrequently presents all the dominant symptoms of intestinal obstruction.

Hernia, or acute extraabdominal stenosis of the gut, is sometimes mistaken for internal obstruction. Hence the necessity in all cases of first searching for external extrusion. In one instance, some years ago, I was sent for to laparotomize a young woman for internal strangulation of the intestine. Everything was in readiness when I arrived, but the patient was in deep shock, with cold extremities and almost countess pulse and incessant faecal vomiting. A

small, deeply lodged, strangulated femoral hernia was found, the loop of the gut liberated under cocaine, and the patient fortunately saved.

In another, a young man on the third day after kelotomy for inguinal strangulation, I was sent for to see if anything could be done by an abdominal section for consecutive internal obstruction. Here, again, though, the patient was *in extremis*; cocaineization enabled us to painlessly reopen the operation wound, divide the constriction, and free the bowel, which had been securely sutured in the inguinal canal, a rapid recovery following. Again, in another instance, the abdomen of an aged lady was assiduously poulticed for peritonitis until alarming symptoms setting in, it was decided that laparotomy must be done for internal obstruction. Here, again, a critical examination exposed a strangulated umbilical hernia. Her condition did not warrant operation and she sank a few hours later. In females and in old people, if caution is not exercised, strangulated hernia may be easily overlooked.

In our time, with the extensive facilities at our command for purposes of relief, one who permits his patient with a strangulated rupture to pass on into the moribund state is certainly guilty of culpable neglect. Alertness is especially imperative in the diagnosis of strangulated hernia, as decisive action is always called for. Some of these cases are beyond all hope as early as twelve hours after the first symptoms set in. This is commonly the case in the female, in whom, though she is less frequently the subject of hernia, when it is strangulated the mortality is much larger than in the male.

Acute internal obstruction of the intestine of a grave character is a rare pathological condition, its detection is exceedingly difficult, and its mortality is very large. It has become much more frequent as a consecutive condition since the large expansion of pelvic surgery. In order to recognize it early, we must have a fair acquaintance with its most frequent causes. These are primarily anatomical and secondarily pathological changes in the alimentary canal.

We have, first, an arrest of the alimentary current, and, secondly, vascular asphyxia, or strangulation of the circulation in the mesentery. Riegel observed in experimenting on animals that when one induced aseptic occlusion of the intestine there were no marked constitutional symptoms; but the moment the vascular supply to the bowel was cut off in the mesentery, great distress with signs of acute obstruction of the bowel began.

In the adult we sometimes have ptosis of the intestines from a lax mesentery; next, the gut becomes twisted and snared in its own coils, serious symptoms only setting in after vascular asphyxia and gangrene begin.

* *Op. cit.*, page 430.

¹⁰ Barwell, 1st Edition, 1861, page 308.

⁹ Read before the Brooklyn Medical Society, New York, December 20, 1901.

We witness many phases of acute colicky intestinal disturbances which closely mimic this serious condition. I am aware of but one single symptom invariable here, and this is reverse of peristalsis with faecal vomiting. This, of course, is also witnessed in strangulated hernia of grave form. The initial symptoms are so often ambiguous and bear so strong a resemblance to a great number of very agonizing functional conditions that very frequently all the tentative remedies are at first vainly tried before the grave character of the condition becomes apparent.

It has been said that the intensity of the symptoms here bears a direct relation to the pathological condition, and that it is only when the obstruction is complete that the pain is constant. In a recent case of complete obstruction by two Meckel's diverticula, before mentioned, of six days' duration, pain was not severe or constant till the fourth day. In fact, the patient was at first treated for "indigestion." Great depression of the vital powers and faecal vomiting set in only on the evening of the third day.

In a considerable proportion of these cases the patients' memory is so hazy and the pain sense so benumbed by morphine, when they reach a hospital, that their account of symptoms is very unreliable. The pulse is the most reliable criterion in advanced cases; in complete intestinal occlusion, the rapid, feeble pulse gives rise to the greatest apprehension. When the constriction can be safely and quickly relieved, it is often surprising to note the immediate cardiac response, with a slackening and fullness of the heart stroke.

PERFORATION, INTRAPERITONEAL.

In pathological conditions there are two varieties of perforation, as there are two of tympanitis; in one—the most common—the process is gradual, the aperture small, and adhesive inflammation securely walls it off from the peritoneal cavity, and we have a tumor; we find this most frequently and best illustrated in appendicitis. It also frequently occurs in gastric ulcer or tuberculous lesions of the bowel. I have seen a remarkable example in a large cancerous breach through the greater curvature of the stomach in which an adventitious pouch was formed as large as a cocoanut, this periodically filling and discharging into the stomach and assuming from time to time so many and diverse physical characters and relations and presenting so many complex phenomena that no fewer than nine different diagnoses were made by experienced clinicians. It was only when the peritoneum was opened that its true anatomical characters were disclosed.

In the *second* variety the breach in the gut is large and the contents of the alimentary canal drain directly into the peritoneal cavity. Here the symptoms are frequently of a fulminant character and the extent of collapse is something very great; the degree,

however, will largely depend on whether the patient is simultaneously suffering from constitutional disease.

Fitz observes that we may have all the symptoms of intestinal perforation in typhoid when it is really absent; and, again, that there may be perforation without definite symptoms in this malady. A large perforation with free leakage, unless this depends on local causes, immediately produces diffused peritoneal reaction with violent constitutional disturbances. The abdomen is ballooned up and *hepatic dullness* is absent. This is the only positive sign of intraperitoneal perforation we have. Gangrenous perforation from thrombotic occlusion of the mesenteric vessels may set in, without any well defined premonitory signs, but after the breach is opened, explosive symptoms promptly supervene and life may be cut off in a few hours. In one case coming under my care, in hospital, the patient, a middle aged man, was seized at midday with furious colicky pains. The attending physician, suspecting impaction of the colon, gave him repeated enemata of warm soapsuds and sweet oil. At eight in the evening the abdomen was opened, when a large gangrenous perforation of the sigmoid was discovered. The ingested fluids with large quantities of faeces so besmeared the peritoneal cavity that it could not be well cleansed. The man sank before we could remove him from the table.

GENERAL INFECTION OF THE PERITONEUM; ACUTE PERITONITIS.

Acute general peritonitis is a malady which is by no means readily distinguished from other allied pathological conditions. This very term conveys a serious significance, because it is well known that when once peritonitis is well established, we are powerless to control it in a large number of cases, whatever may be its ætiological character.

Peritonism, a pathological condition of the peritoneum first described by Louis, so closely resembles it in all its milder aspects that we may easily confound one with the other, if great care is not exercised in diagnosis. It bears about the same relation to genuine septic peritonitis that varioloid does to smallpox; it is an abortive type of the grave form. Its clinical picture is quite identical with acute peritonitis, in a lesser degree. It yields promptly to judicious treatment. We often encounter it in various types of encysted appendicitis. It is my conviction that it essentially consists in a species of widespread but not virulent infection following peritoneal reaction when the forces of the economy are ample to antagonize its advances.

The onset of general peritonitis is often insidious, but it usually rapidly attains development, when its local characters are manifest and pronounced constitutional symptoms set in. It may, however, without a most critical examination, be mistaken for other

less serious intraperitoneal conditions. For example, a case came under my care several years ago, in a child, diagnosed as peritonitis by a noted consultant, which depended quite entirely on a greatly distended bladder, filling the belly up to the xiphoid cartilage. The catheter quickly relieved the urgent symptoms.

Dynamic, parietic distention of the intestine, with prolonged obstruction, gives to this disease an aspect not altogether unlike mechanical stenosis. The dominant and distinguishing features are great pain, the terrible, unquenchable thirst, and persistent vomiting of greenish, bile-colored fluids.

The great *forte* of science in the management of this malady is to detect early the causes leading to it, as some authorities go so far as to deny even its hæmatogenous origin, or that it is ever a primary disease. Our aim must be in the direction of detecting and arresting the primary sources of contamination.

PROPHYLAXIS.

Grawitz, in 864 autopsies on those dying of peritonitis, found but 63 primary. Southern and Klynack, in 124, none primary. Habershaw, in 501, none primary. Bender, in 108, 7 primary. Mayo Robson reminds us that there may be no definite symptoms in many of these visceral lesions until inflammatory action begins. The first alarm signal we have is pain. Could we but only ascertain early the source of primary infection, we might arrest the onset of the malady. In this direction very remarkable progress has been made in recent years.

CANCER OF THE ABDOMINAL VISCERA.

As we approach the subject of malignant disease of abdominal viscera it is presupposed that we are familiar with its selective affinity, its distinguishing clinical characters, and its ambiguous symptoms when it primarily seizes on any of the abdominal viscera.

Malignant epithelial hyperplasia gives us absolutely no definite symptoms when it seizes on the viscera until the stage of augmentation in volume, of pressure, stricture, or ulceration is reached. The unsupported theory that this disease is of *local origin* would suggest the importance of early and radical treatment; but this is clearly out of the question when we are ignorant of its early evolutionary stages.

SYPHILIS.

Dieulafoy, an eminent pathologist, sets down ten per cent. of gastric ulcers as of syphilitic origin. It may mimic cancer in a remarkable manner in large ulcerations of the rectum (and in other situations). Our main reliance here in diagnosis must be the history of the case and the therapeutic test.

It will be well, in this connection, to bear in mind that we may have tertiary manifestations while the

patient is unconscious of ever having had a primary lesion.

Actinomyces is a disease which very rarely invades the abdominal viscera; it presents many of the common characters of tubercular ulceration, and can only be distinguished by a microscopical examination.

ABDOMINAL TRAUMATISMS.

It was my fortune to enter on the study of medicine long before the modern surgery of the abdomen was practised. At that time, though, every surgeon, however bold, or skilful, maintained a profound reverence for the peritoneal membrane. At present, it would seem that the almost contemptuous regard for this remarkable structure is certain to lead the rising generation of practitioners into many pitfalls and inflict untold evils on the human family.

This is especially true of grave intraperitoneal injuries. Our enthusiastic expectations here have not been realized, and it cannot be gainsaid that the principles which should safely guide us have not yet been formulated.

Serious abdominal traumatism is always attended with shock, hæmorrhage, or damage of a hollow organ. These conditions succeed from crushes, blows, punctures, stab, or gunshot wounds. Immediately after violent injury shock is the most dominant symptom; the pulse quickens, the integument becomes blanched, and cold. Shock in rare instances proceeds from violence to the solar plexus alone, but in nearly all cases it follows from a large loss of blood. In some cases the patient vomits blood or passes it by the rectum; its presence in the abdominal cavity may be generally determined by physical signs, although when the escape is retroperitoneal they may mislead us.

Last June a young woman of large frame and fine physique came under my care after sustaining a violent contusion of the abdomen. Desperate shock immediately followed the injury, and, though reaction set in, profound anæmia remained. On physical examination, I could find no evidence of effusion into the peritonæum. She sank on the fourth day. On autopsy, the left kidney was found reduced to a pulp, with a vast sanguineous extravasation behind the peritonæum.

An abdominal injury may be single or complicated; i. e., laceration of a solid organ may be accompanied by the rupture of a hollow one, or the latter may be attended with a free hæmorrhage from the mesentery. Surface indications seldom furnish us any definite evidence; a widespread or deep laceration or contusion may follow with scarcely any trace of cutaneous lesion.

THE BEARING OF DEFINITE DIAGNOSIS ON PROPER THERAPY IN ABDOMINAL TRAUMATISM.

It may be inquired, concerning the early and

accurate knowledge of the pathological conditions present. Are we enabled, thereby, to institute such measures, operative or otherwise, as will lessen the subsequent dangers? We cannot yet answer this question in the affirmative in all cases. We all know that immediately after grave injury accurate diagnosis is often impossible without a free section; moreover, we are further aware that the peritoneal structures possess marvelous powers of repair.

In the light of modern teaching, there is no escape from attempting a primary diagnosis even though it entails a fresh traumatism. Along with the general signs of shock, we have here in the tissues what Boyer termed a "local asphyxia," or, as Cowan better describes it, "a local shock." The local circulation is feeble, peristalsis is arrested, the parts are benumbed; what most alarms us is the profound depression of the vital powers. It must be, then, an immediate diagnosis by *laparotomy* or a *symptomatic* diagnosis later.

A laparotomy, fraught with all the formidable dangers attendant on it, is very rarely warranted here, and yet, if performed, may fail of the purpose in view. In an extensive contusion of the mesentery, large blood trunks, or a hollow viscus, we are utterly unable to determine with the parts under the naked eye whether or not they may later go on to gangrene.

Very few survive abdominal section after grave traumatism. We are, therefore, frequently forced to delay diagnosis in these cases until peritoneal reaction and the reparative processes of nature begin. Now contusion has gone on to gangrene in the bowel, the stomach, or the bladder, or the damaged intestine has permitted pathogenic microbes to filter through and provoke peritonitis.

My own experience in very severe abdominal crushes may have been exceptional and unfortunate, but after having had several cases under my charge, I have never seen one recover when the patient was laparotomized in full shock, while abstention treatment has generally carried them through when the injury was not hopelessly mortal.

GUNSHOT WOUNDS.

All gunshot wounds which open into the peritoneal cavity are of serious omen. As in violent crushes and contusions, the primary dangers from them depend on hæmorrhage. Some of these wounds which pierce the peritonæum simultaneously penetrate the hollow viscera. Some writers make a distinction between those which open the intestine and others which do not. But Trélat and various other writers have insisted that all cases of gunshot opening of the peritonæum were equally serious, and hence all should be designated "penetrating."

In former times the limitations of diagnostic effort ended when it was determined whether or not

the peritoneal cavity was opened. But of late years much more is expected under antiseptic precautions, in order that the wounded viscera may be immediately dealt with, hæmorrhage controlled, and perforations closed. At first, acting on new principles, a very large number of this class of cases were laparotomized with a heavy mortality. The first setback that this form of treatment sustained was through Stimson's statistics. Twenty-three cases laparotomized, fifteen deaths—sixty-five per cent. Thirty-seven treated by abstention, seventeen deaths—forty-six per cent.

Mr. Watson Cheyne, in a recent summing up of his experience in the Transvaal, speaking of surgery on the field—on the firing line—says: "I believe that modern surgery and active asepsis had little to do with the result; in fact, I would go so far as to say that if these wounds had been made with the old round bullet, in a damp climate—say the Crimea—the immediate results under treatment adopted in the field would not have been much better than formerly obtained, in spite of recent advances in surgery and the introduction of Listerism; the results in the wounded were in no manner influenced by modern surgery or asepsis, in so far as that applies to an active application of their principles."

The small wound of penetration and general non-interference, he believes accounted for so many recoveries more than anything else.

Finally, in closing, he observes: "I have said enough to show, that in this matter—wound-treatment—even far from having reached finality, we have hardly begun to bring modern surgery to bear on it."

Paul Reclus, in an experimental study, shot into the abdomen of eight dogs. Two died immediately from loss of blood, two sank later from bleeding of wounds of the spleen in one and the cœliac axis in another, four recovered. These were later killed and all showed well healed perforations of the intestine. It is true that the human intestine is not so resistant as the dog's, but in life it is fully as thick and more vascular.

Again, it has been denied that conclusions based on animal experimentation will not apply to man, but that is not my own experience; moreover, our modern progress in intestinal surgery is quite entirely dependent on this line of investigation.

Laparotomies for gunshot wounds in the Cuban campaign all ended most disastrously, while a considerable number made rapid recoveries under abstention. We find practically the same results in the surgical reports from the Transvaal. It has been stated lately that the conduct of these cases in a campaign will not apply to civil life, as in war the missile is small and the velocity great. But many of the cases reported as recovering were sabre, lance,

and shell wounds, practically all under the worst possible environment.

Dr. E. E. Robinson reports thirty cases of gunshot wounds of the abdomen in the Philippines war treated without operation, twenty recoveries, ten deaths, mortality 33.33 per cent. by operation four, three deaths, 75 per cent. mortality. "Among these patients," says the writer—"there are two factors which militate against recovery, viz., the greater tendency to infection and the general poor health of the patient."

A relatively accurate diagnosis of these wounds is frequently possible by noting the site where the missile enters, the local state of the parts and general condition, the character of the discharges, etc.

When highly vascular parts are penetrated we shall have large hæmorrhage and deep shock. Immediately after intestinal perforation we shall have no positive evidence of its existence. In one of my own cases reported at the International Congress at Washington, although there were six perforations of the bowel, we had no signs of them until the abdomen was opened. At once after the stomach or small intestine is perforated by a missile its muscular coat tightly contracts and its thick mucous membrane collapses into the gap. Peristalsis ceases and all processes of digestion are temporarily in abeyance. It is only when peritoneal reaction sets in that we are enabled to determine whether there is a serious lesion or not from an enclosed perforation.

In *grave gunshot wounds of the stomach* practically the same conditions prevail, but here, because of its anatomical relation, in a double perforation some important contiguous organ rarely escapes injury. The patient, if in deep shock, will vomit and pass blood with the ejecta. Four of these cases have come under my own care which were laparotomized. In all there were grave complications. In the first, that of a young man, the ball passed through the left sixth intercostal space, opening the internal mammary artery, the lower lobe of the left lung, the left lobe of the liver, the upper border of the spleen, and, passing through both walls of the stomach, entered the pleural cavity, again passing through the lung and lodging under the integument close to the spine.

In the second case the ball passed through the lesser curvature of the stomach, through the duodenum and the head of the pancreas. In the third the left lobe of the liver and the transverse colon and both walls of the stomach were pierced. In the fourth and last case, that of a young woman, the missile, after passing through the abdominal wall, pierced the spleen, perforated both walls of the stomach, and tore the left kidney nearly into two separate halves. In all these four the gastric perforations were closed by suture. All succumbed

to the loss of blood, the first patient surviving until the tenth day, when the wound in the internal mammary artery reopened and mortal hæmorrhage into the pleural cavity occurred.

In this class of gastric wounds it is still an unsettled question whether or not we should immediately laparotomize in order to establish a diagnosis and deal with the lesion by surgical measures.

It is my opinion, based on my own experience and on all that can be gathered from the most eminent recent writers, that to subject a patient in deep shock to another fresh trial of his sinking powers, to the depressing influence of anæsthesia and an additional mutilation, is to remove whatever possible prospect of recovery remains.

The dangers of peritoneal infection from an enclosed perforation always haunt us during the course of convalescence; but are not the patient's chances of safely running the gauntlet greater than when early and radical measures are instituted, either for diagnosis or treatment?

THE EXPLORATORY INCISION.

It has been seen that the employment of this extreme diagnostic resource is of doubtful utility in traumatism of the abdomen, but in pathological conditions of various descriptions it may frequently be resorted to with safety and advantage. It is indefensible, however, until other resources fail. But sometimes the most experienced and skilled are baffled, they must grope in the dark, guided by no inflexible rules, without chart or compass; in vain, and fruitlessly they endeavor to seek out the nature of a lesion of which nothing is definitely known, though at times prompt action is called for; to interfere or not to interfere by drastic measures is the problem.

That we must resort to laparotomy for diagnosis may seem to imply a lack of skill and inadequate examination, but this will not hold, because there are diseased conditions here which will defy detection by every other means known to art.

In this class, where the distress is great and the patient in a condition to bear it, the free opening of the abdominal cavity, its rapid examination, with treatment, if possible, of the conditions discovered, is of incalculable value; though, in order to be in a measure safe and successful, the operation must be performed by an experienced, dexterous hand, with every provision for effective technique and to meet possible accidents.

A New Gynæcological Journal.—The first number of a monthly journal entitled *American Gynæcology*, dated July, 1902, has reached us. It is a handsome octavo of 111 pages of reading matter. The new journal is edited by Dr. Charles Jewett, of Brooklyn.

CONSIDERATION OF THE AORTIC ANEURYSM.*

By JAMES DUDLEY MORGAN, M. D.,

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It is a clinical fact that aortic aneurysm occurs in that period of life at which we should least expect it, and in a class of individuals that, if we consider their robust appearance, should be less prone to injury of their blood vessels. The occurrence of aneurysm, especially in the female, is very infrequent, and one found in the senility of either sex is quite a curiosity. A busy practitioner may continue his profession for several decades and never personally attend in either young or old a case of aortic aneurysm; or he may, as we all have experienced with Dame Nature, have a series of most remarkable cases occurring in a very short time. That the English and Americans suffer more than the Germans, French, and Italians is put down to their proclivity for meat, but surely with the Americans it would be better to ascribe it to following a too strenuous life.

The location and frequency of aortic aneurysm is more easily understood than its real pathogeny. Crisp, in 551 cases of aneurysm, had 175 of the thoracic, and 59 of the abdominal aorta; Myers, in his table of aortic aneurysms, makes the ascending aorta and the arch twice as frequently attacked as the descending aorta, and almost three times as frequently as the abdominal aorta. The frequency of aneurysm is in the order named, or more as we approach the heart: First, the ascending aorta; second, the arch; third, the largest branches—innominate and subclavian; fourth, the descending; fifth, the abdominal. It is not strange that we have aneurysm of the aorta so much more frequently than in other locations when we consider, first, the susceptibility of the aorta to disease, second, the normal resilience that must always exist, third, the great and sudden variance in pressure that often occurs, from excitement and from sudden and unusual exertion. The weakest point of all vessels is at the bend, and when we add to that the impingement of a current of blood of good or bad quality and of varying intensity and frequency according to the health, repose, or movements of the body, we must have in that vessel or tube the very "best rubber" to stand the strain.

Aneurysms nearer the aortic orifice are even more common than is generally supposed, and many anginal attacks and sudden deaths are undoubtedly due to pressure on the cardiac plexus or to disturbance in the circulation of the coronary arteries

caused by the aneurysm. Many of the specific diseases are prone to show their first destructive and dangerous influences upon the system by a narrowing or widening of the aortic orifice or changes in the walls of the arteries further on. There are but few severe cases of gout in which we cannot peel out the plates in the thickened tissues of the aorta—the deposits of the earthy salts. We need but a slight weakening in the muscular coat, even a vasa vasorum disturbance of the nutrition of the adventitia and media or an organic change in the circulating blood of the vessel, to produce a friction, a weakening, a softening, or a bulging of the vessel. Aneurysms near the valves are small, and when they interfere, hypertrophy and dilatation of the heart in rapid sequence follow. Upon the anterior part of the ascending aorta and right leaflet of the semilunar valves the great reflux of the blood is thrown, and it is here that the first weakening of the structure is found; the larger of the coronary arteries, also, soon suffers in the tissue formation. The course of growth is generally upward and forward, with sudden death from rupture into the pericardium. The physical signs may be almost *nil*, the case being one mostly of symptoms.

The blood, after it passes the arch of the aorta, has, if it may be so said, a smoother course; the shock and impulse of the heart have been diffused, the larger vessels of the arch have received their quota and have relieved somewhat any abnormal distention, and so rupture and disease decrease *pari passu*. Because of the position of the innominate artery in the arch, we find its junction more frequently involved than other branches; the bruit may extend into the neck and along the right subclavian and there is frequently a lagging or obliteration of the pulse of the right side, which may be felt or demonstrated by the sphygmograph. Besides the pulsation, which in thoracic aneurysm is felt in over eighty per cent. to the right of the sternum, with a movement which is heaving and expansile, the tracheal tugging, which was first referred to by Oliver, is a most valuable sign. The bruit may sometimes be got by way of the trachea and the mouth, the patient being directed to hold the chest-piece of the stethoscope between the teeth; this sound, of course, is more apt to be heard if the aneurysm presses directly on the trachea. A more accurate position of the aneurysm may be determined by a skiagraph. It has been very properly said that paralysis of both recurrent laryngeal nerves argues rather a tumor than an aneurysm, and that also the right recurrent laryngeal is seldom affected in aneurysm. The branches of the sympathetic may be reflexly irritated or compressed, causing either dilatation or contraction of the pupil. Pressure symptoms may, in aneurysm, of any part

* Read before the Medical and Surgical Society of Washington, D. C., May 1, 1902.

of the aorta, cause various pains and disturbances, and so we may have dysphagia, orthopnea, pains radiating especially into the left arm, venous congestion and œdema of the upper or lower extremities, etc.

Aneurysm of the descending aorta is often overlooked, not that the symptoms and physical signs are wanting, but because the radiating intercostal pains, which are not constant and are generally on the left side, are referred to vaguely, as anginal, pleuritic, or neuralgic. The swelling, on account of its location being interscapular or beneath the scapula of the left side is seldom seen or properly examined, and it is not until severe pressure symptoms on the vertebræ occur that the case is diagnosed.

It is hard to dissociate one's self from the idea that the opening in the diaphragm has nothing to do with the relative frequency with which aneurysm occurs close up to this muscle. Posteriorly we have the solid bone with aponeurosis, and anteriorly the fibrous crura, which aid in the expansion of the aorta. There is no doubt that the celiac axis, where the damage generally starts, aided by exertions of unusual and severe occupations, tends to produce aneurysm more frequently in this locality. The pain associated with aneurysm in this position is often most severe and persistent, and the accompanying cellulitis which is produced has certainly something to do with the extent of the suffering. If the aneurysm is near the pillars, it may be of very large size before it is detected. Sir William Jenner has said, "suspect anything else but aneurysm in examining a pulsating tumor of the abdomen." It is most remarkable with what great similitude the abdominal aorta of a neurasthenic may take on an aneurysmal feature.

Therapeutical Notes.

Iodine in Infantile Diarrhœas.—According to Dr. C. Hahn (*Journal des praticiens*, July 12th) Cattaneo, of Parma, has successfully used tincture of iodine, according to the following formula, for infantile diarrhœas:

- R Tincture of iodine.....from 10 to 15 drops
Distilled water.....150 grammes (4½ ounces)
Syrup.....20 grammes (¾ ounce)
M. A teaspoonful to be taken every two hours.

Pure Tincture of Iodine in Follicular Sore Throat: A Correction.—In reference to a comment on a Therapeutic Note in our issue for August 9th, p. 242, Dr. William J. Robinson, of New York, writes to us that the Mandl's solution referred to is more likely to be the "well-known combination of iodine, potassium iodide, glycerin, and water. There are three 'Mandel's solutions': Nos. 1, 2, and 3, containing respectively 5 grains, 7 grains, and 12 grains of iodine in 6 drachms of a mixture of

equal parts of water and glycerin. The proportion of potassium iodide is more or less arbitrary, enough generally being added to effect the solution of the iodine. And it is to be presumed that it was one of these solutions that Kassel used. A five-per-cent. solution of chromic acid on a sore throat is certainly rather heroic."

An Antiseptic Mouthwash for Infants.—Dr. James H. McKee (*Philadelphia Medical Journal*, July 26th), in an article on The Treatment of the Infantile Diarrhœas in the Summer Season, says that a good antiseptic mouth-wash should always be used before feeding, but when there is vomiting from any cause, oral cleansing should be resorted to more frequently and thoroughly. For the latter purpose, one of the appended prescriptions will serve:

- R Oil of peppermint.....30 minims
Oil of cloves.....)of each 15 minims
Oil of gaultheria.....)
Glycerin.....½ ounce
Distilled waterenough to make 3 ounces
M.
Or.
R Boric acid30 grains
Hydrogen peroxide.....1 ounce
Glycerin½ ounce
Rose waterenough to make 3 ounces
M.

The Treatment of Small-pox.—M. Landouzy (*Bulletins de l'Académie de médecine; Revue médicale*, July 23rd) recently communicated to the French Academy, on behalf of Dr. Barbary, of Nice, an observation on the treatment of eight cases of confluent small-pox, six in adults and two in children.

In the morning, during the day, and in the evening, the entire body was washed with a 1 in 2,000 sublimate solution. The face was sprayed with a tepid sublimate solution, 1 in 4,000, twice daily. Proper care was paid to the eyes, nose, ears, and mouth.

Morning and evening, a considerable time after the spraying, the parts affected by the eruption, face included, were painted with the following mixture:

- R Sodium salicylate.....5 parts
Cherry laurel water.....)of each 10 parts
Alcohol.....)

A free washing was given with boiled borated water every morning.

For internal medication, twice daily a tablespoonful of carbolated syrup (*sirap phéniqué*). According to the indications afforded by the temperature, twice daily the following powder was given:

- R Salol.....3 grains
Quinine hydrobromide.....3¼ "
M.

Milk every two hours, mixed alternately with coffee or Vichy water.

By this treatment M. Barbary has obtained the following results: 1. Cure of all his patients; 2. In the course of the disease, a rapid fall of temperature; absence of suppuration; avoidance of complications; rapid course of the disease; 3. After desquamation, a freedom from pock marks.

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TUBERCULOUS GLANDS OF THE NECK.

In the July number of the *Johns Hopkins Hospital Bulletin* there is an interesting article entitled *The Surgical Treatment of Tuberculous Cervical Adenitis*, by Dr. James F. Mitchell, resident surgeon in the hospital and instructor in surgery in the university. While the article is more particularly devoted to advocating radical surgical intervention in the majority of cases, that is to say, removal of all the lymphatic glands of those triangles of the neck that may be involved, it contains some valuable data regarding other points. It is a study of 170 cases, although only 143 of them are considered from the point of view indicated in the title of the article, for the reason that in 27 of them either no real surgical treatment was employed or the records were found to be too incomplete to be of service.

So far as these cases go, they support the general impression to the effect that tuberculous disease of the lymphatic glands of the neck is much more prevalent among persons having negro blood than among the pure whites, but it may be gathered from the article that this fact is not so much a matter of race as of condition, inasmuch as the affection in whites is chiefly encountered among those whose hygienic surroundings are bad. Dr. Mitchell thinks that the infection generally starts from above, most commonly from the tonsil or from the socket of a tooth, but a tuberculous lesion does not necessarily develop at the site of infection. Although the disease is not often fatal of itself, the author cites, with apparent approval, a statement by Blos to the effect that it frequently serves as the source of infection of the lungs, the conveyance being either through the lymphatics or by way of the blood. Dr. Mitchell, in agreement

with Volland, admits the frequent existence in children of a condition of simple chronic hyperplasia of the cervical glands, to which, he thinks, the term *scrofula*, if it is to be used at all, should be restricted, and he adds that this hyperplastic condition is most favorable to tuberculous infection.

Following Jordan, Dr. Mitchell classifies the cases as of four grades. In the first there may be directly demonstrable nothing but simple enlargement, the bacilli being very few in number and their presence often to be shown only by animal inoculation. In the second well defined tuberculous nodules are seen on section. The third is characterized by caseation; a whole gland may be found converted into a caseous mass or entirely broken down, its capsule forming the wall of an abscess. In the fourth the capsule is involved, along with the circumglandular structures, with new formation of connective tissue binding together neighboring glands, muscle, skin, etc., and sometimes the production of large cysts filled with pus and caseous matter, with or without ulcers and fistulæ. The diagnosis usually offers no difficulty, and any occasional doubt may be cleared up by the tuberculin test.

Conservative surgical intervention, as by the excision of individual glands or by their incision and treatment with iodine, iodoform, etc., is sometimes efficient, but the rubbing in of ointments is to be condemned, as it can serve only to encourage inflammation about the glands. Spontaneous healing is possible in all stages of the disease, but operative treatment is demanded in most instances, and it should always be radical, by the removal of all the glands with the surrounding fat. The operation recommended, *Halsted's*, is rather formidable so far as the external incisions are concerned; one extends from the mastoid process of the temporal bone to the middle of the clavicle, and the other runs along the whole length of the clavicle. A very difficult dissection is sometimes necessary to avoid division of the spinal accessory nerve and injury to other important structures. Neither the phrenic nor the pneumogastric nerve need ever be divided, but muscles may have to be cut, and so may the jugular vein. Extensive anæsthetic areas are not infrequently left after the operation. In spite of these difficulties and drawbacks, and regardless of the occasional occurrence of spontaneous cure, we feel constrained to look upon Dr. Mitchell's advocacy of the radical operation as wise.

CONDENSED MILK FOR BABIES.

The startling statement has lately been made in the newspapers that a physician detailed by the sanitary authorities to investigate the causes of infant mortality in the Borough of Brooklyn has reported that in his opinion a very large number of the deaths among infants are due to their having been fed with condensed milk. Years ago this impression prevailed very largely among physicians, though even then it was a matter of constant remark that babies thus fed appeared to thrive in a very large proportion of instances. We understand that the manufacture of condensed milk has been much improved since those days, and, in particular, that it has been found quite practicable to preserve the milk with the use of much less sugar than was formerly added to it. At all events, physicians' opposition to condensed milk as a food for infants, in New York at least, has almost ceased.

Few, we fancy, would uphold the proposition that condensed milk was the best substitute for mother's milk under all circumstances. We all have our preferences in this matter, and most medical men, we think, do not invariably insist on any one substitute; they try to fit the food to the individual infant's apparent requirements. The real question that comes up when we reflect upon such a statement as has been made with regard to the infant mortality of Brooklyn is as to what is the best available substitute for mother's milk in the case of the poor, who are such a vast majority in any great urban population that it is necessarily their children that fall victims in the greatest numbers to the diseased conditions that are caused or greatly aggravated by improper feeding. Most of these people, practically all of them, cannot afford to provide their children with high-priced milk or to keep on ice the liquid milk they might buy or subject it to the various processes that are in use for mitigating its harmfulness; neither can they afford any of the carefully prepared adjuncts by which the same results may be attained.

Condensed milk offers itself as a particular boon to such people. It is cheap, it is readily obtainable, it requires no special care in the handling, it is pure, and it is the product of the best milk that men of vast experience in dairy affairs are able to obtain for themselves; surely it is infinitely preferable to the milk of the average corner grocery. It is certainly the duty of sanitary officials to instruct the people

that condensed milk from the wagon tap is better for babies than the canned article, but it would require facts thus far unknown to our most experienced specialists in children's diseases and to those who watch over the great infant asylums, to lead us to look with any toleration whatever upon the dictum that our infant mortality was largely due to the use of condensed milk.

THE TREATMENT OF STYES.

Specialists would be doing a great service, we think, if they oftener laid before their professional brethren the results of their observation of affections that are so common that the general practitioner is obliged to deal with them, as Dr. Henry Dickson Bruns, of New Orleans, did in a paper which was read by title at the recent meeting of the Louisiana State Medical Society. The paper, of which Dr. Bruns has been kind enough to send us a set of proofs, dealt with the general subject of suppuration of the anterior structures of the eye, that of the lids, the conjunctiva, the cornea, and the iris. Among the suppurative affections of the lids, Dr. Bruns deals with one that the general practitioner would seldom think of referring to the ophthalmologist—the rather commonplace ailment known as a sty.

Dr. Bruns does not go far into the subject of the abortive treatment of hordeolum, judging perhaps that any such undertaking had better be reserved for the specialist; yet it seems as if any well equipped physician might with a fair prospect of success and with no danger of doing harm apply to the minute part at first affected such a germicide as should ward off suppuration. However, Dr. Bruns thinks that a sty, once begun, can seldom be aborted, although he says that frequent bathing with very hot water will occasionally bring about such a result, and he adds that, in case it does not, it will give greater relief from pain than any other measure and hasten the pointing of the abscess, "which may then be opened by the patient with a new needle or by the surgeon with some more formidable instrument."

Styes commonly come in successive crops, Dr. Bruns remarks, and their recurrence must be prevented by destroying the pus-producing fungus on which they depend. This may be accomplished by causing the patient to scrub the edges of the closed lids, the lids themselves, the brow, and all the neigh-

boring skin with a solution of mercury bichloride of the strength of 1 to 1,000. The solution, he says, should be freshly prepared each time, the scrubbing conscientiously practised night and morning, and the treatment continued for at least two weeks.

This practice should be accompanied by the removal of any discoverable source of irritation, such as any important lack of muscular balance or error of refraction. "The cure of recurrent styes by proper spectacles," he says, "is a commonplace to every oculist."

A PRAISEWORTHY NEWSPAPER EXAMPLE.

We read in the *Buffalo Medical Journal* for August of an act of praiseworthy self-restraint exercised by two newspapers of that city that we should gladly see imitated on occasion by newspapers elsewhere. A child having been outraged and murdered by a Chinaman, the *Buffalo Express* retained a competent physician to make an examination of the corpse and report in writing. A most complete and detailed report was made, which would have enabled that journal to forestall the official autopsy report by some twenty-four hours and at the same time to pander to the disgusting morbid curiosity which seems to have seized the public at large in these latter years, by emptying out a cesspool of filthy and unnecessary detail, a "scoop" which would have been only too eagerly pounced upon by certain journals that we wot of. Instead, however, of prostituting its legitimate functions as a servant of the public interest by playing the part of pander to an unwholesome and degrading curiosity, for nonessential but salacious details, this praiseworthy journal, with *The News*, which also possessed the inside information, contented itself with using it merely as a syllabus to aid its reporters in an intelligent performance of their duties at the official enquiry. Such an act of self-restraint is commendable in the highest degree, and we can only say All honor to the *Buffalo Express* and *News*; would that other newspapers would go and do likewise.

THE SANCTITY OF THE RED CROSS.

Both in the American war with Spain, and in the British war in South Africa, there were complaints of the combatants on both sides repeatedly violating the sanctity of the Red Cross. In every military operation it is impossible to avoid entirely individual departures from the laws of humanity. But where charges are bandied about freely and repeatedly, it becomes necessary to see whether some misapprehension does not lie at the bottom of them. In this

connection a very interesting article by Lieutenant-Colonel G. Sterling Ryerson, M. D., of Toronto, entitled *My Experiences in War—A Contrast, 1885-1900*, published in the *Buffalo Medical Journal* for August, gives us some valuable hints. Colonel Ryerson says:

"In conclusion, allow me to say a few words about the use and abuse of the Red Cross. Under present conditions with long range arms of precision, the arm band worn by the individual is useless. It cannot be seen. At long range, ambulances with their white covers cannot be distinguished from transport or ammunition wagons. The cross on the white field is so small it cannot be discerned. The Boers made crosses the whole size of the wagon, which was better. Colonel Neilson, D.G.M.S., Canadian Army, makes a suggestion which I think is a good one—namely, that all connected with the medical service on the field of battle should wear red and that the tilts of the ambulance wagons should be painted red. All nations now have a field service dress according to the climate in which war is being carried on. The British red coat and the American blue will never be seen again on active service. Is it not a good idea to make the life-saving service as conspicuous as possible and thus avoid the regrettable 'Red Cross incidents' which are a constant source of contention?"

Certainly some steps to differentiate more clearly the medical services are desirable, and probably nothing better than the universal adoption of some striking color for the uniform could be devised.

DANGER FROM MEDICINE SAMPLES.

We are pleased to note that the dangers incident to the promiscuous distribution of samples of patent nostrums are coming to be generally recognized by the municipal authorities all over the United States. Quite recently the Municipal Assembly of St. Paul, Minn., passed an ordinance requiring all persons who desire to distribute samples of medicines to come before the council and obtain a permit and at the same time to submit a sample of the medicine to be distributed, to the Health Department for examination as to its character. We have frequently seen reports of quite serious results following the miscellaneous distribution of so-called patent medicines. These samples are frequently left on door steps and in the reach of children lacking discretion, who may and often do do serious injury to themselves through eating the samples. In view of the reputation for vigilance borne by the health commissioner of the City of St. Paul, we feel confident that this ordinance will be so administered as to be of great service in protecting the citizens of that city against danger from this source.

News Items.

A Woman Professor at an Italian University.—Dr. Rena Mastio has been appointed to the professorship of anatomy at the University of Milan.

Sir Frederick Treves, hitherto one of King Edward's Honorary Sergeant Surgeons, has been appointed a Sergeant Surgeon in Ordinary to His Majesty.

The Unveiling of Pasteur's Statue took place on August 3rd at his birthplace, Dole, Jura. The occasion was celebrated with extensive decorations and laudatory orations.

Major Ross to Combat Mosquitoes at Suez.—Major Ronald Ross of the Liverpool School of Tropical Medicine, whose discoveries in connection with the relation between mosquitoes and malaria have made his name well known, has arranged to organize a campaign against mosquitoes at Ismailia at the expense of the Suez Canal Company.

Abating the Spitting Nuisance in London.—The Sanitary Committee of the city of London has taken up the spitting nuisance and has issued a circular on the subject to railway and omnibus companies, post offices, telegraph offices, and other public places, requesting the co-operation of employers in their effort to abate the spitting nuisance.

Physicians on Duty on the Recreation Piers.—New York City has eight recreation piers extending out into the river which are intended as breathing places for the poor during the heated term. Quite recently the Health Commissioner has announced that hereafter physicians will be in attendance on these piers from two to four o'clock every afternoon, a little dispensary being fitted up for their use on each pier.

Hat Pin in the Urethra.—Concerning Dr. Hermann's account of a case published in our issue for August 11th, Dr. H. E. W. Barnes, of Creston, Iowa, writes to us as follows: "In the *Transactions of the Iowa State Medical Society* for the year 1900 there is a report of a case that I saw in July, 1899, where I used this method. Mine is the first recorded case that I have been able to find."

The Kankakee Insane Asylum.—Vague charges of mismanagement of the Kankakee (Illinois) Insane Asylum have been made in the public press and elsewhere for some time past, and the Lieutenant Governor of the State, who, in the temporary absence of the Governor is acting in his stead, has directed the State Board of Charities to institute a thorough and complete investigation into the management of this institution.

A Campaign Against Mosquitoes has been inaugurated by the Health Commissioner of the City of New York, who has recently issued a circular containing hints, suggestions and instructions for the guidance of those who are willing to assist the Department in its efforts to destroy mosquitoes. A circular has also been issued to physicians requesting them to report all cases of malarial fever coming

under their notice. With a view to facilitating such reports, the Department will furnish printed forms on postal cards to physicians making application for them. In return for such co-operation the Department will make free microscopic examinations of the blood for malarial parasites part of its routine work.

The Craig Colony for Epileptics, at Sonyea, in Livingston County, New York, wishes to secure the services of recent graduates in medicine to act as medical internes. The positions are unpaid, but they include board, lodging and laundry free. The opportunity offered is the very best for studying epilepsy and other nervous diseases, and considerable experience may also be had in general medicine and surgery.

For further information write to Dr. W. P. Spratling, Medical Superintendent, Sonyea, N. Y.

The Effect of Food Preservatives on the Health is to be made the subject of a series of practical tests by the Department of Agriculture, an appropriation of \$10,000 for that purpose having been made at the last session of Congress. Dr. W. H. Wiley, chief of the bureau of animal industry, sailed for Europe recently, where he will make a study of the subject, and it is proposed in the autumn to conduct a series of experiments by means of tests on volunteer subjects at certain colleges.

Another Suit in the St. Louis Antitoxine Case.—John F. Fuerst brought suit some time ago against the Health Department of the City of St. Louis for damages inflicted by the death of his child from the administration of contaminated antitoxine, she being one of the thirteen children who died after the administration of antitoxine prepared in the city laboratories. The suit was decided in favor of the city on the ground that the distribution of antitoxine was made for the public good. Mr. Fuerst has now brought a new suit against the individual members of the Board of Health.

A Novel Effect of Carlsbad Water.—According to newspaper reports as quoted in *Klinisch-therapeutische Wochenschrift* the Police Commissioner of Goerlitz was recently apprehended in Carlsbad on the charge of theft and brought to trial before the Circuit Court. The case was dismissed on the ground that the defendant was suffering from kleptomania. The plea was made that his mind had been unbalanced by the too free use of the Carlsbad Sprudel water with the result that kleptomania developed. This appears to be one of those stories that one is inclined to take with a grain of salt—not the Carlsbad kind, but plain sodium chloride.

Many Vacancies in the Army Medical Service.—There are now some forty-nine vacancies in the Medical Department of the U. S. Army and, so far, only thirty applications for examination have been filed. Judging from the results of previous examinations it is to be expected that not more than five of the applicants will succeed in passing the examination, thus leaving forty vacancies unfilled. The lack of army surgeons is especially embarrassing to the department in view of the spread of cholera in the Philippines and the consequent demand from the army in the East for medical assistance.

Foreign University News.—Dr. Bergonie, professor of physics at the University of Bordeaux, has been made professor of biological physics and of electro-therapeutics.—Dr. Emmingshaus, professor of psychiatry in the University of Freiburg, Switzerland, has at his own request been placed upon the retired list.—Dr. Hoche, extraordinary professor of psychiatry at the University of Strasburg, has accepted a call to the chair made vacant at Freiburg by the retirement of Prof. Emmingshaus.—Dr. S. Recasens Gerol has been nominated as professor of obstetrics and gynaecology in the University of Madrid.—Dr. Cousin has been made professor of operative medicine, Dr. Delanglade, professor of external pathology, and Dr. Oddo, professor of internal and general pathology, at the University of Marseilles.

The Contest for the Post of Coroner's Physician.—In the contest for the position vacated by Dr. Hamilton Williams, Coroner's physician, who resigned last May, extended argument was heard by Justice Greenbaum recently in the Supreme Court. Dr. Otto E. Schultze, who has the backing of the Greater New York Democracy, contends he should have the place because he stands at the head of the eligible list. Dr. Stephen E. Whitman, who had been physician to the Board of Coroners of Richmond Borough until the number of Coroners was recently cut down, urges that the place belongs to him as he is on the preferred list and should have such a vacancy before new physicians are appointed from the eligible list. Decision was reserved by Justice Greenbaum.

Typhoid Fever in Chicago forms the principal topic of the weekly bulletin of the Chicago Health Department for the week ending August 9th. The disease is said to be more generally prevalent in Chicago just now than at any time since the three years immediately preceding the world's fair in 1892. The cases so far reported have, as a rule, been of a mild type. The bulletin conveys explicit directions as to the precautions which should be taken to escape the disease. Following is a statement of the mortality for the week ending August 9, 1902, compared with the preceding week and with the corresponding week of 1901. The estimated population in 1902 was 1,820,000; and in 1901, 1,758,025:

	Aug. 2, 1902.	Aug. 2, 1902.	Aug. 19, 1901.
Total deaths, all causes	555	515	468
Death rate per annum in 1,000	15.02	15.60	13.87
By sexes			
Males	268	310	272
Females	287	226	196
By ages			
Under 1 year	133	187	127
Between 1 and 6 years	67	63	49
Over 6 years	88	77	75

Cholera in the Philippines.—The official report of the chief medical officer of the Division of the Philippines for the month ending June 15th which has been received by the Surgeon General of the Army shows that of the 31,050 men in this division, there were 7.29 per cent. on the sick list. There were 79 deaths during the month as compared to 100 for the preceding month; 37 deaths were caused by cholera, 7 by dysentery, 2 by typhoid fever, and 6 by drowning. The report states that two officers, 61 Americans and one native soldier have been attacked by cholera. A total of more than 150 places have been invaded by the disease, which is spreading in virulent form in the province of Tafavas, and in

Laguna and Vavatgus. Outside of Manila there have been 5,967 cases reported, with 4,290 deaths, while within the city, 1,350 cases have been reported, with 1,100 deaths.

The Sanitary Condition of the Manhattan Public Baths.—The Board of Health recently adopted a recommendation that the Sanitary Code be amended so as to provide that no public baths be maintained in New York City or along the water front without a permit from the board of health. This action was prompted by a report showing that some of the Manhattan baths were in a filthy and unsanitary condition, a number of those on the water front being located near the mouths of sewers. The superintendent of Public Buildings and Offices in this borough said that the new rule would have no effect on the administration of baths in Brooklyn, which were already under the Health Board's supervision. Early in the season, the superintendent said, care was taken to locate the baths in compliance with the regulations. Four of the five bath houses were moved away from the vicinity of sewers so that no fault could be found by the health inspectors.

A Military Medical Journal may be established under the direction of the medical department of the British Army, a circular note of inquiry having been sent out by the Director-General to the officers of the Army Medical Services asking for an expression of opinion upon the subject. The circular intimates that the journal—if it should be established—will contain: (1) Original articles written by officers belonging to the Army Medical Services, and others. (2) Bibliographical notes on articles of importance and interest to the military services. (3) Reprints and translations from military, medical, and other journals. (4) Official gazettes, and official information generally, bearing upon the Army Medical Services. A journal conducted upon these lines would, it is hoped, enable medical officers to keep in touch not only with what is going on in the British service, but with the advances and changes that are being made in other armies. The journal would be conducted and edited under the supervision of a committee representative of the Headquarters Staff, the Medical Staff College and the Advisory Board of Army Medical Services, and to this committee officers who have made special studies of any subject are invited to give their names as referees on that particular subject. The pages of the proposed journal would not be open to controversial correspondence, or to items of social or personal interest, other than what is official. The annual subscription would not in any case exceed £1. The Director-General expresses the hope that there will be no hesitation in supporting this effort to maintain a high standard of professional and scientific attainment in the Army Medical Services. If the circular elicits proof of a strong feeling in favor of the establishment of such a journal it might be possible to extend the proposal to the establishment of an institute similar to that of the Royal Artillery and Royal Engineers in London. In commenting on the proposal—which it is disposed to regard with favor—the *British Medical Journal* suggests "that in the *Journal of the Association of Military Surgeons of the United States* they have an excellent model of what such an organ should be."

The British Medical Association.—The seventh annual meeting of the British Medical Association was held at Manchester on July 29th, 30th, 31st and August 1st. The address of the president, Mr. Walter Whitehead, was devoted to a consideration of Manchester's early influence on the advancement of medicine and medical education. The Association met just twenty-five years ago in the city of Manchester, a fact which gave the historical review of the relations of Manchester to medical education particular interest. Mr. Whitehead succeeds Dr. George Pagot Ferguson as president, having taken office at the opening session of the meeting instead of at the closing session as is the custom in the American association. Mr. Andrew Clark's three years' term of office as treasurer having expired, he was succeeded by Dr. Markham Skerritt, of Clifton, Bristol, who has held nearly every office in the association at various times, including that of secretary. One interesting feature of the meeting to Americans was the seconding by Dr. Samuel Alexander, of New York, of the vote of thanks to the president for his address. The address in medicine was delivered by Sir Thomas Barlow, the subject being *The Study of the Natural History of Disease, the Basis of All Advance in Its Treatment*. Our readers will recall with interest the fact that Sir Thomas is physician to His Majesty's household, and he was in this capacity in attendance on King Edward during and after the operation recently performed upon him. The address in Obstetrics was delivered by Dr. William Japp Sinclair on *Carcinoma in Women, Chiefly in its Clinical Aspects*. Dr. Julius Dreschfeld, the president of the Section in Medicine, announced as a subject for discussion, on the first day, the *Causes, Diagnosis, and Principles of Treatment of Dilatation of the Stomach*. The discussion was opened by Prof. Clifford Allbutt and participated in by several members and visitors, including Professor Musser of Philadelphia, and Professor Von Noorden, of Frankfort, Germany. The Section in Surgery was presided over by Mr. Henry Morris; the Section in Obstetrics and Gynecology by Dr. David Lloyd Roberts; the Section in Public Medicine by Dr. J. Niven; the Section in Psychological Medicine by Dr. G. W. Mould; the Section in Physiology and Anatomy by Dr. Stirling; the Section in Pathology by Prof. Sheridan Delépine; the Section in Ophthalmology by Dr. Glascott; the Section in Diseases of Children by Dr. Ashby; the Section in Otolgy by Dr. William Milligan; the Section in Dermatology by Dr. H. A. G. Brooke; the Section in Pharmacology by Dr. Tirard; the Section in Industrial Hygiene and Diseases of Occupation by Dr. A. Whitelegge, and the Section in Ethics by Mr. Whitaker.

Official News.

Public Health and Marine-Hospital Service:

Official List of Changes of Station and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service, for the Seven Days ending August 7, 1902:

BROOKS, S. D., Surgeon. To assume temporary command of the Portland, Maine, Quarantine Station during the absence of Surgeon P. C. KALLOCH.

BROWN, B. J., Jr., Acting Assistant Surgeon. Granted leave of absence for fourteen days from August 1st.

CARLTON, C. G., Senior Pharmacist. Granted one day's extension of leave of absence, under paragraph 20t of the *Regulations*.

CREEL, R. H., Assistant Surgeon. To report to the medical officer in command, Immigration Depot, New York, for duty.

EBERSOLE, R. E., Assistant Surgeon. To report to the medical officer in command at the Gulf Quarantine Station for duty and assignment to quarters.

HARRIS, B. Y., Acting Assistant Surgeon. The Department letter granting Acting Assistant Surgeon HARRIS leave of absence for thirty days from July 15th, is amended so as to read twenty days, from August 5th.

HUNTER, S. B., Acting Assistant Surgeon. Granted leave of absence for seven days from August 7th.

KALLOCH, P. C., Surgeon. Granted leave of absence for two days from August 4th.

MACDOWELL, W. F., Pharmacist and Disbursing Agent. Granted leave of absence for thirty days from August 3rd.

ROEHRIG, A. H., Pharmacist and Chemist. Granted leave of absence for sixteen days from August 16th.

RUCKER, W. C., Assistant Surgeon. To report to the medical officer in command at San Francisco for duty and assignment to quarters.

SAFFORD, M. V., Acting Assistant Surgeon. Relieved from duty at the Immigration Depot, New York, and directed to proceed to Boston and report to the medical officer in command for duty in connection with the inspection of immigrants.

STEARNS, H. H., Acting Assistant Surgeon. Granted leave of absence for twenty-one days from August 10th.

STIMSON, A. M., Assistant Surgeon. To report to the medical officer in command at New York for duty and assignment to quarters.

WARD, W. K., Assistant Surgeon. To report to the medical officer in command at Boston for duty and assignment to quarters.

WHITE, J. H., Assistant Surgeon General. Directed to proceed to Philadelphia to inspect the steamer *Dagmar*, and to the Reedy Island Quarantine station to inspect the station.

Appointments.

ARTHUR MARSTON STIMSON, of New York; WILLIAM COLBY RUCKER, of Wisconsin; WILLIAM KRAFFT WARD, of the District of Columbia; RICHARD HENRY CREEL, of Missouri; and RUEL ELBERTON EBERSOLE, of Virginia, commissioned as assistant surgeons (recess) in the Public Health and Marine-Hospital Service of the United States.

Board Convened.

Board convened to meet at Washington, D. C., for the purpose of preparing regulations relating to the duties of medical officers in connection with the Immigration Service. Detail for the board: Assistant Surgeon General L. L. WILLIAMS and Assistant Surgeon V. G. HEISER.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending August 9, 1902:

DISEASES.	Week end'g Aug. 2.		Week end'g Aug. 9.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.	63	8	50	10
Scarlet fever.	91	7	92	9
Cerebro-spinal meningitis.	9	4	0	8
Measles.	98	7	119	0
Diphtheria and Croup.	180	10	107	28
Small-pox.	4	5	5	2
Tuberculosis.	223	134	246	124

Public Health and Marine-Hospital Service Health Reports:

The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending August 9, 1902:

Smallpox—United States.

Alabama.....	Mobile.....	Aug. 2.....	1 case.	
California.....	Los Angeles.....	July 19-26.....	1 case.	
	San Francisco.....	July 20-27.....	7 cases.	
Colorado.....	Denver.....	July 19-26.....	2 cases.	
District of Columbia.....	Washington.....	July 27-Aug. 2.....	3 cases.	
Illinois.....	Belleville.....	July 27-Aug. 2.....	6 cases.	
	Chicago.....	July 27-Aug. 2.....	1 case.	
Indiana.....	Indianapolis.....	July 27-Aug. 2.....	5 cases.	
Kentucky.....	Covington.....	July 27-Aug. 2.....	7 cases.	
Maryland.....	Baltimore.....	July 27-Aug. 2.....	1 case.	
Massachusetts.....	Boston.....	July 27-Aug. 2.....	3 cases.	
	Cambridge.....	July 27-Aug. 2.....	6 cases.	2 deaths.
	Chelsea.....	July 27-Aug. 2.....	1 case.	
	Everett.....	Aug. 2.....	2 cases.	
	Fall River.....	July 27-Aug. 2.....	1 case.	
	Lowell.....	July 27-Aug. 2.....	1 case.	
	Malden.....	July 27-Aug. 2.....	1 case.	
	Medford.....	July 27-Aug. 2.....	1 case.	1 death.
	New Bedford.....	July 27-Aug. 2.....	1 case.	
	Newton.....	July 27-Aug. 2.....	1 case.	
	Somerville.....	July 27-Aug. 2.....	1 case.	
Missouri.....	St. Louis.....	July 28-Aug. 3.....	14 cases.	
Nebraska.....	Omaha.....	July 27-Aug. 2.....	3 cases.	
N. Hampshire.....	Nashua.....	July 27-Aug. 2.....	1 case.	
New Jersey.....	Hudson County.....			
	Jersey City.....			
	Clark.....	July 28-Aug. 3.....	9 cases.	3 deaths.
	Newark.....	July 27-Aug. 2.....	4 cases.	2 deaths.
New York.....	Elmira.....	July 27-Aug. 2.....	1 case.	
	New York.....	July 27-Aug. 2.....	4 cases.	5 deaths.
N. Carolina.....	Hancock.....	Aug. 2.....	1 case.	
	Newbern.....	Aug. 2.....	1 case.	
Ohio.....	Cincinnati.....	July 26-Aug. 1.....	7 cases.	
	Cleveland.....	July 27-Aug. 2.....	2 cases.	2 deaths.
Pennsylvania.....	Butler.....	July 10-17.....	2 cases.	
	Erie.....	July 27-Aug. 2.....	2 cases.	
	Johnstown.....	July 27-Aug. 2.....	6 cases.	1 death.
	McKeesport.....	July 27-Aug. 2.....	41 cases.	
Vermont.....	Burlington.....	July 27-Aug. 2.....	1 case.	
Washington.....	Tacoma.....	July 27-Aug. 2.....	3 cases.	
Wisconsin.....	Milwaukee.....	July 27-Aug. 2.....	2 cases.	

Smallpox—Foreign.

Austria.....	Prague.....	July 5-19.....	3 cases.	
Belgium.....	Antwerp.....	July 12-19.....	3 cases.	
Colombia.....	Cartagena.....	July 12-19.....	1 death.	
Gt. Britain.....	Birmingham.....	July 12-26.....	1 death.	
	Liverpool.....	July 12-26.....	16 cases.	
	London.....	July 12-19.....	48 cases.	
India.....	Bombay.....	June 17-July 8.....	15 deaths.	
	Calcutta.....	June 21-July 6.....	17 deaths.	
	Karachi.....	June 22-July 4.....	3 deaths.	
Italy.....	Naples.....	July 5-12.....	1 death.	4 deaths.
	Palermo.....	July 5-12.....	2 cases.	
Mexico.....	City of Mexico.....	July 13-27.....	13 cases.	
Russia.....	Odessa.....	July 5-19.....	4 cases.	3 deaths.
	St. Petersburg.....	July 5-12.....	5 cases.	2 deaths.
	Warsaw.....	July 5-12.....	12 cases.	5 deaths.
Straits Settlements.....	Singapore.....	June 7-12.....	1 death.	
Switzerland.....	Geneva.....	June 28-July 12.....	1 case.	

Yellow Fever.

Costa Rica.....	Port Limon.....	July 17-24.....	2 cases.	
Mexico.....	Coatzacoalcas.....	July 12-26.....	8 cases.	4 deaths.
	Vera Cruz.....	July 19-26.....	10 cases.	9 deaths.

Cholera.

China.....	Amoy.....	May 31-June 14.....	120 cases.	estimated.
	New Changung.....	To June 28.....	330 cases.	
	Tientsin.....	June 21-28.....	351 cases.	126 deaths.
India.....	Bombay.....	June 7-21.....	281 cases.	407 deaths.
	Calcutta.....	June 17-July 8.....	2 cases.	2 deaths.
	Elmhurst.....	June 21-July 5.....	47 deaths.	
Japan.....	Fukuoka Ken.....	July 3.....	1 case.	
	Nagasaki Ken.....	July 3.....	49 cases.	7 deaths.
	Saito Ken.....	July 3.....	2 cases.	2 deaths.
	Shizuoka Ken.....	July 1-July 3.....	62 cases.	33 deaths.
	Tokyo Ii.....	July 3-July 3.....	1 case.	12 deaths.
	Tokushima Ken.....	July 4.....	1 case.	
Java.....	Batavia.....	June 1-19.....	30 cases.	30 deaths.
Straits Settlements.....	Singapore.....	June 7-14.....	51 deaths.	

Plague—United States.

California.....	San Francisco.....	July 18.....	1 case.	1 death.
	San Francisco.....	July 21.....	1 case.	1 death.

Plague—Insular.

Hawaiian Islands.....	Honolulu.....	July 23.....	1 death.	
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Plague—Foreign.

India.....	Bombay.....	June 12-July 8.....	110 deaths.	
	Calcutta.....	June 21-July 4.....	64 deaths.	

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending August 9, 1902:

BEAL, HOWARD W., First Lieutenant and Assistant Surgeon, will proceed to Fort Columbus, N. Y., for duty.

CALVERT, WILLIAM J., First Lieutenant and Assistant Surgeon. The resignation of his commission as an officer of the Army has been accepted, to take effect on August 9th.

DARNALL, CARL R., Captain and Assistant Surgeon, is granted leave of absence for one month, with permission to apply for an extension of fifteen days.

DE WITT, WALLACE, First Lieutenant and Assistant Surgeon, will proceed from Manila, on September 30th, to San Francisco.

DRAKE, CHARLES M., Major and Surgeon. The leave of absence granted him is extended one month.

GARDNER, EDWIN F., Major and Surgeon, will proceed to Fort Totten, N. Y., to relieve W. FITZHUGH CARTER, Major and Surgeon, who will proceed to San Francisco for transportation to the Philippine Islands.

HARVEY, LUTHER S., Captain and Assistant Surgeon, will proceed to the Philippine Islands on the transport *Logan*.

SHEPARD, JOHN L., First Lieutenant and Assistant Surgeon, will proceed to Fort Apache, Arizona, to relieve GEORGE H. RICHARDSON, First Lieutenant and Assistant Surgeon, who will proceed to Fort Logan, Colorado, for duty.

WILLIAMS, ROBERT E., Captain and Assistant Surgeon. The leave of absence granted him is extended one month.

Births, Marriages, and Deaths.

Married.

DE WATTEVILLE-BRAUN.—In New York, on Tuesday, August 5th, Dr. W. A. De Watteville and Miss Augusta Braun.

HALE—BARNES.—In Dayton, Ohio, on Wednesday, August 6th, Dr. George F. Hale and Miss Edith Barnes.

MENZIES—GATIE.—In New Bedford, Massachusetts, on Monday, August 4th, Dr. John E. Menzies and Miss Rachel Willis Gatie.

PICKETT—HENDRICK.—In New York, on Wednesday, August 6th, Dr. Frederick Smith Pickett, of Cleveland, and Miss Sophie Hendrick.

Died.

BEACH.—In New Orleans, on Wednesday, August 6th, Dr. Erasmus D. Beach, in the eighty-seventh year of his age.

DARLING.—In Washington, on Thursday, August 7th, Dr. Henry Darling, in the fifty-eighth year of his age.

FRICK.—In Kansas City, Missouri, on Thursday, August 7th, Dr. C. D. Frick, of South McAlester, Indian Territory, in the thirty-fifth year of his age.

HEIST.—In Townsend, N. Y., on Thursday, August 7th, Dr. William H. Heist, in the sixtieth year of his age.

HOFMANN.—In Cincinnati, on Sunday, August 3rd, Dr. George O. Hofmann, in the thirty-fifth year of his age.

HOLBROOK.—In New York, on Tuesday, August 12th, Dr. Martin L. Holbrook, in the seventy-second year of his age.

KLOCK.—In Ottawa, Canada, on Monday, August 4th, Dr. William H. Klock, in the forty-first year of his age.

LEE.—In Charleston, S. C., on Wednesday, August 6th, Dr. R. H. Lee, in the seventy-third year of his age.

LOSEY.—In Conesus Center, N. Y., on Sunday, August 3rd, Dr. Jesse Bradford Losey, in the seventy-fifth year of his age.

LOTHROP.—In Buffalo, on Thursday, August 7th, Dr. Thomas Lothrop, in the sixty-sixth year of his age.

MORGAN.—In Hollis, Long Island, on Monday, August 4th, Dr. John Edward Morgan, in the forty-sixth year of his age.

TWYMAN.—In Kansas City, Missouri, on Monday, August 4th, Dr. L. W. Twyman, in the seventy-seventh year of his age.

Pith of Current Literature.

PRACTICE OF MEDICINE.

The Simulation of Acute Peritonitis by Pleuro-Pneumonic Diseases. By H. L. Barnard, F. R. C. S. (*Lancet*, August 2nd).—This paper deals with a class of cases in which it is easy to mistake thoracic for abdominal disease. The thoracic diseases which can give rise to such severe abdominal signs as to simulate peritonitis, are all situated in the lower part of the chest, either in the base of the lung or the adjacent pleura—diaphragmatic or parietal.

Of the six cases here reported, three were pleuropneumonia of the base of the lung, two were pyopneumothorax, and one was traumatic. The last was the only case operated on.

In these cases the abdominal wall is acutely tender and painful. The tenderness often extends over the whole abdomen, but often it is unilateral; it may be present only above or below. Such acute abdominal pain and hyperæsthesia in the right hypochondrium might readily be taken as due to hepatic and biliary diseases, while, in the right iliac region appendicitis, and in the epigastrium perforated gastric ulcer, would suggest themselves. The abdominal muscles are in spasm, so that the abdominal wall is hard and boardlike. The deepest anæsthesia is required to relax this spasm. The respiration is of the costal type, and the abdominal wall relaxes for a moment at each inspiration—an important diagnostic sign. The visceral signs are distributed along the whole length of the alimentary canal. Gastric disturbance leads to nausea, hicough, and vomiting. The intestines are apparently more or less paralyzed, so that the abdomen becomes distended, and this, with the tenderness and spasm of the abdominal wall already referred to, produces a most deceptive resemblance to peritonitis. Constipation is nearly always present, and the rectum loses its normal irritability. The patient is often collapsed at the onset of the pain.

In diagnosis the chief points to be observed are the rapidity of the respiration, out of all proportion to the pulse rate. The respirations often have that catch at the height of inspiration which is characteristic of pleurisy. The abdominal tenderness is superficial and firm deep pressure is permitted.

Irritation in continuity of the lower six dorsal nerves explains the hyperæsthesia of the abdominal wall. These intercostal nerves supply the diaphragm and lower pleura, and their branches will there be irritated by an acute inflammatory process. The location of the pain depends upon which nerve is affected.

Three Cases of Motor Aphasia from Injury to the Head, two of which were Rapidly Cured by Operation. By Dr. D. Newman (*Lancet*, July 26th).—*Case 1.* Injury to the head by a fall from a bicycle, followed by unconsciousness and incontinence of urine, and after three days by epileptiform seizures, which at first were few in number, but afterwards became very frequent; consciousness returning showed the presence of motor aphasia; the fits augmented in severity and increased in number; on the ninth day after the accident partial, and on the next day complete, paralysis of the right arm and leg ensued while the mental condition was improving; operation was immediately followed by cessation of epileptiform attacks, rapid recovery of movement in

the paralyzed limbs, and complete recovery of speech within a fortnight.

Case 2. Compound fracture of the skull at the anterior inferior angle of the left parietal bone; symptoms of concussion with complete unconsciousness; on the fourth day slight twitchings of the right arm and leg; ten epileptiform fits in twenty-four hours; operation followed by return of consciousness and cessation of fits; no paralysis; aphasia remained after consciousness returned; complete recovery on the twenty-eighth day after operation.

Case 3. Injury to head by fall from a bicycle, followed by complete unconsciousness and incontinence of urine of one month's duration; deglutition difficult; no epileptiform attacks and no paralysis of the limbs, but evidence of motor aphasia slowly recovering during four months; no operation performed; slow recovery of speech during four months.

Purpura Fulminans Following Scarlet Fever. By Dr. H. E. J. Biss (*Lancet*, August 2nd).—In the case here recorded, the child had a severe attack of scarlet fever which did not present any unusual features, and convalescence appeared to be established. Suddenly cutaneous hæmorrhages in enormous abundance took place, accompanied by hæmatemesis, bloody stools, and oozing from the gums. In thirty-six hours from the appearance of the first hæmorrhage, the patient was dead. The chief feature of the post-mortem examination was the state of the kidneys. These were transformed almost entirely into fat, a little blood-clot being found in the calices.

The sudden occurrence of wide-spread hæmorrhages suggests a very acute toxæmia or blood infection, due to the elaboration of some toxic substance or the supervention of some fresh organism.

A Case of Recovery from Membranous Gastritis. By O. Grünbaum, M. B. (*Lancet*, August 2nd).—Membranous gastritis is a condition characterized by an exudation from the epithelial lining of the stomach, leading to the formation of a false membrane over the whole or a part of that viscus. The symptoms are very variable. Thirst is often distressing, the pain in the abdomen is great, and vomiting uncontrollable. But cases have been recorded in which no symptoms existed. The pathognomonic sign is the vomiting of a cast of the stomach or shreds of croupous membrane, but owing to the rarity of this sign, together with the fact that this form of gastritis is usually secondary to some very grave disease, the condition is rarely diagnosed during life. The cast consists of fibrin and blood cells only. The case here reported was that of a girl aged three years. She complained first of sharp earache, the pain running down the neck to the stomach. No fever; no membrane on tonsils or fauces. On the tenth day the child vomited a piece of membrane the shape and size of which suggested that it was a cast of the greater part of the stomach including the cardiac opening. The cast of the pyloric end was missing, but later, it too was vomited up. Cultures from the throat and the membrane, and also direct smears all failed to show any diphtheria bacilli. The patient complained chiefly of great thirst, but as vomiting followed even small doses of water, rectal feeding was adopted. Although diphtheria was suspected no antitoxine was given. The patient's condition gradually improved, the vomiting grew less, and within ten days she was entirely out of danger.

OBSTETRICS AND DISEASES OF WOMEN.

The Management of the Normal Third Stage of Labor.—Dr. Rudolf Wieser Holmes (*Philadelphia Medical Journal*, August 9th) after considering briefly the history of the conduct of the third stage of labor, and the physiological and anatomical facts entering into its scientific management and their support from clinical observation, details the representative forms of management as recommended by Credé, Kabierske, Dohrn, and Ahlfeld. He then lays down the following as the management to be recommended:

During the expulsion of the child's trunk an assistant or nurse should lightly place the hand on the fundus and follow it down, and should keep the hand there. The eyes of the child may be cleansed with boric acid and its mouth cleared of mucus. When the cord has ceased pulsating, or pulsations at least have become weak, it may be ligated and severed, a ligature be placed an inch or so from the umbilicus, and another as close to the vulva as possible. If a coil of funis be suspected to be within the parturient tract, it may be gently drawn out, this second tape serves as an index of the advancement of the cord. Directly after cutting the cord, or even before, the woman should be turned on her back if the second stage was conducted on the side. During the turning the fundus must be supported. The object of having the third stage managed with the woman recumbent is to have abdominal pressure disturbed as little as possible. Van der Warker has shown that a woman in the semiprone position has an intra-abdominal pressure of almost nil, so danger of aspiration of air is present; also it is more convenient to conduct this period with the woman on her back. The child is disposed of. The buttocks, vulva, etc., are cleaned with antiseptics. Fresh linen is placed under her, and a sterile pad is applied to the vulva. The cord is placed over one groin. The thighs are closely apposed; this keeps air from the vagina, promotes retention and clotage of blood. From time to time the pulse is noted, observation of the escape of blood taken, the hand resting lightly on the uterus will determine the condition of the organ, but no massage is to be practised. In the course of ten, twenty, or thirty minutes, or exceptionally an hour or more, the fundus will rise, the cord will advance, the globular form of the uterus will be observed, and perhaps the placenta may be palpated externally in the lower segment. Now, the placenta is outside the uterus—its further advance is to come from abdominal pressure which is an uncertain factor. As it is advisable to have the woman placed comfortably in bed as soon as is consistently possible, it is proper to expel the placenta—placental expression is performed in contradistinction to Credé.

Technics.—The vulva and vestibule are rendered sterile, and the bladder is catheterized unless positive that it is empty. The uterus then will tend to take a position in the midline, if not, it is brought there. Four fingers pass behind the uterus, raise it until its long axis is perpendicular to the plane of the brim. When the uterus has reached the acme of its hardness the thumb is flexed, thus permitting the hand firmly to hold the uterus—then with a downward movement the placenta is forced out by the upper segment telescoping the lower, the placenta then will be received

into the hand awaiting it. If this procedure is not hurriedly carried out, the membranes will slowly escape. If on account of thin membranes there is a tendency for them to tear, it is a useful expedient to twist them into a cord; this will prevent tearing and will hasten separation; also, often it is advantageous to relax the hold on the uterus slightly to permit recoil, whereby separation is expedited.

If there is any tendency for the uterus to relax, especially if blood appears externally or is retained within the uterine cavity, then and only then is massage indicated; only too often, premature and ill advised massage has been the cause of retained placenta. Credé's should have a small place in the treatment of the third stage; if there is some uterine relaxation with hemorrhage after a contraction, and massage does not hold the uterus contracted and stop hemorrhage, Credé may be appropriately carried out. It is not within the scope of this paper to outline the indication for Credé in an abnormal third stage, so further discussion would be out of place at this time.

In a strictly normal course of labor Holmes deems it unnecessary to exhibit ergot *post partum*; if there is any undue blood loss, or tendency to uterine relaxation, it may be given and the attendant will be on the safe side, but it should not be given before the placenta is born, unless there are positive indications that one can expel the placenta before the ergot can act, that is within ten or fifteen minutes. Broadly, it is an obstetrical error to give ergot before the uterus is empty.

After the birth of the placenta the final toilet is carried out—an antiseptic pad is applied to the vulva, and a binder is placed about the abdomen—and the woman is made comfortable in bed. The author emphasizes his conviction that the attendant should not leave the patient, however satisfactory the labor, until a full hour after the birth of the secundines.

The Present Status of the Pessary.—Dr. F. H. Davenport (*Boston Medical and Surgical Journal*, August 7th) concludes an article on this subject with the following statement of general principles which, if adhered to, will make the treatment of displacements by pessary a success in the greatest number of cases possible:

(1) Study the cases. Determine the probable length of time that the displacement has lasted, its possible cause, the symptoms it has caused, the order of occurrence, and the relative importance of the general and local manifestations, and from these data form a careful opinion as to the chances of cure by one or the other methods of treatment.

(2) In a case of retroversion or flexion, always replace the uterus before adjusting the support. The pessary should not be relied upon to do this, as only in the rarest case will it be possible.

(3) In fitting a support choose one which fits exactly if possible, but if not, have it rather too small than too large.

(4) The ideal pessary is one which supports the uterus perfectly, and without the patient being conscious of its presence.

(5) The patient should be kept under observation while she is wearing the pessary, and seen at regular intervals, preferably after each monthly period, for the cleansing of the support and its replacement.

(6) When it is deemed wise to make an attempt

to go without it, it should not be removed at once, but a smaller one substituted to be worn a month, and then a still smaller one, which may then finally be removed.

The answer to the question proposed in the title of the paper, What is the present status of the pessary in the treatment of displacements of the uterus? may thus be summed up:

The pessary, the use of which twenty-five years ago was the sole method for the treatment of these affections, suffered with the development of surgical methods a temporary neglect. It is now regaining its position to some extent, and the indications for its use are better understood, and are upon a more scientific basis.

In uncomplicated cases in young women who have not had treatment, operation should be advised. Operation is the only method which holds out prospect of cure in cases complicated with lacerations, enlarged uterus or much prolapse. In other cases, especially where the uterus is small, where symptoms have been present but a short time, and particularly if they are associated with neurasthenia, treatment by pessary will often result in a cure. In such selected cases cure may be expected in about one-half. Even in cases where cure cannot be hoped for by pessary, its temporary use is often of value in relieving symptoms and in aiding to restore the general health.

Carcinoma in Women Chiefly in its Clinical Aspects.—By Dr. W. J. Sinclair (*British Medical Journal*, August 2nd).—The author reviews the old and new theories as to the pathology and aetiology of carcinoma of the uterus. In recent years there has been a wave of mental depression passing over the gynaecological world because of the unfavorable remote results of vaginal hysterectomy for cancer. One of the results of this has been a rush to the extreme verge of the practical in dissecting out, not only the internal sexual organs, but the whole of the lymphatics and cellular tissue of the pelvis. The author does not hesitate to say that a large portion of the extended radical abdominal hysterectomies for cancer are homicidal vivisections. Most of the cases recorded have been too far advanced for any operation, however radical. The patients who escape with their lives from the operations are no better off in relation to recurrence than those who have undergone the comparatively safe operation of radical vaginal extirpation. Cancer of the cervix uteri occurs almost exclusively among the poor, the chronically over-worked and underfed among women, poor, profligate, harassed, worried, drained by lactation, reposeless. The author has no doubt that fissures of the cervix, neglected lacerations, tissue changes in the cervix from flexions, irritations from venereal diseases, and remnants of puerperal sepsis, affect the cervix and render it more liable to cancer. Cancer of the cervix is a different disease from cancer of the body, and is a *morbus miseriae*, like leprosy and osteomalacia. It is bound to decrease as the social condition and physical and mental well-being of the people improve.

So far as the medical profession is concerned the chief difficulty in the way of obtaining better results by early operation is that of early diagnosis. The author calls attention to the value of friability of tissue as pathognomonic of cancer in this particular situation. The presence of friable tissue in the cervix

uteri indicates the existence of disease which is clinically malignant, whatever the microscope may say.

Cancer is infectious to the individual already affected with cancer, but to no other. The phenomena of rapid recurrence in the cicatrix after operation, owing to contact of the fresh wound with cancerous matter, points to an early cancerous condition of the system, an entirely different matter from the late cancerous cachexia.

Abdominal Extirpation of the Carcinomatous Uterus by Wertheim's Method.—Dr. A. Döderlein (*Centralblatt für Gynäkologie*, June 28th in recording his operations for uterine cancer during the past four and one-half years, had but eighty-four per cent. of primary unions, and sixteen per cent. of his patients died. Thirty-eight patients have thus far remained free from recurrence, fifteen per cent. of these for more than three years. For one year, the author has used Wertheim's method, in all in twenty-six cases, six of them now dead. Döderlein finds the advantages of this method to consist in the excellent view of the operative field in the most extreme upward position of the pelvis, in the extent of the possibilities offered in extirpating diseased tissues and glands, and in the ease of removing recurrent carcinomatous tissue.

Pregnancy and Locomotor Ataxia.—M. Jean Heitz (*Gazette hebdomadaire de médecine et de chirurgie*, July 13th) reports and describes minutely six cases of pregnancy and labor in women afflicted with tabes dorsalis. From the scheme of sensation-disturbances before and during the birth act, he concludes that the sensitive fibres supplying the uterus, the cervix, and the vagina spring from the cord through the third and fourth posterior sacral nerves; but it cannot be definitely asserted that they follow the visceral branches of the sacral nerves, or whether they traverse the corresponding sacral sympathetic ganglia. The vasomotor reflexes were not disturbed as proved by the absence of hæmorrhages, as well as by the absence of any infection or difficulty in placental expulsion.

SURGERY AND ANATOMY.

The Relation of Pulmonary Embolism to Post-operative Pleurisy.—Dr. G. Brown Miller (*American Medicine*, August 2nd) after an exhaustive review of the literature of pulmonary embolism, including abstracts of many cases, comes to the conclusion that one must be convinced that pleurisy is, in a certain number of cases, the result of a pulmonary embolus. This is especially true in that form of the disease which occurs after operation or labor, coming on suddenly with sharp pain in the chest, dyspnoea, which is of limited extent and without known cause. In such cases one should bear in mind the possibility of the occurrence of a fatal pulmonary embolism, of which the first is a precursor, and take precautions to prevent any unnecessary muscular movement of the patient until the danger of embolism is past.

Intestinal Obstruction. By Dr. Edward A. Balloch (*American Medicine*, August 2nd).—The author reports three cases, and draws therefrom the following conclusions: (1.) Early diagnosis is the main factor in the saving of life in cases of bowel

obstruction. (2.) Acute intestinal obstruction is characterized by symptoms which should be recognized with reasonable certainty in the majority of cases. (3.) If obstruction probably exists, cathartics should be withheld. (4.) Chronic, slowly-increasing obstruction may at any time become acute. (5.) Surgical advice should be sought early. (6.) In true obstruction the only remedy is surgical intervention. (7.) The choice of operation depends upon the condition of the patient. (8.) Whenever possible the cause of the obstruction should be radically removed. (9.) Beyond question, in the last stages, and probably in doubtful cases, the proper plan is to establish a fecal fistula and thus gain time to get the patient in condition for more radical operation. (10.) General anesthesia is a distinct element of danger in operative cases, and when a fecal fistula is to be established, local anesthesia should be used by preference.

GENITO-URINARY DISEASES.

The Prevention of Syphilis.—Dr. Z. J. Eltzine (*Roussky Vrach*, June 22d and 29th) concludes as follows regarding the prevention of syphilis. 1. Patients should always be told when they have become infected with syphilis, and the rule about professional secrecy should be strictly enforced. 2. The attending physician has no right to withhold the diagnosis from the patient in the interest of another person, *e. g.*, the husband of a woman who has become infected after marriage. 3. No syphilitic child should be allowed to be nursed by a healthy wet nurse, as the child will serve as a source of contagion to the nurse. If such an infection occurs, the nurse should be taken care of and provided for by the family at fault, and it is the duty of the physician to see that this is done. Special asylums for syphilitic wet nurses should be established in connection with syphilitic hospitals, so as to supply syphilitic nurses to families in which the disease has already attacked the infant. All infant asylums should have consulting syphilographers on their staffs, and these consultants should be called to examine children whenever there is a suspicion of syphilis, before these children are admitted to the institution. Separate asylums for syphilitic children should be established.

DISEASES OF CHILDREN.

The Symptoms and Treatment of Acute Pyelitis in Infants.—Dr. John Thomson points out (*Scottish Medical and Surgical Journal*, July) that: (1) In infant girls, when debilitated from any cause, acute pyelitis may be set up by the immigration of the *Bacillus coli* from the bowel. (2) The presence of the disease is sufficient to occasion very high fever, extreme distress, and a copious deposit of pus and bacteria in acid urine. (3) Unlike any other disease (except malaria), it frequently causes rigors, even in young babies. (4) The presence of anal excoriations has possibly an important etiological significance in these cases. (5) The prognosis when the case is treated is altogether favorable, although complete recovery is sometimes delayed for many weeks. The only essential treatment consists in the thorough and long-continued neutralization of the acid in the urine by the administration of alkaline remedies.

LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

The Functions of the Epiglottis. By Dr. K. Renshaw (*British Medical Journal*, July 19th).—The old idea of the function of the epiglottis was that it was to close down upon the glottis during deglutition, and so prevent food from entering the larynx. Against this theory may be stated the following: (1) The muscles attached to the epiglottis are far too weak to be capable of bending the cartilage transversely; (2) persons in whom the epiglottis has been removed or destroyed have no difficulty in swallowing solids; (3) the normal irregularities of the epiglottis would prevent its being bent backward; and (4) a case of acid poisoning has been described where the only erosion of the glottis was at a position which would have been completely protected by a depressed epiglottis. As a matter of fact, the only function performed by the epiglottis during deglutition is to act as a slight lateral protection to the glottis. Its main function is to prevent the secretions of the upper air passages, etc., from entering the larynx when in a state of rest. By its means these secretions are deflected into the pyriform fossæ, and so find their way into the œsophagus.

PHYSIOLOGY AND PATHOLOGY.

New Reaction Upon Some Reducing Substances of the Organism.—Dr. G. Gabritschewsky (*Berliner klinische Wochenschrift*, June 3rd) has prepared a reagent composed of a four-per-cent. solution of sodium iodide and a one-per-cent. starch solution. When this is brought into contact with some organic substances, iodine is set free and a blue color results from the presence of the starch; other substances cannot bring about this result. Negative results are found with glycogen, some ferments, urea, xanthin, creatine, caffeine, tyrosine, hippuric acid, glycolic, resorcin, salicylic acid and formalin. In the urine of patients with diabetes and peritonitis, the use of the reagent was negative, certain chemical substances seeming to interfere with the reaction.

The Action of Proteolyzed Gelatin-cultures of the Anthrax Bacillus in Rabbits. Dr. Alessandro Bajardi (*Riforma medica*, April 21st) inoculated virulent cultures of anthrax into large flasks containing ordinary Löffler's broth-gelatin and kept these in a thermostat for about three months at a temperature of about 18° C. The flasks which contained a liquefied material were then stored in a refrigerator for several weeks, and the liquid contents were then poured out into long narrow tubes, at the bottom of which a little chloroform had been placed. The microbes having been separated by sedimentation, the liquid was filtered through paper and tested as regards its sterility by means of cultures and inoculations. The filtrate was then treated with alcohol, and the precipitate resulting was dried at 37° C. Solutions of this precipitate in normal salt solution were then made, and injected into rabbits. Some of these rabbits were then inoculated with virulent cultures of anthrax germs, others were bled, and the serum recovered was injected into other rabbits, in order to see whether the serum so

prepared had any immunizing power. The author found by the means indicated that in gelatin cultures of the anthrax bacillus there were formed substances that acted as immunizers in rabbits, but not in guinea pigs, and that the injection of these substances into rabbits imparted to the serum of these animals marked bactericidal and antitoxic properties.

Changes in the Suprarenal Gland in Pellagra.

—Dr. R. Finotti and Dr. E. Tedeschi (*Riforma medica*, April 23rd and 24th) states, as a result of their researches, that in the suprarenal capsules of pellagra patients there were found with a certain regularity the following lesions: Small-cell infiltration, connective-tissue proliferation at the expense of cellular elements, and, later, necrosis of the latter. Therefore it is possible that the symptoms of pellagra which are usually attributed to the action of pellagrous poisons are due to an insufficiency of suprarenal secretion.

Typhoid Bacilli in Roseolar Spots.—Dr. C. Seeman (*Wiener klinische Wochenschrift*, May 29th,) has examined the roseola, as early as possible, in thirty-four cases of typhoid fever, for the Eberth bacillus. In thirty-two of the cases, the bacillus was found in the blood of the roseola. The Widal reaction was positive in all the cases, but appeared after the finding of the bacillus in eight cases. The author regards the presence of the bacilli in the spots as an earlier means of making the diagnosis than the serum reaction.

On the Theory of Urinary Secretion.—Dr. K. A. Bouinevitch, (*Archiv. Patologii*, April 30th). According to Koranyi's theory, the glomeruli filter water and salts, principally sodium chloride, into the tubules, and while this filtrate flows through the tubules, there takes place an exchange between substances derived from the blood which pass through the tubular epithelium into the lumen of the tubules and the salt solution mentioned, so that for every molecule of effete material that passes from the blood into the tubules, there passes one molecule of salt which had filtered through the glomeruli. The theory of Koranyi is the basis of the clinical application of the freezing test to urine (cryoscopy). As the freezing point of urine varies as the number of molecules dissolved therein, one can tell by comparing with the normal freezing point of urine the freezing point observed, whether the urine is of proper molecular constitution. If the epithelium of the tubules is diseased, the exchange between the glomerular filtrate (salt solution) and the epithelial filtrate or excretion will cease to be perfectly balanced, and there will be a discrepancy in the proportion of chlorides and that of the other constituents of the urine, such as urica, etc. This disproportion will be apparent when the ratio of the freezing point, expressing the total number of molecules in the urine, and the amount of chlorides in solution in the urine is ascertained. Lesions of the epithelium of the tubules are manifested by an increase in the amount of chlorides and a decrease in the number of metabolic molecules, such as those of urica. On the other hand, lesions of the glomeruli will be manifested by a decrease in the filtrate of sodium chloride, and an in-

crease, in proportion, of the metabolic molecules excreted. The author reports two cases in which his observations confirmed the theory of Koranyi.

Clinical Significance of Isoagglutinins in the Serum of Healthy and Sick Persons.—Dr. A. von Decastello and Dr. A. Sturli (*Münchener medizinische Wochenschrift*, July 1st) conclude that the great majority of healthy and sick individuals above six months of age, bear in the serum isohæmoagglutinins. Exceptions are found only in cases of total absence of isoagglutinins and the specific lack of sensitiveness in the red blood cells. Isoagglutination has no diagnostic significance. In the new born and in children under six months of age, marked deviations of typical reactions are found, explicable by the fact that the agglutinins appear primarily in the serum and produce a change in the red blood cells (immunization), secondarily. Physiological and pathological destruction of the blood are not causes of the appearance of isoagglutinins.

Renal Origin of Urobilin.—M. Gilbert and M. Herscher (*Gazette hebdomadaire de médecine et de chirurgie*, July 3rd) assert that urobilinuria is no criterion of the state of health of the hepatic cells, since it is always of renal origin. It represents only the presence of biliary pigment in the blood and should be regarded, therefore, as an important confirmatory sign of cholæmia.

Nephrolysin.—Dr. G. Ascoli and Dr. F. Figari (*Berliner klinische Wochenschrift*, July 7th) report on their experiments. Their nephrolysin is in the serum withdrawn from animals in which the kidney, or a part of it, from another animal has been implanted intraperitoneally. The authors have found that when nephrolysin is injected into the central nervous system, it acts as a highly toxic agent, and when injected subdurally, it causes the death of the animal with tremendous disturbance of the nervous system. There is a simultaneous high increase in the arterial pressure and tonic and clonic convulsions, with paralysis, form part of the clinical picture. Ascoli and Figari believe that the cardiac hypertrophy of chronic nephritis and the general uræmic condition of the same disease may be found to be due to the toxic element found and described by them.

Ruhemann's Method of Estimating the Amount of Uric Acid in Urine. By Dr. A. I. Kalatchnikoff (*Roussky Vratch*, June 15th).—The importance of determining quantitatively the amount of uric acid in the urine has long been recognized, but unfortunately no suitable clinical methods were available for this purpose. Ruhemann, of Berlin (*Berliner klinische Wochenschrift*, 1902, Nos. 2, 3) recently introduced a very simple apparatus whereby this estimation could be made with comparatively little trouble by the clinician. The author has tested the accuracy of this method as compared to the results of the standard analytic methods of Heinz and Haycraft. The Ruhemann method is as follows: A glass tube, stoppered with glass, is provided with a scale for this estimation, and the process depends upon the titration of uric acid with iodine in the presence of carbon disulphide. The graduated tube, which is styled a uricometer, is filled to the mark S,

near the bottom, with carbon disulphide and a solution of iodine (iodine 1.5, potassium iodide 1.5, in 15 of absolute alcohol, and 185 distilled water) is filled up to the mark 1. Urine is now added to this until it reaches the mark 2.45 per thousand. The urine is further added, drop by drop; after each addition the tube is stoppered and well shaken. The carbon disulphide, absorbing the iodine, turns a coppery brown; the rest of the fluid assumes the color of normal urine. On adding additional amounts of urine, drop by drop, and on repeated shaking, the carbon disulphide becomes violet, pinkish violet, pink, pale pink, and finally milky-white. The end of the reaction is indicated by the appearance of a pale pink tint which, on further addition of urine, turns a milky white. The scale on the tube is so constructed that the top of the urine shows the number of parts of uric acid per thousand of urine, in other words grammes per litre. Provision is made for using diluted urine in case there is an excess of uric acid, or more urine in proportion to the reagent in case there is very little uric acid. The urine to be examined must be acid in reaction, or must be acidified; it must not contain large amounts of albumin, pus, or blood, which, if present, must be removed by boiling. The method as will be seen, is very simple, but the author has found that it is by no means accurate, even for clinical purposes. Compared with Heintz's method, it differs to the extent of from 1.2 to 17 per cent. Compared with Haycraft's method, Ruhemann's test shows only about 50 per cent. of the uric acid present. Solutions of uric acid alone could not be titrated at all with Ruhemann's solutions. If Heintz's method is admitted as correct, then Ruhemann's test has some value, but if Haycraft's is regarded, as it generally is, as a standard method, then the new test is of no clinical value. [If the relation between the amount of uric acid found by this method is constant as regards the amount found by Haycraft's much more difficult method, it is possible that a modification in the technics is all that it necessary to make the Ruhemann test valuable at the bedside. Further experiments are necessary to determine this, and the author's experiments, which are not very many, cannot be regarded as conclusive.]

A Case of Rigor Mortis in a Dead Fœtus in Utero.—Dr. L. A. Gousakoff (*Roussky Vrach*, June 20th) relates a case in which a stillborn child was found to be in a peculiar state of muscular contraction. The mother was a multipara, forty years of age, with a negative history. The child was born normally, but, on examining the child to see whether there was any pulsation to the cord, it was noticed that the upper and lower extremities were rigidly fixed in a state of flexion, and that they returned to that position if partly unbent. There was no doubt that this was rigor mortis which had begun in the uterus. Cases of this kind are extremely rare. The views of different observers on the subject of rigor mortis in *fœtus in utero* are widely divergent. Lange believes that in every fœtus that dies *in utero* after the twenty-eighth week of intrauterine life there is rigor mortis. The present author is inclined to endorse this view. The author explains the occurrence of rigor mortis in his case as follows: The patient

was a woman with Bright's disease, and under the influence of disturbances in the kidneys, toxins accumulated in the mother's blood and poisoned the fœtus. When the fœtus died of this toxæmia, there came into play various factors which favor rigor mortis. Thus, the high temperature of the uterine cavity favors post-mortem rigidity, the presence of toxins in the blood also promotes muscular rigidity, and rigor mortis is more apt to occur with marked intensity in persons who had been suffering from renal disease. The reason that rigor mortis is not frequently observed in fœtuses are that for the most part this phenomenon disappears quickly, that in most instances in such cases there is an instrumental intervention, directing attention to the mother and away from the child, which is found dead and therefore adjudged to be uninteresting. The author believes that rigor mortis occurs in all fœtuses that die after the twenty-eighth intrauterine week. From the medicolegal viewpoint this is important, for rigor mortis in a fœtus does not speak of its being born long since. The question is rather imperfectly worked out just at present.

Are the Micro-organisms of Liman Mud Specific? Dr. L. Silberberg, of Odessa (*Roussky Archiev Patologii*, etc., April 30th), says that the bacterial flora of the mud of the "Limans" of southern Russia is derived from the bacteria of the air and ground which is carried by springs to the Limans. The formation of liman mud is most active during the Spring season, and comparatively passive during the rest of the year. He does not believe that the bacteria of the liman mud are specific, because if there were any specific germs in this mud, such as the germs of typhoid fever or cholera, they would produce a decomposition of the liman mud. The Limans are natural sources of a mud which is rich in certain mineral substances, and is highly valued for the "mud bath" treatment popular in some parts of Europe.

The Causal Relation of Cocci to Rheumatism.—Dr. W. Blair Bell (*Edinburgh Medical Journal*, August) is convinced that all acute rheumatic affections are of microbic origin, and, further, that they are of coccal causation. The source of infection is sometimes obvious, sometimes obscure. The author thinks that those specially called "rheumatic," as opposed to pyæmic suppurating lesions, are produced by a toxine circulating in the blood without an accompanying army of cocci; but that certain of the cocci, e. g., pneumococci and gonococci, do frequently invade the joint and produce symptoms that are no longer purely rheumatic. From this multiplicity of determining factors, the author concludes that "rheumatism" in its acute form is a symptom only of many toxæmias and not a clinical entity; chronic rheumatism being a symptom of some perverted chemical change associated with cold, food, nervous changes, etc. The so-called specific diplococcus is a modification of either the streptococcus or the staphylococcus—an attenuated variety—and it is by these that the ordinary nonsuppurating "rheumatic fever" is produced.

American Medical Association.

SECTION IN NERVOUS AND MENTAL DISEASES.

Third Day, Thursday, June 12th.

Institutions for the Epileptic.—*Dr. H. N. Moyer*, continuing yesterday's discussion, stated that he felt these conditions were largely the result of a defective nutritional condition, and reported a case in which the use of suprarenal extract, in five grain doses three times a day, had prevented the occurrence of an attack for about a year and a half, the patient previously having had frequent attacks. He has used this remedy in about twenty-five cases and considered that at least one-fourth of this number had made good recoveries.

Dr. A. A. Eshner remarked that he believed the two principal causes of epilepsy were a sensitive nervous system and various irritants. The use of digitalis, in conjunction with the bromides, was recommended, and in some cases the mixed bromides were thought to be preferable to a single bromide. The greater difficulty in controlling the attacks of *petit mal* was noted, and, in the cases in which the attacks occurred at long intervals, it was thought that he best results would be obtained by endeavoring to remove the causative agent.

In closing, *Dr. H. A. Tomlinson* stated that he believed the treatment should be directed to the constitutional condition.

Dr. William P. Spratling had observed good results follow the use of the horse-nettle berries in selected cases. In a series of 1,200 cases observed at the Craig colony, over 50 per cent. were attributed to heredity, in 16 per cent. one of the parents being epileptic, while the hereditary predisposition was traced to insanity, tuberculosis, and alcoholism, in 8 per cent., 14 per cent. and 15 per cent., respectively, of the others. The treatment should be individualized, and while the value of the bromides in certain cases was recognized, deleterious effects had been observed to follow the administration of this drug.

Prognosis in Mental Diseases.—*Dr. FRANK PARSONS NORBURY*, of Jacksonville, Illinois, stated that he considered prognosis as both an art and a science, and that it should be based upon (1) family history; (2) ætiology; (3) pathology; (4) clinical history, and (5) complexly related physical diseases. It should be comprehensive and attempt to include (1) the prospects in the present attack; (2) its effect upon the patient's future, and (3) its effect upon his descendants.

Static Electricity in the Treatment of Morphinism.—*Dr. A. J. PRESSEY*, of Cleveland, Ohio, favored the gradual withdrawal of the drug, static electricity being administered for the relief of the symptoms, such as nausea, nervousness, headache, neuralgia, pains, sleeplessness, etc., which usually occurred during that period. The length and frequency of the electrical applications should vary according to the condition of the patient, but in all cases it should be employed for from ten to twenty minutes *per diem* during the time the patient was in the institution, where he should remain until entirely

well; and under proper conditions it was believed that most of the cases of drug habit could be cured.

Dr. Richard Dewey mentioned the fact that the mica plate machines were said to retain their power during hot and damp weather better than the machines with glass plates.

In closing the discussion, *Dr. Pressey* stated that many of these cases occurred among sporting men and women, under which conditions there was almost uniformly a relapse, while, in the cases occurring in the intellectual classes he believed from 70 to 80 per cent. made permanent recoveries. The deteriorating effect of the various institutions which claimed to cure the habit in a few weeks, was commented upon.

Peripheral Neuritis as a Complication of Whooping-Cough.—*Dr. AUGUSTUS A. ESHNER*, of Philadelphia, read a paper with this title, in which he proposed the inclusion of all the ætiological factors of neuritis in general in one great group, namely, the *physical*; which was subdivisible into (1) causes that were chemical, and (2) those that were not. The former comprised (a), poisons introduced from without; and (b) poisons generated within the body. The first of these (a) might be of infinite variety, while the second (b) were subdivisible into (1) those of metabolic, and (2) those of infective, origin. The distinctive symptoms of neuritis included pain, tenderness, and swelling in the course of the affected nerves, muscular weakness and wasting, degenerative electrical reactions and alterations in reflexes. Sensibility was generally impaired, and there might be ataxia or other derangement of coordination. Secretory, circulatory, and trophic changes were not rare, and arthropathies might occur. Neuritis was rare as a complication of whooping-cough. One or many nerves might be involved, and those of special, as well as those of common, sensibility. Reports of seven cases collected from the literature were read.

Dr. E. G. Carpenter believed that the majority of cases of neuritis due to external causes were of toxæmic origin, and this was borne out by pathological observations. These substances produced changes in the cortical cells and vasomotor system and eventually destroyed the nutrition to the neurone paths.

In closing, *Dr. Eshner* remarked that he believed the condition of occupation-neurosis to be a functional and nutritive disturbance, rather than a pure neuritis.

Determinate Factors in the Cause of Insanity.—*Dr. EUGENE CARPENTER*, of Columbus, Ohio, read a paper on the above subject, in which he expressed the opinion that the causes of this condition could be included under the two headings of (1) heredity, and (2) strain. 60 per cent. of all the cases being attributable to the former factor. Under the subdivision of strain might be included alcohol, which was responsible for from 12 per cent. to 20 per cent.; syphilis from 8 to 10 per cent.; and injuries to the head from 2 to 3 per cent.; while tuberculosis and drug habits contributed a considerable proportion. Infectious disease, toxæmia, and moral causes also operated as causative factors, although in cases produced by the last-mentioned agent, it was felt that a pathologic basis was always established previously

to the insane manifestations. In regard to the large number of cases in which tuberculosis was associated with insanity the belief was expressed that many of these patients contracted the tuberculosis after the occurrence of the insanity, and that it was not a cause thereof.

Dr. J. P. McBride stated that he believed that in many of the cases in which tuberculosis was associated with insanity, the tuberculosis was contracted after the inception of the mental condition, rather than that it was a preexisting causative agent thereof. Among the other factors tending to produce insanity were mentioned Bright's disease, antenatal anatomical defects, heredity, traumatism, syphilis, and alcohol.

Dr. H. A. Tomlinson expressed the belief that in all cases of insanity there existed a primary cerebral instability or defectiveness, which, under the influence of the tuberculous, alcoholic, or syphilitic conditions, developed into insanity.

Dr. Richard Dewey felt that the condition of melancholia which was often found in the tuberculous insane was secondary to the insanity, and was produced by the effect of the patient's physical condition upon his mind. He did not believe that tuberculosis played much part in the production of pure insanity.

Dr. J. T. Searcy expressed the opinion that many cases of insanity were the result of excessive use of the brain, especially during childhood.

In closing the discussion, *Dr. Carpenter* stated that he looked upon insanity following tuberculosis as a reflex condition, the cerebral functions being impaired by the nutritive disturbance caused by the disease.

Causes Other than Syphilis for Paresis.—*Dr. H. P. Sights*, of Paducah, Kentucky, stated that, while he recognized the fact that syphilis was present in a large percentage of the cases, he felt that, even where it was coexistent, it was rather the mental worry and anxiety that caused the paresis than the physical condition. Paresis was most frequently observed in men who had been subjected to excessive cerebral strain and irregular eating and sleeping, and usually occurred about the age of forty-five years, the patient in many instances being naturally of a sensitive temperament. Observations by the author had shown that in the Western Kentucky Asylum 18 per cent. of the white inmates were suffering from paresis, while but 2 per cent. of the colored inmates were similarly affected. As syphilis was much more prevalent among the negroes than the white race, these statistics would indicate that syphilis was not so common a cause of paresis as was generally supposed. Sexual excesses and alcohol, no doubt, played an important rôle in the causation of this condition. The importance of early recognition and treatment by means of rest and mental relaxation was remarked and the reason that so few recoveries were reported was believed to be due, in a considerable degree, to the late diagnosis.

Dr. Sydney A. Dunham reported a case of paresis which had come under his observation, in which he could obtain no history of specific disease and where he did not believe the disease existed, although the records of the asylum where the patient had been treated before consulting the speaker had noted the

presence of syphilis. For this supposed condition potassium iodide had been administered in large quantities, and, at the time the patient left the institution, he had atrophic ulcers of both heels, was much emaciated, and was in a very precarious condition. Nuclein, in thirty-drop doses, three times a day, was administered, under which treatment, in conjunction with nutritive aids, the patient made a good recovery.

Dr. Richard Dewey reported several cases which had come under his observation in which specific disease could be excluded, where he attributed the condition to excessive mental work, probably accentuated to some extent by alcohol, which may have been taken with a view of strengthening the endurance.

Dr. H. A. Tomlinson expressed the belief that in many cases of paresis associated with syphilis, the specific disease was not present as a causative agent, but was contracted during the first stages of the paresis.

Dr. Sights, in closing, remarked that in the cases where syphilis was present the mental anxiety acted as a superinducing cause of the paresis.

The Diagnosis of Brain Abscesses.—*Dr. HERMAN H. HOPPE*, of Cincinnati, Ohio, called attention to the difficulty of determining whether or not the abscess was present, and, if it was present, in locating it. Early recognition and prompt surgical treatment were thought to be of great importance, as the operation was much more likely to be successful if performed before the rupture of the abscess. The writer classified the abscesses under four subdivisions: (1) Traumatic abscesses caused by an open scalp wound or a fractured skull; (2) abscesses resulting from a purulent inflammation of a bone or bony cavities, (a) otitic abscesses, (b) rhinogenic abscesses, and (c) abscesses due to caries of the bones of the skull; (3) tuberculous abscesses; and, (4) metastatic abscesses. Cases illustrating the different classes were reported. The consideration of the symptomatology of the condition was thought to be facilitated by dividing them into three groups: (1) those due to suppuration; (2) those due to increased intracranial pressure; and, (3) local symptoms.

New Officers—The following were elected for the ensuing year: Chairman, *Dr. F. W. Langdon*, of Cincinnati, O; secretary, *Dr. F. Savary Pearce*, of Philadelphia, Pa.; member of the House of Delegates, *Dr. Richard Dewey*, of Wauwatosa, Wisconsin.

Proceedings of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.

Seventeenth Annual Meeting, Held in Washington on April 20 and 30, 1902.

The President, *Dr. JAMES C. WILSON*, of Philadelphia, in the Chair.

(Concluded from page 203.)

Spontaneous Non-tuberculous Pneumothorax.

—*Dr. M. H. FUSSELL* and *Dr. David Riesman*, of Philadelphia, read a paper which embraced, first, a

short consideration of pneumothorax in general; second, the report of three cases of spontaneous non-tuberculous pneumothorax; third, a report of a number of cases from literature; fourth, a consideration of the causes, symptoms, diagnosis, prognosis, and treatment of spontaneous non-tuberculous pneumothorax. When this spontaneous condition first occurred, it was thought that it arose from small tuberculous nodules. This was still held by West, who said that experience and experiment seemed to show that when pneumothorax had taken place in the apparently healthy body, a lesion of a tuberculous character had been the cause of the accident. Cases had been observed coming to a post-mortem which had proved that in some instances tuberculosis was not present. A young woman had been under one of the authors' personal observation for a long while. Her father was still living and perfectly well; her mother had diabetes mellitus; the rest of the family history was entirely negative. She had chlorosis when she was sixteen, but recovered. She gave birth to a healthy child at nineteen, and the child was still living. In about a week she had an attack of pneumothorax. The author was called to see her for some indefinite kind of ailment. He made an examination and discovered nothing. He was called a week later, at 4 o'clock in the morning. She had been taken with pain on the left side in the region of the nipple. He found her sitting up in bed, suffering intensely with dyspnoea and pain. Much to his surprise, he discovered over the whole left side absolute dulness. He thought there was a pleural effusion; there was no fremitus; there were no voice sounds; there was no reason to think it was anything but pleural effusion. He did not tap her then. The next day there was more resonance than before. She suffered so much and was so much incapacitated that he tapped her, aspirating on the left side. Immediately all her symptoms disappeared. She was comfortable and lay down to sleep.

Dr. KINNICUTT had seen a case of a young athlete who was seized with great pain; the pressure was so great that he was immediately aspirated. He believed that in such cases there was a lesion of the lung, but that it was so localized that it was impossible by physical examination to discover it.

Dr. SOLIS-COHEN said that, regarding the coin test, he had had the experience of mistaking for pneumothorax an enormous cavity; the lung tissue was almost gone.

Dr. SHATTUCK said that either recovery or staying well or absence of any sign of tuberculosis was sufficient to exclude tuberculosis, but he believed that in many of these cases there was a tuberculous factor. He related the case of two little negro boys who were operated on in the Massachusetts General Hospital for perforating gunshot wounds. They were found to have tuberculous mesenteric glands. They got well of the operation and went out all right.

Dr. PEABODY said that two or three years ago, in a hospital in New York, his attention had been called to a woman who had her left chest filled with air; there was no lesion of the lung. Aspiration proved the diagnosis and the woman recovered. It was not until some weeks after this that physical examination revealed a râle at the apex of the af-

fected side. He could not help feeling, with the majority of the gentlemen, that tuberculosis was likely to be the cause in all these cases.

Some Pulsations in the Chest other than Aneurysmal.—Dr. A. R. EDWARDS, of Chicago, reported a case of pernicious anemia in which there was a diffuse expansile pulsation in the chest and upper abdomen without anatomical findings. He also reported a case of sarcoma of the lungs with pulsation. The interesting point was that there was a dynamic pulsation in the lower chest and abdomen which was not propagated in one line, but an extensive pulsation. He thought reference to this case would bring out other cases of the same kind. As an explanation of the mechanism, there are very few of the suppositions that in this case would adequately explain the pulsation of the chest and abdomen, to say nothing of its expansile character. He wished to bring out the fact that the adhesions were above and below the diaphragm.

Dr. PEABODY said that the explanation offered could not be regarded, for it had occurred to all who found cases of adhesions in the lower lobe and in the spleen that there must be some other explanation.

Dr. JACOBI said that he had seen a large hepatic aneurysm that was the cause of such a condition.

Dr. LE FLEUR reported a case of supposed aneurysm which post mortem proved to be one of ulceration of the stomach.

Dr. SHATTUCK reported a case diagnosed as positively aneurysm, but upon close examination none was found and the man was well to-day.

Healed Ulcerative Endocarditis.—Dr. J. B. HERRICK, of Chicago, said that *a priori* we might expect occasional recovery in ulcerative endocarditis, for recovery was seen in not a few cases of other forms of septicæmia and pyæmia, even though they were severe. Clinical observation showed occasional recovery as revealed by a review of the literature of the subject. Post-mortem findings indicated the possibility of healing of the valvular lesion. The influence of this possibility of recovery on prognosis and treatment was alluded to. Cases and autopsy specimens of the writer's tending to confirm these views were brought forward. There should be more care in our diagnosis in attempting to discriminate between the different classes of endocarditis. Sometimes we could distinguish between a pneumococcal and a syphilitic endocarditis.

Dr. THAYER reported a case of endocarditis.

Dr. KINNICUTT reported a case of endocarditis following gonorrhœa, first affecting the aortic and then the mitral valves. Recovery took place.

Dr. JANEWAY reported a case of endocarditis with pulmonary invasion occurring at St. Luke's Hospital, New York.

Dr. SHATTUCK reported two cases of ulcerative endocarditis, with recovery, one under antistreptococcus serum, the indications for its use being the expectoration, which contained enormous quantities of streptococcus.

Dr. JACOBI said that one was more apt to make a mistake in a murmur in an adult than in a child, taking in the functional murmur for the organic.

Dr. OSLER said that one very rarely saw recovery from ulcerative endocarditis—the pneumonic cases,

puerperal and gonorrhoeal—but in the group of cases in which endocarditis was of the recurrent form, associated with old valvular difficulty, then recovery might take place.

The Condition of the Heart in Pregnancy.—Dr. ALFRED STENGEL and Dr. W. B. STANTON, of Philadelphia, read a paper in which they compared the McDonald instrument with the modern instrument, both of which they considered inaccurate. In the case of a multipara the pressure before and after delivery showed practically the same thing; on the whole, a slight diminution in the blood pressure after delivery. Murmurs were found in all of twelve cases but three. A murmur was found before delivery in nine out of twelve; after delivery in seven, in one of which it was scarcely audible and in one of which it had grown louder than before delivery. The conclusions were that the outward displacement of the apex of which the enlargement of the heart was regarded as being the cause was due to the upper displacement of the diaphragm from pressure; that there was an increase in the size of the right heart; and that the murmur so commonly heard over the heart in the latter months of pregnancy was due to the overaction of the right heart and the *conus arteriosus*. There was no practical difference in the blood pressure before and after delivery.

A Case of Pancreatic Lithiasis with the Recovery of the Characteristic Calculi from the Stools, Followed by an Attack of Cholelithiasis a Year Later, with the Passage of Characteristic Biliary Calculi, was reported by Dr. F. P. Kinnicutt, of New York.

Dr. FUSSELL said that there were six cases on record in which pancreatic calculi had been found in the stools. He added one case which he had observed himself. The patient, a woman forty-two years of age, complained of pains in the back, between the shoulders, nausea, vomiting, and diarrhoea; no jaundice. Several attacks occurred. After one of these, six small stones were recovered in the stools, which were decided to have originated in the pancreas. The stones were composed of carbonate and phosphate of calcium without cholesterol. Later the patient passed stones of decided biliary origin. There was no glycosuria. There was normal fat absorption. The diagnosis between pancreatic lithiasis and cholelithiasis was difficult; the subjective symptoms were not characteristic. The insufficient splitting up of fat into fatty acids and soaps in the intestines was a symptom of importance indicating obliteration of the pancreatic duct.

A Further Contribution to the Subject of Vasomotor Ataxia.—In a paper with this title Dr. S. SOLIS-COHEN, of Philadelphia, called attention to the condition of essential instability of the controlling (or toxic) apparatus of the vasomotor nervous system as a large factor in the defective reaction of the individual toward environmental changes, so that persons of the type described exhibited upon slight excitation, physical, chemical, or psychic, certain phenomena which in other persons required causes of greater moment. These phenomena depended upon irregular and sometimes widely distributed contractions and dilatations of the capillaries and the smaller blood vessels, an might be divided into three classes. 1. Those dependent upon

on excessive relaxation, or paresis, of the vessels, often with concomitant impairment of cardiac inhibition. 2. Those dependent upon excessive constriction of vessels, usually with disturbance of cardiac inhibition, also, but sometimes without definite cardiac phenomena clinically demonstrable. 3. Those in which phenomena of the two opposite groups were commingled.

Intestinal Hæmorrhage; its Relation to Duodenal Ulcer.—Dr. HENRY JACKSON, of Boston, reviewed several cases of ulcer of the duodenum. Clinically, pathologically, and certainly from a therapeutic standpoint, duodenal ulcer might be considered as closely allied to gastric ulcer. He reported seven autopsies in which duodenal ulcer was found.

Drainage in Chronic Intestinal Catarrh; its Importance and Technics.—Dr. NORMAN BRIDGE, of Los Angeles, in a paper thus entitled, said that chronic intestinal catarrh was usually a disease of the colon. It was produced and perpetuated by failure of frequent, regular, and complete evacuation of the colon more than by any other influence. Artificial harmless and regular evacuations, more than any other measure, assisted the physiological forces toward a cure of the disease. Efforts to accomplish this purpose were usually restricted to laxative foods and drugs and to suppositories, enemas, and massage, with poor study of the individual case.

The Prognosis and Treatment of Tuberculous Peritonitis, Based on the Massachusetts General Hospital's Experience for the Past Ten Years.—Dr. F. C. SHATTUCK, of Boston, said that the late Dr. Austin Flint had said that tuberculous peritonitis was not curable. The editors of his work have failed to correct the statement, which still remained. It was McDowell who presented the hope of its curability. In fifty-eight per cent. the final result was known at the hospital. Of the number received, twenty-nine patients died; twenty-eight were now living. There were sixty-seven females. In twenty cases there was a distinct family history of tuberculosis. In eight there had been an antecedent pleurisy. In the ninety-eight cases of tuberculous peritonitis the age ranged between fifteen and thirty. Treatment divides itself into medical, dietetic, hygienic, and surgical. Two-thirds of those treated medically since leaving the hospital had died; two-thirds of those treated surgically since leaving the hospital had recovered. No patient was kept in the hospital if he was able to get the outside air. One patient was sent away unimproved. He spent a year in the open air at the seashore and was now perfectly well. If a patient was losing ground, surgical treatment should be advised.

Dr. TYSON reported a case of tuberculous peritonitis where there had been nothing present but ascites. The patient, a woman, was operated on and had remained well for fifteen months. His feeling was that we should not temporize with medical treatment; the results of surgical treatment were so satisfactory that it was the best.

Dr. BRANNAN said that he had found the histories of eighteen cases in the Bellevue Hospital which were complete. These were treated medically and surgically, and some of the patients were tapped.

Dr. BILLINGS believed that we should have to outline our diagnosis in some more definite measure

as to its anatomical relationship. He believed that these cases were benefited both by tapping and by surgery.

Dr. MELTZER reported a case of tuberculous peritonitis cured by laparotomy. The symptoms had been those of a very mild appendicular inflammation; tenderness in the region of the appendix and moderate pain in the epigastrium. A year before she had been tapped for pleurisy. After the laparotomy she recovered. The speaker thought that such operations should not be done in the linea alba, but in the intramuscularis.

Dr. HALSTEAD said that their results had corresponded to Dr. Shattuck's. He had used tuberculin for tests systematically for eight years. Unless the patients were watched very carefully, he believed that it would be possible for the tuberculous cases not to react; a glass instead of a metal syringe for giving the injections was the more satisfactory.

Dr. VAUGHAN said that his operations for tuberculous peritonitis had proved that there might be a complete *restitutio ad integrum*. "About two years ago there was a monograph on this subject published, giving 400 more cases operated on for tuberculous peritonitis, and the evidence showed there might be a complete histological renewal of the tissue. When this article first came out he had been interested in it, and made some experiments. He inoculated a large number of rats intraperitoneally. In some of these, after three or four weeks, he did a laparotomy and located tuberculous lesions. In some of those animals there were tubercles on the liver. He sewed up the abdomen, and the animals lived for six months, when he killed them and could not find a sign of tuberculous trouble in some of them.

A Pathological Study of Thirty Cases of Small-pox, with Demonstration of Specimens.—Dr. JAMES EWING, of New York, showed specimens and named the different types of small-pox. In eighteen cases there was a diffuse diptheritic lesion. In some there were ulcers in the stomach. The condition of the lymphatic system was that of extreme hypoplasia, with enlarged spleen, but the symptoms of hæmorrhage and the peculiar mottled condition were not accounted for. There were no traces of protozoa. Experimentally, the small-pox virus was injected into a rabbit, two monkeys, guinea-pigs, and a cat. Streptococcus seemed to be present at all stages of the disease.

An Exhibition of the Anatomical Lesions of Small-pox was made by Dr. W. T. COUNCILMAN for Dr. McGRATH and Dr. BRINCKERHOFF.

Some Experiments on the Nature of Vaccine Virus.—Dr. W. H. PARK, of New York, reviewed his experiments with monkeys and also with calves, also the use of the filter. In this he had been sufficiently successful to warrant him in further experimentation.

A Case of Osteitis Deformans and one of Hyperostosis Cranii.—Dr. MORTON PRINCE, of Boston, gave a brief account of the cases, and discussed the relation between the two diseases and their possible identity. The further pathology of osteitis deformans was discussed, with particular reference to its being a trophic disorder and dependent upon

some central nervous lesion. This hypothesis was, on the whole, supported by the results of the autopsies in which the nerves and cord had been carefully examined, as well as by analogy with allied lesions.

Some Clinical Manifestations of Hepatic Cirrhosis in the Light of Eighty Autopsies.—Dr. G. G. SEARS, of Boston, said that etiologically, alcohol was the most important factor; nine patients denied its use. Syphilis was found in the autopsies of nine; in most of these alcoholism was present. Gall-stones were found in eight; three in the common duct. Hepatic cirrhosis in a large majority of cases was but one expression of an effect of a systemic poisoning. Two-thirds of the cases showed arteriosclerosis, confined to the aorta. Fifty per cent. showed cardiac change, and fifty-three per cent. showed chronic nephritis. Dilatation of the vessels might be compensatory, but would not prevent ascites. Degenerative change in the heart and vascular system was a contributing factor.

Clinical Manifestations of the Early Stage of Cirrhosis of the Liver.—Dr. FRANK BILLINGS, of Chicago, had tabulated fifty-four cases. He had endeavored to exclude all cases in which a palpable liver would come from other causes or a dilated right heart from any cause, etc. He had also excluded all cases in which there was venous stasis. The patients varied from thirty to sixty years in age. They had suffered from rheumatism, arthritis, neurasthenia, myocarditis, enlarged spleen, and aortic systolic murmur.

Dr. PACKARD believed in the absolute necessity for examination of the liver.

Dr. A. H. SMITH reported a case of a hard drinker from whom he drew a basinful of ascitic fluid.

Dr. HERTER said that he would like to call attention to the fact that, even in patients who were very far advanced with cirrhosis of the liver, it was capable of carrying on some of the most important synthetic functions with a great degree of activity. It showed that the liver was capable of undertaking a work on a very large scale in this direction; that there was an important compensatory mechanism; even in these cases of advanced cirrhosis the liver was still capable of doing much more work than was ordinarily imposed on it.

Officers for the Ensuing Year were elected as follows: President, Dr. James Stuart, of Montreal; vice-president, Dr. W. T. Councilman, of Boston; secretary, Dr. Henry Hun, of Albany; treasurer, Dr. J. P. C. Griffith, of Philadelphia; recorder, Dr. S. Solis-Cohen, of Philadelphia; councillors, Dr. Charles G. Stockton, of Buffalo, and Dr. Walter Reed, of Washington.

Book Notices.

Psychology, Normal and Morbid. By CHARLES A. MERCIER, M. B., M. R. C. P., F. R. C. S., Lecturer on Insanity at the Westminster Hospital Medical School, London, etc. London: Swan, Sonnenschein & Co. New York: The Macmillan Company, 1901. Pp. xvi-518. (Price, \$4.)

The study of psychology is daily assuming a far greater importance than it has previously held, and

there are indications that it will ere long attain to a well deserved place in the medical curriculum.

"It has long been a favorite tenet of mine," says Dr. Mercier, . . . "that insanity is no exception to the rule which requires a knowledge of the normal as an indispensable preliminary to a knowledge of the abnormal." The prevalence of a contrary opinion seems to the author to be due to "the absence of any work in which normal psychological processes are dealt with from the point of view and for the purposes of the alienist. Of the many excellent works on psychology which are at the service of the student, there is none that affords him material help in understanding the nature of those disorders of mind which it is the work of his life to study. For instance," he continues, "the chief labors of the student of the disordered mind are concerned with the existence and nature of delusion; but, as far as I know, no work on normal psychology gives him any help in settling the preliminary questions of what a delusion is; of how it differs from a normal state of mind; of its mode of origin; or of its varieties." While the author admits that these are not questions in normal psychology, and may therefore without reproach be omitted in works dealing with the normal alone, he points out that "it is a great disadvantage to the alienist to be left without guidance in the face of problems of such profound importance to him."

It may, therefore, be surmised, and correctly, that in the work before us psychology is treated of on a plan totally unlike that of any other work with which we are acquainted, and one that renders it exceptionally suitable for the physician, general practitioner as well as specialist. Dr. Mercier's book is divided into seven principal sections: 1. The introduction, which deals with the subject of consciousness. 2. Sensation. 3. Thought. 4. Volition. 5. Memory. 6. Pleasure and Pain. 7. Subject-consciousness. In regard to consciousness, the author's views may be summarized as follows: Consciousness is only manifested in living bodies possessing a nervous system which "has the supreme control of all the internal affairs of the body" and "represents the total body corporate in all negotiations and traffic between that body and agents external to it." Consciousness is divisible into two main and fundamental departments, corresponding to the main and fundamental divisions of the functions of the highest nerve regions: self-, or subject-consciousness, dealing with those activities that regulate the internal bodily processes; and relational-, or object-consciousness, regulating commerce between self and the world outside. This latter consists of three prime factors, viz., the effect upon the nervous system of the reception of motion, the modification of motion, and the emission of motion, having as their correlatives the three prime factors in the constitution of the mind—sensation, thought, and will. The disturbance of relation of parts which necessarily results from the incidence of motion on any imperfectly elastic body, such as the human body, leaves a modification of structure, the corresponding mental accompaniment being memory, of which it forms the physical basis. "Thus, then," says the author, "we triangulate the country that we have to explore in detail. Moved by the desire to attain ends and by aversion to the obstacles which obviate attainment, man acts in the

circumstances in which he finds himself. The interaction between self and circumstance is experience. Such experience as is an advance toward his aim is pleasurable; such experience as baffles or hinders his advance is painful. Every experience leaves in his organization a change of disposition, which is memory. The elements in every experience are reception, emission, and redistribution of motion, which have their conscious correlatives in sensation, will, and thought."

Sensation the author describes as the state of consciousness that corresponds directly with the reception of motion by or with the action of an agent upon the body, and as the action of the agent varies in occasion, duration, extension, intension, and quality, so does the sensation vary accordingly.

The subject of thought is treated at great length, and occupies about 260 out of the 512 pages. "Every case of thinking, or inferring, or judgment," says the author, "is the establishment of a relation of likeness or a relation of unlikeness between mental states, and every thought, every inference, every judgment is the relation so established." In accordance with this view, an analysis of the process of thinking and its results "resolves itself into an examination of (1) the relation; (2) the mode of establishing the relation; (3) the cohesion of the relation established; (4) the relation of the thought thus established to other thoughts. This leads to a division of the forms of thought, or, to use the author's term, modes of thinking, into syncrisis, or comparison; axiomatic reasoning; analogy; and inference, which last may be (a) proportional; (b) immediate, or (c) mediate. The syllogism is relegated by the author to its proper place as a subordinate form of axiomatic reasoning, from the position it has too long occupied, at the hands of many logicians, as the whole practice of thought. "The necessity of discussing the subject of delusion," says the author, "involved a preliminary study of belief, under which heading is included every degree of cohesion of a mental relation, from the merest trace of likelihood to the most settled and inescapable conviction. Belief is considered under the headings certainty, uniformity of experience, likelihood, probability, expectation, truth, credibility, originality, and apperception, to which last the author awards less consideration than many modern psychologists would desire. The "complete scale of the categories of belief," formulated as follows by the author, is a distinct gain: "1. Absolute positive certainty, of which the negation is inconceivable—truth. 2. Relative positive certainty, of which the negative is conceivable but incredible—fact. 3. Likelihood and doubt, of which the negative is credible, that is, both the positive and the negative are conceivable in relation to experience. 4. Relative negative certainty, of which the positive is conceivable but incredible—negative fact. 5. Absolute negative certainty, of which the positive is inconceivable."

Errors of belief are dealt with in an admirable and lucid manner, and the author's description of delusion is specially noteworthy. "Delusion consists, not in the formation of a concept, however absurd, for did it so, every writer of fairy stories, nay every reader of fairy stories, would be deluded. It consists in the removal of a concept from one category of belief (*vide supra*) to another by the unaided work-

ing of the mind itself, and apart from the impress of circumstances, from appeal to experience, and from the influence of testimony. Delusion consists in regarding that as true or as a fact, which experience warrants us in placing in some lower category only—regarding it as doubtful or incredible or inconceivable." This view of delusion "as the transfer of a concept from one category of belief to another without recourse to experience, or as a change in the degree of cohesion of thought under the same circumstances," incidentally provides us with a standard whereby the degree of divergence of beliefs from the normal can be approximately measured. The value of this to the alienist must be self-evident. A delusion is thus necessarily clearly seen to be perfectly consistent with sanity and not necessarily dependent upon a morbid condition of the brain. The study of the nature and bearings of delusion is, in these days of Christian Science, Osteopathy, etc., so strongly incumbent upon every physician that the work before us will, even on that account, appeal to a far wider circle than those merely who are deeply interested in psychology *per se*. The sections on Volition and Memory are also excellent. Perhaps the least forcible section in the book is that on Pleasure and Pain.

This is essentially the practitioner's handbook on psychology. Dr. Mercier's experience as an alienist, his breadth of conception and grasp, his acuteness of perception, and his lucidity of expression have enabled him to accomplish well what he started to do, namely, produce such a work on psychology as would lead the student to that necessary conception of the normal in mind, which, by analogy, should form his starting point for the study of the abnormal.

The structural arrangement of the book might be improved in future editions. For instance, on page 14, the author divides the failure of adjustment to motion into three categories—deficient, excessive, and uncorrelated sensation. An italic subhead, 1. *Deficiency of Sensation*, duly heralds the consideration of the first division, but the two others are not similarly marked. Indeed, the book is deficient throughout in side titles, which, in a work on any subject susceptible of categorical dealing with, are of great service, not only to mark the progress in the case of consecutive reading, but still more to aid in ready reference. Another fault lies in the unnecessary repetition, which at times becomes wearisome. Repetition is often useful, but we think that when it is purposely employed for emphasis, there should be a tactical marshaling of thought having an outward correspondence in the organic structure of the work, not a mere discursive flow of words.

We notice also many forms of expression at which we are surprised in a writer of Dr. Mercier's culture. How long has it been usual to say "an aversion from" a thing? An aversion, as we understand it, means a turning away from, and when we say, as we believe to be both customary and correct, "an aversion to a thing," we mean, in full, a turning away in regard to a thing. We cite this one of several instances that we have noted as indicating a tendency on the part of the writer to consort with a certain class of would-be "purists" who, dissecting etymologically a word of foreign introduction, fail to note the unexpressed, but none the less mentally conceived, copulative formulæ necessitated by the genius of the English

tongue. Of such are those who say "à propos to," or who do not grasp the essential distinction between differing from a person and differing with him.

The book is well bound, the typography good and clear, and, what is in our eyes a special advantage, the paper, while sufficiently thick and opaque, is unglossed and light, so that the book lacks that oppressive weight which makes the holding of many modern books a source of physical weariness that reacts upon the mind.

New Inventions.

AN AID IN SECURING ASEPSIS, WHEN OPERATING UPON THE EXTREMITIES.

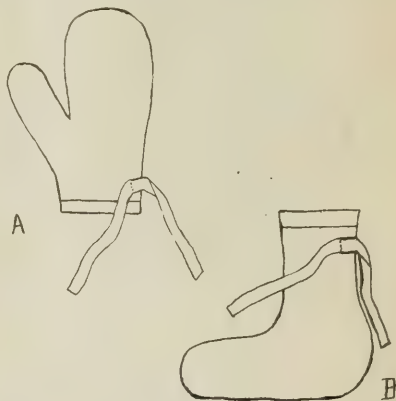
By FREDERIC GRIFFITH, M. D.,

NEW YORK.

SURGEON, BELLEVUE DISPENSARY; FELLOW OF THE NEW YORK ACADEMY OF MEDICINE.

It being so difficult to sterilize the feet or hands of a patient who is to undergo operation upon the extremities, surgeons are in the habit, after a preliminary washing of the parts, of wrapping them about with a sterilized towel, left loose or fastened with a safety pin.

Having noticed upon numerous occasions that a fault in the technics of asepsis occurs by disarrangement of the towel, from handling, from the application of an Esmarch bandage, or by faulty adjustment, I have devised a covering fitted with draw-strings to hold it in place.



Made from drilling or heavy muslin, a seamstress can readily pattern and stitch upon the machine various sizes to be kept ready for use. For the hand a mit shape covering (A), for the feet a shape similar to the bedroom foot covers (B) or large sized, close-woven socks may be employed.

To prevent perspiration or moisture from reaching the surface of the covering, the part should be wrapped in a sheet of rubber tissue or waxed paper; for the hands a rubber glove may be used—punctured gloves useless for the operator become of great value in this connection—after which the cover, sterilized by boiling, is drawn on and fastened by the tapes.

805 MADISON AVENUE.

Miscellany.

To Remove Picric Acid Stains.—According to the *Presse médicale* for July 19th M. Sabatier says that the yellow stains which form one of the greatest objections to the use of picric acid may be removed by immersing the hands, etc., in a ten-per-cent. solution of carbonate or benzoate of lithium.

More to the Purpose.—One of our contemporaries contains a testimonial from a physician in favor of a certain proprietary laxative. The physician states that he is much pleased with its action, and adds: "I use it freely. It certainly fills a long-felt want." He should add, "and empties a long-filled bowel."

Restoration of a Finger End.—Dr. George B. Carr (*Indian Lancet*, June 16th) reports the case of a two-year-old girl whose right index finger was caught in the cogwheel of a washwringer, the end, including the end of the distal phalanx being completely removed. The wound was dressed and the patient discharged in about two weeks, the finger showing very little shortening. In three months a new nail had appeared, and had grown somewhat over the end of the finger. In all other respects the finger appears normal, according to the reporter.

Legislative Restriction of Marriage.—The *British Medical Journal* for July 19th, commenting on the various efforts and tendencies in this country toward the introduction of legislative measures to compel a medical certificate as a prerequisite to marriages, expresses so admirably the point of view in which we confess that the matter strikes us, that we cannot refrain from quoting from the article: "That it is desirable in the interest of society that the physically and mentally 'unfit' should not beget offspring to whom they may transmit their deficiencies is, as an academic proposition, undeniable. But to attempt to secure this desirable end by *force majeure* would be not only tyrannous, but, we believe, futile. Even if to satisfy the sentiment of scientific reformers, laws for the prevention of the marriage of the unfit were passed, it is difficult to see how they could be enforced. You may expel Nature with the fork of the law—*tamen usque recurret*. Love which is stronger than death will have an easy victory over the law."

"The only practical result of the prohibition of marriage to the diseased and the degenerate would be the increase of concubinage; the birthrate of the unfit would not be appreciably decreased, and they would have the added brand of illegitimacy to make the struggle for life harder to them. What right has society, for no better end than the physical perfection of the breed, to inflict on persons guilty of nothing but a diseased inheritance, a disability which makes a life overshadowed by ill-health still gloomier?"

"Doubtless we have the right to protect ourselves and those under our charge against the physical and often moral wreck that follows marriage with a person actually diseased or of unhealthy stock. We should gladly welcome any attempt to deter persons so tainted from inflicting on unsuspecting victims the terrible injury of a union with them. But we

deprecate grandmotherly legislation for the preservation of the human species as not only essentially selfish in itself, but as distinctly antisocial in its tendency and probable results.

"After all, even with all the assistance for the survival of the unfit given by modern sanitary improvement and humanitarian effort, they cannot escape the doom of natural extinction for more than a generation or two. If we are to admit the doctrine that society is justified by the law of self-preservation in purging itself of the unfit, the simpler plan would be to revert to the barbarism of ancient peoples, who solved the problem by destroying them in infancy. This method is at once more effectual and more humane than condemning them to a life of isolation from their kind and exclusion from the chief solace and support against the ills of life to which every human being born into the world has a natural right. In the interest of society itself it might not be altogether wise to drive a large body of unfortunates, who carry in their very constitution the capacity of infinite mischief, into active revolt.

"The true mission of the medical profession in this matter is not to promote legislation which is almost certain to defeat its own purpose, but to instruct the public in the dangers, both to the individual and to the community, of unwholesome marriages. The education of the public mind in the practical aspects of a question in which all members not only of the nation and the race, but of the human family, are directly interested would, although the process must needs be slow, make laws for the medical regulation of marriage unnecessary."

Elastic Tissue in Cirrhosis of the Liver.—Paul Oliver (*Transactions of the Chicago Pathological Society*, May 12 and June 9, 1902) draws the following conclusions as the result of his work prosecuted in the pathological laboratory of Rush Medical College:

1. Elastic tissue is most abundant in atrophic cirrhosis of the liver. The fibrils seem to be coarser and to form larger bundles. It seems to constitute the greater part of the new tissue and is principally interlobular in the atrophic cases.

2. In the hypertrophic cases the elastic tissue does not make up a very large part of the newly-formed tissue. The separate fibres are finer, as a rule, and in most cases form a delicate network. The elastic fibres extend into the lobules along the capillaries.

3. In the syphilitic cases the greater part of the new tissue is not elastic, although in most cases distinct fibres are found quite abundantly in the interlobular tissue, external capsule and about healed gummata.

4. With regard to origin, the elastic tissue seems to come principally, if not entirely, from the walls of the blood vessels. However, in most cases the bile ducts have a greater or less amount of elastic tissue about them, and where proliferation of bile ducts is great, the latter are contained in a thick meshwork of elastic fibres, which cannot be traced to the walls of blood vessels.

5. Not so much of the new tissue is elastic tissue as would at first seem, for Weigert's stain stains both white fibrous tissue and reticulum when exposed to its action for 30 minutes or more, although not so deeply as elastic fibres. Different specimens seem to vary greatly in this.

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WHOLE No. 1238.

Original Communications.

GAS LEAKAGE AND THE PUBLIC HEALTH.*

By JAMES C. BAYLES, M. E., PH. D.

In the study of the subject of gas leakage in distribution and its effect upon the public health, the physician can learn from the engineer the physical aspects and magnitude of the problem with which he is dealing, and perhaps some facts of first importance pertaining to it, probably a good deal more easily than he can acquire them in any other way. Those identified with the gas companies in either their technical or their business management, are the most discreet of men, and usually prefer to discuss their leakage behind closed doors. There is good reason for this. The facts might easily be made the basis for a popular panic, and to encourage hasty and ill-considered legislation is not the best way of bringing about the reforms which the conditions demand. I have no doubt that the facts I shall present this evening will surprise many of those who hear them for the first time. To verify my statements in detail, while perfectly possible, would perhaps occupy more time than I should be warranted in taking. In presenting the subject in outline, for subsequent elaboration by your committee on hygiene, I shall state only facts which are matters of personal knowledge, or which come to me on the best technical authority.

The illuminating gas supplied to consumers in cities, though made under various processes, admits of classification under two general varieties—coal gas and water gas. They are quite different in composition.

Coal gas is made by the distillation in retorts, externally fired, of a coal rich in volatile hydrocarbons. Its typical composition is about as follows:

Hydrogen	47.49
Marsh gas	38.67
Carbon monoxide	6.74

the remaining 7.1 parts being made up of carbon dioxide and nitrogen.

Water gas is made by decomposing superheated steam in a column of incandescent fuel, anthracite or coke, by which the hydrogen and oxygen are sep-

arated, the hydrogen remaining free and the oxygen entering into alliance with the carbon, for which it has a greater affinity. As it leaves the producer its composition is approximately:

Hydrogen	45
Carbon monoxide	45

the remaining ten parts being made up of carbon dioxide, marsh gas, and oxygen. To make it luminous it needs enrichment, and after receiving additions of naphtha vapor, its average composition is:

Hydrogen	30
Carbon monoxide	30
Marsh gas	19.10
Olefiant	10.65

the remainder being small percentages of carbon dioxide, nitrogen, and oxygen.

Uncarburetted water gas, useful only for fuel purposes, is the most deadly gas which is artificially produced in large quantities. It is highly combustible, as explosive as gun cotton, entirely odorless, an energetic blood poison, and, having a very low specific gravity, extremely difficult to hold confined. Carburetted water gas, which is the gas mostly distributed in eastern cities, is only a little less dangerous than "blue" gas because the light-imparting additions which are made in the carburetting processes to which the blue gas is subjected, give it an offensive and characteristic odor. It is also somewhat diluted, its constituent of carbon monoxide having been reduced from 45 to about 30 parts in the hundred. It is, however, nearly as dangerous as the uncarburetted water gas, and, but for the odor it carries, which makes even a small house leak noticeable to one not so accustomed to it as to be less than normally sensitive, its distribution in pipes through houses would be intolerable. Coal gas is very much less dangerous, carrying as we have seen less than 7 per cent of carbon monoxide, but it has a lower candle power and costs more to make under the conditions which obtain along the Atlantic seaboard. The difference is less now than it was when crude naphtha suitable for enrichment was materially cheaper, but it is enough to insure the permanence of water gas as an illuminant. Coal gas is made in only one relatively small plant in New York, and the average composition of the gas distributed in this city carries something over 30 per cent. of carbon monoxide, varying a little with the nitrogen and car-

* Read by invitation before the Medical Society of the County of New York, May 26, 1902.

bonic acid percentages. For the purposes of this inquiry it is only necessary to consider water gas as the typical illuminant.

It is probably known to everyone that in the distribution of gas for municipal lighting there is considerable leakage; what it really amounts to in cubic feet to the mile of main per annum or in percentage of output, is not generally known, and to those who hear the facts for the first time they are in a high degree surprising. In what I shall say on this subject to-night I shall discard percentages, as they are apt to be misleading. I could cite a case in which a gas company which may be designated as A, loses less than 4 per cent. of its output by leakage, while another company, which may be designated as B, loses nearly 37 per cent; but the leakage to the mile of main is more than twice as great for company A as for company B. The explanation of this apparent paradox is that the output of the company having a low percentage of leakage loss is enormously greater than that of the company having a high percentage. This will probably be understood without further explanation; if not, it is unimportant, since it is not pertinent to the subject immediately under discussion. It is because the leakage losses of the great city gas plants, expressed in percentages of product, are relatively very much lower than those of the town and village companies, whereas they are really very much greater to the unit of main length in a given time, that I have taken the loss to the mile of main per annum as the standard, knowing that it will be perfectly intelligible and obviously significant.

It is a generalization which does not admit of intelligent contradiction, that in good gas engineering practice the normal leakage of a six-inch main is about 225,000 cubic feet to the mile *per annum*. Sometimes it is twice that amount, or even more; occasionally it is temporarily less, owing to newness of mains, favorable natural conditions, or recent and liberal expenditures for repairs. The normal leakage rises and falls with the increase or diminution of main diameters in arithmetical proportion. For example, conditions giving a leakage of 225,000 cubic feet for a mile of six-inch main, should give a leakage of about 450,000 for a mile of twelve-inch main. Now a twelve-inch main is about four times as large as a six-inch, from which we see that its normal leakage is a very much smaller percentage of its capacity than in the case of the six-inch. On the other hand, a three-inch main is only about one-quarter as large as a six-inch. Its normal leakage is about 112,500, or one half of that of a six-inch, which would make its percentage of loss very much greater. The percentage is of interest only to the company owning the mains; the quantity lost in cubic feet is the fact of public interest.

That a leakage of 225,000 cubic feet to the mile

per annum for an average diameter of six inches is conservative and well within the truth, may be seen from an examination of actual records, of which I have a great accumulation. For example: One company, with mains averaging 2.51 in., loses 202,006 cubic feet to the mile *per annum*; another, with an average diameter of 3.34 in., loses 268,129 cubic feet; another, with an average main diameter of 4.38 in., loses 272,000; another, with an average main diameter of 4.46 in., loses 364,195; another, with an average diameter of 4.52 in., loses 360,699; and another, with an average diameter of 3.96, loses 409,886 cubic feet to the main mile *per annum*.

These are well managed American gas companies, whose practice is as good as the average of any country. As will be seen from their main diameters, however, they supply small centres of population. In the large cities the leakage loss of gas in distribution ranges from 500,000 to a million cubic feet to the main mile *per annum*, and in some instances a great deal more. The National Board of Fire Underwriters, having its headquarters in this city, presents some figures of gas leakage in cities, in a circular issued in December, 1899, which are startling. For example, the seven companies supplying gas to London show an annual leakage loss of 1,714,399,000 cubic feet of gas into the ground. This is an average of about 544,500 cubic feet to the mile of main, for an average diameter materially less than that of New York. Glasgow has the greatest recorded leakage in Great Britain, of 1,643,207 cubic feet to the mile. In Birmingham it is 544,317; in Richmond, 413,333; in Newcastle, 394,900; in Salford, 530,000, and so on up and down the scale. These figures are quoted as showing that the trouble of a large gas leakage is by no means local. From the best data obtainable, I am of the opinion that the leakage loss of gas on Manhattan Island is, as nearly as can be figured, 11 per cent. of an output of twenty-four thousand millions of cubic feet, or 2,640,000,000 cubic feet. In round figures we may call it three thousand millions of cubic feet, of over eight millions of cubic feet per day. If there are 1,800 miles of live mains on the island, this would give a leakage exceeding 1,600,000 cubic feet to the main mile *per annum*.

What becomes of this gas? The interest of this inquiry is greatly increased by the substitution of impervious pavements of one kind or another for those of an earlier period. Asphalt is not the only impervious pavement. Any kind of stone street surface which will keep water out will hold gas in. Gas which leaks under such pavements must find some means of escape. Part of it gets into the sewers and subways. In the sewers it becomes the most active and dangerous constituent of "sewer gas," and gives us the so-called "sewer gas explosions," of which the daily newspapers tell us with so much gravity. It

also gives us the occasional explosions occurring in electrical conduits. My investigation of the rapid transit subway explosion in Park Avenue, which so nearly wrecked the Murray Hill Hotel and neighboring buildings, leads me to believe that the dynamite was detonated by a preceding explosion of gas from main leakage. Had there been a little more gas it could have done all the mischief unaided, as it did in the appalling subway explosion at Boylston and Tremont Streets, Boston, in March, 1897. These aspects of the evil, however, may be left to the underwriters and the building and fire departments. By far the greater part of the main leakage gets into houses in one way or another. How it gets there, and what it does when it mingles with the air of living and sleeping rooms, are properly the subjects of this inquiry, which cannot possibly be extended to cover the economic as well as the hygienic aspects of the subject.

Gas gets into houses in several ways. Primarily, it does so from leaks in the distributing pipes and around fixtures. This, however, is measured gas which has passed the meter, and is sufficiently odorous to make itself apparent to the sense of smell. In small quantities, however, it often escapes notice. An examination instituted in Boston, in obedience to the legislative enactment of 1897, revealed the fact that, in 89 per cent. of all the houses inspected, there were from two to ten leaks in the distributing pipes. It is safe to say that if this many were found by the ordinary methods of inspection, the proportion of houses in which leaks existed was much greater than 89 to the hundred. The consequence of such leakage of water gas was, and is, a constant slow poisoning, vitiating the blood and producing anæmic conditions which obstinately resist remedial treatment as long as the victim is subject to this malign influence.

The gas which reaches houses from leaks occurring outside the foundation walls is really very much more dangerous than that which leaks from service pipes and fixtures. It is higher in carbon monoxide, having returned to about the composition of the uncarburetted water gas. The additions of the carburetting process are all taken out by filtration in passing through the soil. As these are the odor-imparting constituents the filtered gas is odorless. It is, consequently, not detectable by the sense of smell, and is usually unsuspected even when present in quantities involving imminent danger to life and property. Under impervious pavements it can be found hundreds of feet from a leak and gives a reaction with sensitive chemicals almost as strong as at its source in an open joint or main fracture. I had occasion to determine this fact not long since in Brooklyn, and the results, while probably not properly a part of this paper, warrant me in saying that

anywhere under an impervious pavement gas may be found in large quantities. It might accumulate there under increasing pressure, like natural gas in its containing strata, if it were not that while the top and bottom of the box are tight the sides are practically open. What does not get into the sewers follows the spaces or soft filling around house drains and gas and water services, and sometimes works its way through the foundations. It may do no great harm in summer, when attempts are usually made in a crude way to ventilate cellars, but in winter, when windows are closed and gratings covered, it is usually diffused through the house. Of that which gets into sewers a great deal works back into houses by the avenue of the house drain and the waste pipes. I am of the opinion that it is incomparably the most dangerous element of that mysterious and indefinable compound which is somewhat loosely designated as sewer gas. Very little of it is needed to produce distressing, and even dangerous, conditions in susceptible persons, which term, so far as my observation goes, includes pretty much everybody. Those for whom this subject has technical interest as bearing upon the clinical study of a great many obscure causes of sickness, will find much useful information in the reports of the experiments by Professor Jackson of Harvard, Dr. Abbott of the Massachusetts State Board of Health, and Dr. Durgin of the Boston Board of Health. Professor Jackson found that vertigo and dizziness were caused by the presence in the atmosphere of a room of one-tenth of one per cent. of water gas; that very much smaller percentages induced more or less energetic blood poisoning, and that a very little more was quickly fatal to most forms of animal life experimented on. Habitual exposure to an atmosphere so vitiated lowers the vitality to such an extent that health is impossible and sickness inevitable. Its high efficiency as a means of suicide and the large accidental mortality from blowing out the gas light or turning on the flow after shutting it off, sustain the conclusions of the gentlemen quoted, even if they were the subjects of dispute—which I believe they are not.

The risks of gas leakage which affect the vital statistics of New York, admit of division into three general classes:

- 1st. Fires and Explosions.
- 2d. Asphyxiation.
- 3d. Blood poisoning and anæmia.

Of fires and explosions it is scarcely necessary to speak at length. The problems of the fire risk of gas leakage more intimately concern the fire and building departments and the underwriters. With a mass of facts at command, the temptation to dwell upon this phase of the subject at greater length than your patience would permit, would probably be irresistible if I should venture upon it at all. A brief quotation

from the circular of the committee of the National Board of Fire Underwriters before referred to, will cover all that is necessary to be said on this subject. It is as follows:

The occurrence in New York during the past year of a large number of fires and explosions which, studied in the light of the facts before this committee may be assumed to be due to the leakage of gas mains under impervious pavements, warrants the belief that the attention of fire underwriters should everywhere be directed to this important subject, to the end that it may be investigated under all conditions and from widely separated points of view.

Asphyxiation by gas usually results from suicidal purpose or from the turning on of the supply at a burner after the light is extinguished. It also results occasionally from the fracture or detachment of the tube connecting a gas stove with the service pipe. I was myself very nearly overcome and unfitted for work or recreation for several hours by an accidental oversight in lighting a gas stove in my study. It was of the vertical tubular type, with a burner under each tube. In lighting it I accidentally overlooked one burner. The gas which escaped passed unignited up the tube immediately above, and mingled with the air of the room. This continued until I fell out of my chair, was assisted to a bed in the adjoining room, and the cause of the trouble was looked for and discovered. And yet I am in some sense a gas expert. Up to that time I had found it difficult to understand how even a Reuben with the conventional hayseed in his hair could blow out the gas and not know that something was wrong in time to escape injury. Since then I have wondered no longer.

Of the third classification of gas leakage casualties I speak with confidence as an engineer touching the facts, and with the modesty becoming in a layman addressing physicians as to the pathological phenomena of carbon-monoxide poisoning. In the literature of domestic sanitation, an intangible, impalpable superstition designated as "sewer gas" figures as the root of all evil. I can say this with the better grace as I have myself written reams of this sort of literature, much of which I should be exceedingly sorry to see quoted with my later utterances in the deadly parallel column. Let us dismiss our superstitions and look the facts squarely in the face. Sewer gas is atmospheric air carrying as impurities greater or less percentages of simple and compound gases, some of which are generated in the sewers by the chemistry of decomposition, while others come from the outside. The elementary gases, and those of unknown composition, which are commonly found in sewers, though mostly capable of destroying life when encountered in concentrated form or in large volume,

do not contain or carry any disease germs. That the air of sewers may, and usually does, carry micro-organisms of great variety, some beneficent and some hurtful, is undoubtedly true. It is generally a fact, however, that the air outside of sewers contains these same micro-organisms in greater abundance than sewer air, and that, if a sewer is properly built, properly flushed, and properly ventilated, the air within it—the dreadful "sewer gas" of the sanitary propaganda—is much better for breathing purposes, from every point of view, than that of a street car, a theatre, or even a church.

For a number of years past, my work as a consulting engineer for public utilities has taken me more or less into subterranean conduits. I used to be nervous about disease germs and all that sort of thing, but now I go no more into sewers, subways, or excavations in cities without first testing for carbon monoxide, which is the only gas I am afraid of. That I rarely fail to find it in quantities which I have learned to regard as dangerous may or may not have saved my life; but I am convinced that it has guarded me against serious impairment. As the result of careful, and, I think, intelligent observation extending over several years, I am prepared to say that, in my judgment, confirmed by that of many engineers and physicians, carbon monoxide from gas mains is altogether the worst constituent of sewer gas, and that the enormous leakage of illuminating gas in distribution accounts for the general prevalence of anæmic conditions in our large cities. I believe it emphasizes every defect in plumbing work, and that gas main leakage is an evil vastly greater in its influence upon the death rate of cities than any or all of those which have engaged the attention of those who have conducted the sanitary propaganda. This, gentlemen, leads us to the threshold of your domain, upon which I shall not intrude.

Can gas main leakage be stopped? That, as Kipling would say, "is another story." To answer this question is no part of the purpose of this paper. Obviously, the first step in the direction of stopping it is to recognize the evil and define its magnitude. In this we need expect very little more help than we now get from the gas companies. Why? Because the gas lost costs less than the measures necessary to stop it. There are probably fifty thousand miles of very leaky gas mains in use in the United States, and it is a safe conclusion that the cost of making them tight and keeping them so will never be incurred by the gas companies until public opinion compels the legislation which shall require it as a condition of the franchise privilege. It is the most important and most neglected fact now open to original investigation.

CLINICAL CASES OF GAS POISONING.*

By SAMUEL LLOYD, B. Sc., M. D.,

As a preamble to this report it becomes necessary for me to explain my appearance before this society in the discussion of a subject belonging to general medicine, rather than to the line of work in which I have spent my professional life. Your president is, however, responsible by insisting upon my becoming the chairman of the committee on hygiene and declining to take any refusal into account.

One other reason has something to do with the matter—an early predilection for chemical research and college education along the lines of general science naturally have inclined me to continued interest in subjects of this class, and perhaps have had something to do with the recognition of these cases where I have met them.

The first case of chronic gas poisoning that came under my observation occurred some years ago in the person of one of the superintendents in our public schools. This patient had been living in a boarding house for some time, had had considerable catarrhal throat trouble, and began to suffer severely from headache, flashes of light before the eyes, anæmia, and a general series of symptoms of some toxic infection. She did not improve under quinine or arsenic, and after a long time, which was discouraging alike to the patient and her physician, it occurred to me that poisoning with gas escaping through the sewer pipe might have something to do with her condition. I therefore advised her leaving that house and going elsewhere to live. The result was a rapid improvement in her general health. This patient, since I wrote this, has reminded me that I had another patient in the same house who had precisely the same symptoms at this time and who was treated in the same way and with the same result. There was still another person in the house suffering from an indefinite fever which her physician supposed to be typhoid, but she did not give the blood reaction. These cases are of little importance, because not based upon scientific data, but some time afterward I learned that a peppermint test was made of the plumbing in this house, and it was found to be badly out of repair.

Other cases of this kind have come under my observation from time to time, but, as I am not in general practice, they have naturally been dismissed with the simple suggestion of gas poisoning as the cause of the trouble. Lately, however, I have had this matter forced upon my attention in a way that necessitated investigation, with the following results:

A. 1. In the winter of 1901 I was attending for prostatic obstruction a gentleman living in Forty-

ninth street. The family physician was away from home when one of the sons, a young man of about twenty-four or -five, was taken ill. When I called upon the father I was asked to see the young man, in order to make a diagnosis, and to carry him along until the return of his regular physician. He had been having a temperature of from 103° to 105° F., at night, falling to 100° or 101° in the morning, for several days, and the general impression of his family was that he had taken cold. His lungs and heart were normal; he had a chronic pharyngitis; the bowels had been perfectly regular or moved by aperients. There were no signs of rheumatism or of inflammatory lesion anywhere; the liver was slightly enlarged, the spleen also larger than normal; no other abdominal abnormalities. The rectum and genitalia were normal; the urine showed a trace of albumin and occasional hyaline and granular casts. Several reddish spots, similar to the typhoid eruption, were present over the chest and abdomen, and the tentative diagnosis of typhoid fever was made. Examination of the blood, however, showed no Widal reaction, no malarial organisms, and no marked leucocytosis. The appearance of the blood pointed to simple anæmia. Several examinations of the blood were made without affording the slightest indication of the cause of the temperature. As the family physician was expected to return daily, I continued to watch the patient for ten days. There was no intestinal sepsis present, as the complete clearing out of the intestinal tract did not affect the temperature. Neither quinine nor arsenic, or for that matter anything else, seemed to have any effect upon the condition. Change of air, however, effected a cure in the course of a very few days.

A. 2. About two months later, the sister of the former patient called upon me in the office. Their physician had remained away all winter and they had been to several general practitioners in town, and finally came to me, on account of my treatment of the brother, to see if I could help them out of their trouble. For two months this young woman—about twenty years of age—had had a daily rise of temperature. There was no regularity in the rise or fall, but it would go to 102° F. one day, and then for several days not rise above 100°. She was markedly anæmic, constipated, with constant headache, some nausea, anorexia, lassitude, and a general feeling of malaise. She had taken quinine, arsenic, and about everything else that could be suggested; had tried homœopathic treatment without improvement, and was thoroughly discouraged. Her lungs, heart, liver, and other abdominal organs were normal, except the spleen, which was about one third larger than normal. Blood examination negative for typhoid or malaria, and no leucocytosis. The indications were again those of simple anæmia. I advised in this case a long trip away from home, and the application of the smoke test to the house. My plumber found five breaks in the sewer pipes, two in the laundry, one in the bathroom on the second floor, and one in each of the wash basins off the rooms occupied by these two patients. The plumbing was then put in order and there has been no case of sickness in the house since. Even the father's prostatic trouble is greatly improved.

B. 1. Last year a friend of mine called my attention to her maid. This girl was a specially efficient

* Read before the Medical of the County of New York, May 26, 1902.

servant and had been with them for a long time. She had been under the treatment of a well-known medical man, who finally told her mistress that he believed she had miliary tuberculosis. It was at this time that she was brought to me. We finally found her a place in the country and she immediately began to improve, and in the course of a couple of months was entirely well. This case made no impression on me at the time, and would have been forgotten had it not been for this year's experience with this family. No blood examinations were made in this case. She had, however, no pulmonary involvement that I could detect.

B. 2. Another maid in the same family, this past winter (1902), developed exactly the same symptoms as those in the former case, and this time her employer brought her directly to me with the question of finding her a place out of town. The girl was an American country girl who had been perfectly well when she came to town in the autumn. She was now anæmic, had headache, temperature at irregular intervals, coated tongue, anorexia, pain in back, some albumin and casts, enlarged spleen, and a retroverted uterus—otherwise her physical condition was normal. Blood examination showed only a condition of anæmia. Malaria was suspected and I advised the trying of that treatment on her. No improvement. Before I saw her a second time, her employer had developed an illness that I could not comprehend. The maid was sent home to the country and began to improve immediately, and is now perfectly well.

B. 3. This patient was the employer of the other two. He was taken with a condition much like that described in the other cases, except that the pain in the head was intense and prostration extreme. His appetite was rather increased at first. Temperature ranged as high as 104° F., but there was no regularity of rise or fall. Bowels constipated, and considerable impaction in the ascending and transverse colon. Blood examination showed nothing. This case was under observation at the time that Dr. Bayles called the attention of the committee on hygiene to the immense amount of gas leakage. The house was tested by means of his own apparatus, which he kindly lent me for the purpose, with the result that carbonic oxide was plainly in evidence in every room in the house.

I immediately advised the family to vacate their apartment and they moved to a hotel. Improvement in all the symptoms began at once and has been continuous ever since. Unfortunately the results of the smoke test on this house have not been obtainable.

These cases, necessarily few in number, have come under my observation by chance. Had I a general practice there is little doubt that many other cases might have been found. May not some of the cases of neurasthenia we see, especially those with headache and indefinite malarial symptoms, be caused by the leakage of carbonic oxide through imperfect sewer connections, or errors in the gas pipes or fixtures?

12 WEST FIFTIETH STREET.

A CONSULTATION WITH PROFESSOR DIEULAFOY ON APPENDICITIS.

By EDMUND L. GROS, M. D.,
PARIS.

I was lately called in to see a case the concise history of which is the following:

Mrs. W. about six weeks previously had had in New York what the attending physician called appendicitis—an attack characterized by sharp pains in the abdomen, maximum in the right iliac region, moderate fever and vomiting. Six days after the attack the patient had been carried to the steamer, had remained in bed five days longer, and had finally arrived in Paris. As she continued to feel tired and complained of pain in the right side I was called. On examination, I found a distinct tenderness and pain on deeper pressure in the region of the appendix. I considered that the appendix was still in a threatening condition and advised an operation without waiting for another attack. To further influence the patient, I suggested a consultation with Professor Dieulafoy, the well known authority.

Professor Dieulafoy came, and after a careful and minute examination was very earnest in his opinion to have the appendix out as soon as possible. During our discussion of the case I took occasion to ask him several questions having a bearing on appendicitis in general. Considering the divergence of opinion which seems to reign in Europe as well as America, I think the following conversation will prove of interest.

Professor Dieulafoy is nothing if not radical in his opinions; he belongs to the camp of the "interventionists." He believes in operating always, the sooner the better. Though the first twelve hours are the most favorable, he does not hesitate to advise an operation after three or four days.

"If you were called in to a case with high fever, with a tendency to localized peritonitis and abscess, would you not wait for the abscess to form before opening the abdomen?" I asked him.

"No. To wait is to expose the patient to death. We should no longer consider appendicitis as a local disease. There is a phase of the disease which is an *acute toxæmia*. An acute general poisoning of the system may start at any moment. If this takes place, the patient generally dies any way, with or without an operation. We must therefore take out the appendix before this condition arises. There is absolutely no way of predicting which patient will recover and which will die. It is a game of 'toss up,' and the physician has no right to say 'Let us wait, you may get well without an operation.' He is taking the life of the patient in his hands, and it may slip through his fingers without anything being able to save it.

"You know my ideas on appendicitis," he continued, "and the influence of what I have called a *cavité close*, or closed cavity, on the virulence of

germs. Since I made my communication on the subject at the Académie de médecine, in 1898, I have held in my hands numerous appendices which have irrefutably proved the truth of my opinion on this subject. The canal through the appendix becomes obstructed by mucus, a foreign body, or faecal matter; the microbes thus imprisoned, *Bacillus coli communis*, etc., become highly virulent and secrete most powerful toxins. These germs sometimes produce an ulceration with perforation and localized or general peritonitis. The microbes may traverse the walls without these being perforated and thus start up contiguous inflammation. But, and this is the point on which I insist, the microbes may remain in the appendix and yet elaborate toxins so virulent that, if they are absorbed, they will poison the whole system.

"To test the virulence of these imprisoned germs and the toxins which they secrete I carried out the following experiments: I took a drop of the secretion from the interior of a closed appendix immediately after its removal. I made of this a pure bouillon culture. I proceeded in the same manner, using this time the secretion on the outer surface of the appendix. Both tubes having had their contents filtered and all organized bodies having thus been eliminated, the liquid product of each tube was injected separately into two groups of six rabbits. The rabbits that received injections from tube No. 1, representing the germs from the inside of the appendix, all died within a few days with symptoms of acute toxæmia. The other group of rabbits resisted the injections of culture No. 2 without one death.

"The following case, whose history I am going to recount in a few words, is the subject of my communication to the Académie de médecine this week:

"A patient was brought to the Hôtel Dieu on the third day of an attack of appendicitis. The temperature was 103.5° F., the pulse 96. Ice was applied to the abdomen, and the next day at 10 a. m. I saw the case. The temperature had then fallen to normal and the pulse beat 88. Notwithstanding these apparently favorable symptoms, his pinched face and the fact that the urine contained albumin, casts, and biliary pigments led me to take a pessimistic view of the situation. I advised an immediate operation. The appendix was found to be gangrenous and embedded in a small and fetid abscess. There was no trace of peritonitis. The wound was drained. Four days after the operation the patient died after having presented the symptom which I have termed the *vomito negro* of appendicitis, that is, abundant hæmatemesis. The post mortem revealed no very marked lesion of any organ, but the histological study, made by Dr. Letulle, of the liver and kidneys showed fatty degeneration of the former and acute necrosis of the renal glomeruli, evidently due to the passage through the kidneys of hypertoxic poisons

which rapidly destroyed the secreting cells. This is a typical case of death by toxæmia without trace of peritonitis.

"We have until recently looked upon appendicitis as an infectious disease which produced infection by contiguity, but we must now consider the disease as a toxic one, producing an acute 'intoxication,' or toxæmia, of the whole system through the elaboration of intensely virulent poisons in the appendix itself. That is why it is dangerous to wait a day, a minute. The starting point of this septic infection should be removed as soon as the diagnosis has been made."

"But, *mon cher maître*, is it always easy to be so sure of our diagnosis as to advise an operation in every case? Can one not be misled by certain cases of enterocolitis, of typhlitis, eye even of oophoritis?"

"Your question shows that you fully understand the subject. In certain cases it is extremely difficult to distinguish between an enterocolitis or a typhlitis, with pain, fever, and sometimes vomiting, and a mild appendicitis. Yet, in my experience the contrary mistake is much more often made, that of calling an appendicitis a colitis or a typhlitis. I have, however, seen cases of so-called appendicitis where the appendix was perfectly normal. I attach here a great importance to the exact localization of the pain, to the *hyperæsthesia* of the abdominal wall over the appendix (a symptom which I believe I was the first to note), to the *muscle spasm*, etc. We must also take into consideration the history of the case, habitual passage of mucus in the stools, or the presence of sand in the fæces, which I have named intestinal lithiasis."

"How do you explain the fact that reputable men and good surgeons are following a course diametrically opposite to this, which is *expectation*, for instance, Roux, of Lausanne, and Jalaguay, of Paris?"

"I can only explain their attitude by an inexplicable misinterpretation of statistics. They say they wait for the appendix to cool off, so as to operate *à froid*, but often the case is too much cooled off when they decide to operate. A human life is lost through too much expectation!"

"Do you mean to say that you would advise an operation at all periods, and notwithstanding existing symptoms of peritonitis?"

"I should decidedly advise an operation unless the patient is too weak to withstand the shock."

"Are your opinions the same as to the bad prognosis of what you have called *vomito negro*, or the black vomit of appendicitis? I, for my part, have seen one patient recover after a severe hæmatemesis."

"Yes, I still hold to my opinion that vomiting of blood in appendicitis is nearly always a forerunner of a fatal termination. I have seen but one patient recover. It is a symptom of acute toxæmia."

28 RUE DE PONTHEIU, CHAMPS ÉLYSÉES.

GASTRIC ACIDITY.

By L. H. WATSON, M. D.,
CHICAGO.

Despite the fact that physiologists have for many years studied the secretions of the stomach, they have as yet arrived at no definite conclusion in regard to the origin of the hydrochloric acid, which forms an important part of the gastric juice. Here we have an inorganic acid secreted by an animal membrane, and its presence remains one of the mysteries of our complex organization. That an acid of this character should originate within the body, be of incalculable service in aiding the nutrition, be in health, and often in disease, persistently renewed, and yet baffle all our efforts to discover its source is somewhat humiliating. Of theories to account for its existence we have plenty; but none of those yet advanced satisfy the physiological chemist of to-day. While its presence is not absolutely necessary or essential to life (for under many conditions we find it wanting), its absence means a pathological change and the loss of an element necessary for the complete performance of the digestive act; and, at the same time, indicates a tendency toward the unsettling of that stable equilibrium which we call health.

Since it has been proved that hydrochloric acid forms the principal acid present in the gastric juice, various attempts have been made to explain the chemical method by which it is separated from the blood serum by the gastric glands. It may be first assumed that the acid is derived from the chlorides of the body, especially as it has been shown that the formation of the acid ceases when food is given containing no chlorine compounds. Brücke's hypothesis is, that under the influence of the secretory nerves the gastric glands possess the power of decomposing chlorides electrolytically, and of directing the resulting acid toward the outward surface of the mucous membrane of the stomach: the bases toward the blood stream. This is considered speculative, and not proved. Ralfe showed, however, that if a weak current of electricity was passed through a U-tube, one limb of which contained a solution of sodium bicarbonate, the other a solution of sodium chloride, with a dialyzing membrane between the two solutions, the liquid at the positive pole became acid and that at the negative alkaline. Maly found that if the chloride of an alkaline metal was mixed with lactic acid, and the mixture dialyzed, free hydrochloric acid diffused through, the result of the chemical action being the formation of a lactate and hydrochloric acid, in addition to the remainder of the chloride and lactic acid unacted upon. But he found that there was no formation of lactic acid in the body by which such a chemical reaction could be brought about; and concluded that the free hydrochloric acid of the gastric juice arose from some other form of

decomposition of the chlorides. His most recent theory is: Hydrochloric acid is formed by interaction between carbonic acid, disodic phosphate, monosodic phosphate, and chloride of sodium, both in the blood stream and in the cells. Against this theory it is urged that if HCl were formed in the blood it would be secreted by the kidneys as well as the stomach glands. Köppe suggested that the osmotic pressure of the blood plasma had to do with the formation of the hydrochloric acid. He says that the acid of the gastric juice is not formed in the gland cells themselves, but in the cell walls, in virtue of their specific properties, which prevent, as a semipermeable wall, free hydrochloric acid ions passing through, while they allow free hydrogen ions to pass in the other direction. Wesener has commented upon Köppe's theory and refers to the production of HCl when the stomach is irritated by Turck's gyromele. He decides that Köppe's theory is untenable, and concludes that HCl production is the result of cell activity. Bouvert, also, has studied the question, and decides that the theories of Maly and Hayem and Winter are irreconcilable with the fact, well known to-day, of permanent oversecretion. The stomach may be well washed out at night, and in the morning a large amount of free HCl may be removed from the fasting organ. It is well understood that in neuroses of the stomach characterized by oversecretion, such as the gastroxynsis of Rossbach, the excessive secretion of hydrochloric acid is the result of cerebral excitement. Here we have morning vomiting of fluids very rich in free hydrochloric acid, although no tube has been used and no food taken. M. Reynard and M. Loye have also produced the secretion of HCl by galvanization of the pneumogastric nerve.

It seems like piling Pelion upon Ossa to mention any more theories, but I will call attention to Lieberman's latest, which is as speculative as any other. This is that lecithallumin may be present in the cells in combination with chloride of sodium, and that HCl may arise from this through a mass action on the part of carbonic acid, which in time is found within the cells as the result of cell activity. We may fairly assume that, at the present moment, physiological chemists have no exact knowledge of the HCl secretion. The clinician of the day, reviewing all these opposing theories of the chemist and then reflecting upon his cases, is more than ever convinced that the nervous system, except where there is absolute glandular change through atrophy, carcinoma, or chronic glandular gastritis, is the initiatory cause of the secretion. Although both the vagus and the sympathetic have been divided without entirely arresting the secretion of the stomach, we have still a ganglionic system, Auerbach's and Meissner's plexuses, which supply the muscular and mucous surfaces. It

is more than possible that nervous impulses, emanating from the ganglionic system, furnish the stimulus for the secretion we find in the normal stomach. Since Osborne's experiments upon edestin, reported in the *Chemical Journal*, Volume XIV, it seems likely that carbonic acid will be found a prominent factor in the conversion of the chlorides into HCl. These experiments are too technical to appear here, but were made upon the proteids of hemp seeds in the laboratory. I might mention that for many years I have used empirically carbonic acid gas in the form of a spray to the stomach wall, and the carbonated waters as aids in the treatment of anacidity, with apparently much success.

In considering gastric acidity, we must not forget that there are fermentation acids—acetic, butyric, and lactic—which appear in many stomachs where there is a deficiency of HCl. Lactic acid usually appears in most stomachs, but disappears, except in cases of disease, after the establishment of the hydrochloric acid secretion; especially if that is rather free. These acids are the result of bacterial fermentation in the carbohydrates, as they appear in large amounts where the HCl secretion is slightest. The acidity which causes heartburn, and that sudden rush of an acid fluid into the mouth in the case of some alcoholics and large bread-eaters, is chiefly due to the fermentation acids. The pernicious activity of these bacterial ferments is often very distressing, and nothing but a rearrangement of the diet, abstinence from the use of alcohol, a lessened amount of the carbohydrates, and an increase in the nitrogenous elements of the food will relieve the annoying condition.

We are possibly as much at a loss to account for the increase or decrease in the HCl secretion as we are concerning its origin. In ulcer, neurasthenia gastrica, some forms of albuminuria, like interstitial nephritis, and in mitral stenosis and mitral insufficiency, we often have high acidity due to excessive formation of HCl. In cholecystitis, cholelithiasis, cholangitis, and hyperthropic cirrhosis of the liver, also, the acidity is usually high. It is especially in these cases of gall bladder and liver troubles that I desire to call attention to the high percentage of HCl secreted. While not of sufficient uniformity to base an absolute diagnosis upon, it is well, in all cases of hyperchlorhydria, to examine the urine for nephritis, and especially the gall bladder and liver for inflammatory troubles. The location of the pain, if pain exists, and particularly the existence of a fulness and sensitiveness in the region of the gall bladder and right lobe of the liver, are suggestive of trouble which may account for the high acidity.

Of the nerves which control the secretion of the gastric juice, the pneumogastric and the sympathetic have been thought to exercise the greatest in-

fluence—the sympathetic particularly, through its vasoconstrictor and vasodilator fibres. We see the action produced upon the salivary glands by stimulation of the divided ends of the chorda tympani nerve, and we know the action of atropine upon both the salivary and gastric secretion, and must infer that, to a great extent, secretion is due to the action of these nerves. It is only lately that Jürgens has called attention to the plexuses of Meissner and Auerbach in forty-one cases observed in autopsies, where well defined dyspeptic troubles existed. Meissner and Auerbach's plexuses were found to be in a state of degeneration, and thus, it is thought, through these ganglia also secretion is kept up. All the evidence in our possession fails to prove the existence of true secretory nerves of the stomach; but the fact that the secretion can be influenced reflexly from the mouth, the fact that mental influences affect it, show that however independent the secretion may be it is at least partially under control of the central nervous system. It is to the nervous system, when there exists no organic change in the oxyntic cells, that we must look to enable us to rectify the excess or lack of secretion. Sudden emotional excitement usually lessens or suppresses it temporarily. Prolonged and constant worry through business or other troubles increases the amount secreted, and thus becomes a secretory neurosis, to be modified or cured by strict dietetic plans, and, as nearly as possible, an adjustment of those mental stimuli by change of scene, cheerful companionship, and the direction of the mind to other channels. A little Christian Science doctrine, here, will not be misplaced, for such patients turn their thoughts too much inward.

In 1885, Sahli noticed the excess of HCl in cases of tabes. This has not been my observation. In four cases of locomotor ataxia with gastric crises, I noted an excess of acid in only one. Boas states that he has not found HCl in the vomit of many ataxics.

Of all forms of oversecretion, the one to which Reichmann called attention in 1882, and which is now known as *gastrosucorrahea continua periodica*, is the most interesting to the student of gastric troubles. The spasms of gastric supersecretion appear suddenly, often at night, and disassociated with any excesses in diet. They are usually, but not always, accompanied by excessive acidity. Bouveret says it is necessary to distinguish between overacidity and oversecretion. Most contemporaneous authors, Reichmann, Riegel, Ewald, and von den Velden and Jaworski, have insisted upon the necessity of not confounding the two forms of excess of secretion. Bouveret makes this distinction—in hyperchlorhydria the secretion errs by excess. It is more abundant than normal, and is very rich in pepsin and hydrochloric acid. The excessive secretion

is only produced during the digestive act and under the influence of the stimulus of the ingesta upon the gastric mucosa. The digestive period does not exceed the normal duration, and when it is finished the secretion ceases entirely. In oversecretion, (Reichmann's disease) the secretion of gastric juice is permanent; it continues beyond the digestive period, and often arises when the stomach is fasting. The secretory apparatus is in a constant state of activity. There is no longer a period of repose. While the secretion is usually intensely acid, it may be alkaline, although this is rare. I have never met with this form. Hyperchlorhydria is most frequently the result of intense emotional excitement, long continued, hysteria, cholelithiasis, or some obscure liver trouble. Supersecretion comes suddenly, without warning. It is paroxysmal, and often terminates as abruptly as it started. It is usually accompanied by excessive vomiting, and quite resembles an attack of biliary colic, for which it is readily mistaken. I have even noticed a slight icteric tint in the skin. When the attack ceases, then the desire for food returns and the bodily functions resume their normal course.

I have mentioned the most frequent forms of gastric acidity. It is useless to attempt to distinguish them without analysis. I am convinced that the blood supply of the stomach must be studied more fully, the relation of the spleen, liver, and pancreas in reflexes, and the obstruction of the blood stream, must be more completely understood before we shall be able to explain many phenomena which now are obscure and attributed to other causes.

A METHOD OF PRESERVING GROSS SPECIMENS FOR MUSEUM AND CLASS DEMONSTRATION.

By W. H. WATTERS, M. D.,
BOSTON, MASS.

At the recent pathological exhibit of the American Medical Association, at Saratoga Springs, so many questions were asked concerning the method of preparing the specimens coming from Boston University School of Medicine, that it seems advisable to give a description of that method at the present time.

It had been the intention of the writer first to attempt improvement on some of the details of the preparations, but, on account of several requests, he here describes the method as now used, hoping that the minor difficulties may be more readily overcome if he can interest others in the technics.

It may not be inappropriate first to briefly consider the present methods of preserving tissues and the reasons for attempting to find a new, and possibly a better, one.

Certain things are essential to a satisfactory me-

dium used in the preservation of specimens. It must prevent decomposition, conserve normal relationships with as little shrinkage as possible, and preserve the normal colors.

Alcohol of various strengths was formerly much used, and is still to a limited extent a fairly good preservative for certain tissues. The objections to it are many. It evaporates rapidly and so necessitates frequent renewal unless the jars are almost hermetically sealed. It causes shrinkage of the specimen. It does not preserve the normal colors except in a few instances where the pigments are insoluble in alcohol.

A few years ago we hailed with delight the statement that in formalin had been found the ideal preservative. This solution was tried in various degrees of concentration, from one per cent. to forty per cent., and the gas was also used. The result, as is well known, did not verify our expectations. It certainly prevents decomposition, but it causes shrinkage, renders the tissues brittle, and does not well preserve color, while its irritating odor and peculiar action on the hands render it a very unpleasant medium with which to work.

At present the Kaiserling method is the one most generally used and gives the most satisfactory results. It has been for some time used in Boston University. It preserves colors well for a limited length of time, but is bulky and unwieldy in demonstrating the conditions to classes during a lecture.

During the last two years various solutions have been tested, a modification of Kaiserling, as used by Professor Muir of Glasgow; a second method by Dr. Galt, also of Glasgow, resting essentially upon the presence of chloral hydrate and others. These have not given in our hands the satisfaction obtained by their several originators, either as a general preservative or as a color fixative.

These results led us to the method used here first in April, 1901, which will now be described. The solutions used are as follows: 1. Fix for 2-4 days in (Kaiserling No. 1)

Formaldehyde	200 cubic centimetres;
Potassium nitrate. . .	15 grammes;
Potassium acetate. . .	30 grammes;
Water	1,000 cubic centimetres.

II. Drain and place in ordinary commercial alcohol for from 3 to 5 hours.

III. Saturate from 3 to 5 days longer in (Kaiserling No. 3)

Potassium acetate. . .	200 grammes;
Glycerin	400 cubic centimetres;
Water	2,000 cubic centimetres.

IV. Imbed in

Kaiserling No. 2.	1 1/2 parts;
Gelatin	1 part.

It will be seen that this is practically the Kaiserling solution to which has been added gelatin as a solid medium.

To one part of gelatin, fifteen parts of the "No. 2" solution are added and allowed to stand for a day or two. The resulting mixture is then rendered liquid in a hot water bath, that being gradually applied. To this is added the white of an egg, and the mixture is heated until coagulation of the albumen is complete. The solution is then carefully filtered and allowed to cool. It is now ready for use.

Specimens prepared in the usual way for Kaiserling solutions are cut into sections of about 1 cubic millimetre thickness in such a manner that one of the flat surfaces shows the features desired.

Into a Petri dish is poured a thin layer of the gelatin solution (No. 4) now cooled to about 30°-35° C., and in this is placed the section face downward. The gelatin soon solidifies and thus holds firmly and evenly against the glass the particular surface desired to be seen. The entire Petri dish is now filled with No. 4 solution till a convexity is formed above the edges.

A square ground glass plate is removed from a basin of water and placed, while still wet and with the rough surface down, over the Petri. If this last procedure is performed carefully, touching first one edge of the dish with the plate, then dropping it slowly, a wave of gelatin will be formed which will force out any air bubbles that may be present. The plate is placed in proper position and the entire preparation left to harden, which it will do quite well in from half an hour to two hours, according to its initial temperature and the degree of room heat. Having become solid the superfluous gelatin is removed by a coarse brush immersed in water. The glass is then dried, a layer of Canada balsam is applied to seal the point of union between the plate, which we now recognize as the base, and the Petri dish, which now forms the top of the mount, and the name of the specimen is written in ink on the ground glass. In a day or two the balsam will be dry and the preparation has been completed.

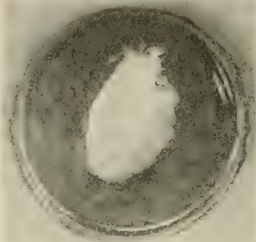
Similar methods have been adopted for mounting small specimens in test tubes, small bottles, etc. Tissues mounted in this manner, while not of very large dimensions, have been utilized by the writer as no others could have been in illustrating at lectures and laboratory exercises many morbid conditions. The specimens show clearly, everything is neat, and the mounts are easily handled and readily transported.

For some reason as yet unknown, the colors of these preparations seem to be more permanent than of those remaining in Kaiserling No. 3. Sections taken from the same organs have been thus tested, one mounted in "No. 3," the other in "gelatin," and

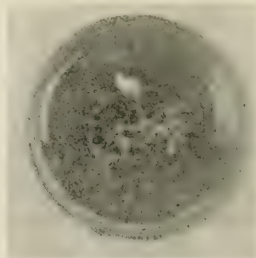
left for a year under similar conditions of exposure to light and heat. In every case tested, the gelatin mount has retained the color the better.

The same objection holds good here as for Kaiserling, although apparently to a less degree, namely, that they fade on prolonged exposure to light.

Two specimens, however, a cystic ovary and a



splenic infarction, have now been mounted for fourteen months and exposed to daylight for a considerable part of this time, and still retain nearly normal colors. When placed in an incubator or in the direct rays of the sun on a hot day, the gelatin has occasionally melted; otherwise, no trouble has been caused on this point. We hope soon to eradicate even this slight difficulty by raising the melting



point of gelatin, possibly by the addition of minute percentages of formalin.

Among other advantages alleged for the method are:

- The permanency of the mounts.
- Their compactness and neatness.
- Their easy adaptability for class demonstrations.
- Their successful preservation of color.

Recently the writer has been informed that Dr. William E. Robertson, of the Episcopal Hospital, Philadelphia, is working along somewhat similar lines to those above described, and hopes soon to hear that he has eliminated any difficulties that others may meet with from the use of this method.

OBSERVATIONS ON THE ANATOMY,
PHYSIOLOGY, AND PATHOLOGY OF
THE NORMAL SACCULI ANI,
AND ON THE ÆTIOLOGY, PATHOGENESIS, AND
DIAGNOSIS OF THE ABNORMAL ANO-
RECTAL POUCHES, ESPECIALLY THOSE
DESCRIBED AND TREATED BY THE
LATE EMINENT DR. PHYSICK.

By WILLIAM BODENHAMER, A. M., M. D., LL. D.,
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The writer would observe that several years ago a somewhat similar article of his on this subject appeared in the *Medical Record*. But since then some other writers on the same subject have arisen, who, like their predecessors, have confused or confounded it by failing to make a correct or a differential diagnosis of the normal sacculi ani, and of the several kinds of abnormal anorectal pouches or diverticula. Now, in consequence of this circumstance, and the fact that the writer has, in the meantime, obtained additional observations, experience, and argument in support of his position, have determined him to resume the subject. The writer will therefore on the present occasion show that the normal sacculi ani are natural productions or structures, that they possess physiological functions and relations, that they always exist and occupy the same locality, and that they are not, as some authors declare, mere chance or accidental formations. He will show, too, that there are several kinds of abnormal or preternatural pouches, cavities, or diverticula of the rectum and anus, which differ, and which are purely pathological formations, hence are entirely distinct from, and in nowise identical with, the natural sacculi ani. The writer will also on this occasion show that the late able and distinguished surgeon and anatomist, Dr. Physick, did, at a very early period of his professional career, meet with and correctly describe and successfully treat a certain peculiar form of morbid cavities or sacs of the anal canal, which he denominated preternatural pouches, in contradistinction to the natural sacculi ani. The writer must also show that, so far as known to him, all surgical authorities, except the late Dr. Reynell Coates, differed entirely with Dr. Physick. They affirm that the preternatural pouches of Dr. Physick are simply the natural sacculi ani morbidly enlarged, hence they ignore the anatomical and the pathological descriptions of Dr. Physick altogether. The writer, on the contrary, however, will hereafter show unmistakably that their assertion is incorrect and cannot be sustained.

The Normal Sacculi Ani.—The writer, before proceeding to the consideration of the anatomy, physiology, and pathology of the normal sacculi ani, will briefly refer to the very remarkable parallel longi-

tudinal plicæ of the mucous membrane of the rectum, which have obtained from Morgagni the significant appellation *columnæ*, hence they are termed by the French *colonnes du rectum ou de Morgagni*. These columns, or pillars, begin to form just above the superior margin of the sphincter ani internus. They vary in number from eight to twelve, and diminish in size as they proceed downward, and they terminate rather abruptly in rounded extremities just below the inferior margin of the internal sphincter ani. It will be plainly observed that the adjoining columns form sulci between them, and that these sulci finally terminate in the sacculi ani, at the bases of the columns. The sacculi may be easily found and verified by the observer on using a very slender, delicate, and flexible silver probe, properly bent as a hook, and placed in a sulcus a little distance up the canal, and then brought down gently in its tract, when he will find the probe to enter a sacculus. These sacculi may thus be found, both in the living and in the dead subject.

The normal sacculi ani have very small foramina which present upward, and cavities which vary in depth from two to five lines, and which always contain mucus furnished by the glands or the follicles of the vicinity, and ready to be poured out for the lubrication of the inferior portion of the rectum whenever they are compressed by the defecating act; distention of the rectum compresses them, but it does not obliterate them.

The existence and the locality of these sacculi were fully recognized, understood, and correctly described, by the term *semilunar lacunæ*, by some of the old anatomists more than a century ago. Some few authors of a later day have, however, strange to say, failed to discover them, hence, they conclude that they do not exist. But even the writer himself has never failed to find them; he has found them more fully developed in the pure negro, being more capacious and deeper.

The writer will now give the names of some of the most eminent anatomists who describe these normal sacculi or lacunæ correctly, and whose description is worthy of the highest credence, because it is the result alone of actual dissection: John Astruc, an able French medical writer of the sixteenth century, and author of the most complete treatise on the venereal disease of his time, says that "within the margin of the anus itself several short ducts, or rather lacunæ, appear, which convey a viscid fluid." (*De fistula ani*, p. 6, 8vo. Lugduni, 1730.) This description is brief and correct, even to the function of the lacunæ and the character of their discharge. Winslow, the eminent Danish anatomist of the sixteenth century, describes these saccular lacunæ very concisely and very correctly. (*Anatomical Exposition of the Structure of the Human Body*. Trans-

lated from the French by G. Douglas, M.D., 5th edit., Vol. II., p. 148, 4to. London, 1732.) Ruysch also gives a very correct description of the lacunæ. (*Opera omnia anatomico-medico-chirurgica*, Vol.

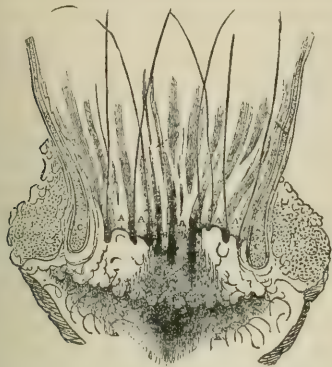


FIG. 1.—A vertical section of the anterior parietes of the anus, with the whole canal displayed so as to show the relations of the sacculi of the middle region and their relations to the surrounding parts, their orifices being marked by bristles. *A, A*, Columns of the rectum; *B, B*, rudiments of columns; *C*, internal sphincter; *F*, external sphincter; *K, K*, radiated folds of the skin, terminating on the surface of the nates. *n*, a bristle in one of the sacs.

I., p. 22, 4to. Amstelædami, 1737.) Cloquet, the very able French anatomist, gives a full and graphic description of the lacunæ. (*A System of Human Anatomy*. Translated from the French by Robert Knox, M.D., p. 617. Imp. 8vo. Boston, 1830.) Ribes, the distinguished French author, describes the sacculi ani, or lacunæ, quite correctly; at one time, however, he denied their existence. (*Mémoires de la Société d'émulation de Paris*. Tome IX., p. 107, 8vo. Paris, 1826.) Cruveilhier, the great French savant and

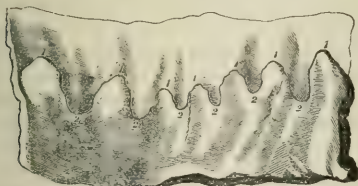


FIG. 2.—1, ani columnæ; 2, interjectæ inter valvulæ semilunares.

pathologist, also mentions the normal sacculi ani. (*Anatomy of the Human Body*. Translated from the French by G. S. Pattison, M.D., p. 380. Imp. 8vo. New York, 1844.) The late eminent Professor Horner, of the University of Pennsylvania, was the first American anatomist who correctly and minutely described and verified the normal sacculi ani. (*Special Anatomy and Histology*, 8th edit., Vol. II., p. 47. Imp. 8vo. Philadelphia, 1851.) Dr. Horner gives the following drawing, which completely illustrates his description:

The late distinguished Dr. Reynell Coates was the next American author to give an accurate and extended description of the normal sacculi ani. (*The American Cyclopædia of Practical Medicine and Surgery*. Vol. II., p. 83. Imp. 8vo. Philadelphia, 1841.) The writer will now give the names of two old and able anatomists, Morgagni and Glisson, who describe the lacunæ very correctly, but miscall them semilunar valves, *ani valvulæ semilunares*. Morgagni gives the following drawing of a vertical section of the inferior portion of the rectum, showing the bases of the columns:

(*Adversaria anatomica*. Pars III., *animadversio* VII., pp. 10, 11, et *addenda adversariis*, *tabula* III. Fig. 1, p. 109, 4to. Lugduni-Batavorum, 1723.)

The writer, if at all necessary, could still give additional evidence to prove what he promised, and has fairly performed, that the sacculi ani are normal and constant, that they are not merely chance or accidental productions; that they are not of recent discovery; and that the literature on the subject is neither scant nor obscure.

Pathology of the Normal Sacculi Ani.—The writer will now consider the morbid condition of the natural sacculi ani, with the view to compare them carefully hereafter with the *preternatural* pouches of Dr. Physick. He will therefore now show how the natural anal sacculi may become diseased or degenerated. It has been demonstrated that in health they have very small foramina and small cavities, and are in communication with follicles which supply them with mucus, which is poured out at the moment of defecation for the lubrication of the contiguous parts concerned; but, in consequence, sometimes, of continued excitation, irritation, or chronic inflammation of the mucous membrane in which they are located—they, of course, partake more or less of the same—they become relaxed, weakened, enlarged, and elongated, lose their contractile power, and permit foreign bodies readily to enter into their cavities; for unless their small foramina and cavities are relaxed and enlarged by some efficient morbid cause, they are too small, when in health, to admit foreign bodies into them. So soon, however, as such bodies, as small seeds, particles of feces, fluids, or gases enter into any of these morbidly enlarged sacculi, they produce great irritation, with a painful sense of distention of their delicate and highly sensitive parietes, attended often with a burning, smarting, itching, or tickling, which occurs soon after a stool, and lasts for an hour or two. It is positively stated by authors that the primary cause of disease in a normal sacculus is that a foreign body gets into it accidentally; but the writer maintains that this seldom, if ever, occurs, unless it is relaxed and enlarged by previous disease, so as to admit such a body into it. In the experience of the writer, the

degeneration of the normal sacculi ani is rare, he having met with only eleven cases in a practice of many years; in one of these cases, three contiguous sacculi were diseased.

The writer has thus, to the best of his ability, given his views upon the natural sacculi ani; and before entering upon the subject of the preternatural ano-rectal pouches, the writer will state to those who may not be familiar with the fact that the late and distinguished Dr. Physick was both a surgeon and an anatomist, and that for many years, he alternately occupied the chairs of surgery and anatomy in the University of Pennsylvania, and was considered the ablest surgeon of his time, and indeed was called the Father of American Surgery. He died in 1837.

The Pathogenesis of Dr. Physick's Pouches.—The writer will now present the pathogeny of the preternatural and morbid pouches or cavities of the anal canal as discovered, described, and successfully treated by Dr. Physick. The late Dr. Reynell Coates, who was the lifelong and fast friend of Dr. Physick, and who was himself a most able physician, surgeon, and brilliant author, declares that "On the cause of the preternatural pouches or cavities of the anal canal, Dr. Physick entertains some views which can hardly be regarded as speculative. In his opinion they probably commence in the same manner with one of the forms of hæmorrhoidal tumors; the constriction of the sphincters, which embarrass the venous circulation of the part, aided by the pressure exerted in passing difficult stools, frequently giving rise to ecchymoses beneath the integuments. The effused blood produces no irritation of the cellular tissue in which it is placed, but forms for itself a simple inert receptacle. If the blood is neither absorbed nor discharged, but remains or becomes enlarged by successive ecchymoses, it constitutes (certain authorities to the contrary) one form of hæmorrhoids. If, on the other hand, some accident or the absorption of the integument gives exit to the blood after the cavity has become accustomed to its presence, the cellular tissue shows little disposition to reunite, no obvious marks of inflammation appear, and a preternatural cavity is established."

"In support of this explanation, Dr. Physick states that in the early part of his practice he has in several instances operated on hæmorrhoidal tumors, of the same part, in which, after the removal of the coagula, the part presented the same aspect with the preternatural cavities, wanting only the orifice. He refers also to the existence of similar cavities, after the discharge of ecchymoses of the scalp, as most surgeons must have seen, particularly in children, and which often prove tedious and difficult of cure. He has also observed the same accident in other parts of the body. In most cases, the first appearance of the

cavities was preceded by troublesome hæmorrhoids." —(*Op. Cit.*, Vol. II, p. 125.)

Dr. Physick thus gives to his friend Dr. Coates a full and a graphic description of the origin, nature, cause, and characteristics of the affection, which he denominates *preternatural pouches or cavities of the anal canal*. This affection, in the opinion of the writer, is just as capable of scientific demonstration as is the pathology of the natural sacculi ani, as he will, in accordance with the views of Dr. Physick, now plainly show that the origin of these pouches is, first, the formation of hæmatomata, the result of a small quantity of extravasated blood into the loose submucous tissue of the part from the rupture of a venule or venous capillary, consequent sometimes upon violent straining efforts to expel indurated fæces. A hæmatoma thus formed, and before opening and establishing an orifice, is the first stage of one peculiar form of hæmorrhoids, and may be called an encysted submucous hæmorrhoidal tumor, as the writer has fully explained in his treatise on the hæmorrhoidal disease (*pp.* 62, 73). The contents of such bloody tumors may, under favorable circumstances, be in process of time absorbed, and the tumors entirely disappear. But this happy result does not always take place, for, if the causes which first produced the tumors continue for a length of time, with the addition of prolonged irritation or inflammation of the parts, the very thin covering of the tumors sooner or later becomes absorbed by interstitial inflammation or is invaded by ulceration, and their contents escape into the anal canal; and the openings thus made, showing no disposition to heal or close, but remaining permanently open, are then in reality what Dr. Physick calls them, preternatural pouches or cavities. And, furthermore, these ecchymoses, or hæmatomata, under the mucous membrane are completely cut off from the circulation; they are not supplied with blood afterward from the same vessels which caused or produced the extravasation, and in this respect they differ very widely from the erectile and varicose hæmorrhoidal tumors, which are so abundantly supplied with blood vessels. On operating on one of these bloody tumors and emptying it of the blood clot, which is all that it contains, a little sac will be seen, which is lined with a smooth, soft, and delicate membrane, which had, as it were, been thrown around the clot. Furthermore, if any one will examine the interior of the anal canal soon after the operation of forcible dilatation of the anal sphincters, he will find the mucous membrane studded with numerous small, round ecchymoses or hæmatomata, like large-sized bird shot. These will, under favorable circumstances, soon spontaneously disappear, leaving no bad sequelæ; they are liable, however, from sufficient morbid causes of the mucous membrane, to degenerate, and result in Dr.

Physick's preternatural pouches. It is evident from what has been presented that the preternatural pouches of Dr. Physick, whose description, as has been shown, is so very lucid and cannot be misunderstood, is an entirely different morbid production from that of the degenerated natural sacculi ani. Indeed, the opinion of Dr. Physick is not speculative, but demonstrative, and does not in the least depend upon the normal sacculi ani to sustain it.

In order to elucidate this subject still further, the writer will now show the wide distance between the locality of the natural pouches, and the preternatural pouches of the anal canal of Dr. Physick. Now, the anal canal, which is the inferior, or anal, portion of the rectum, commences at the extremity of the coccyx and terminates at the anal orifice; its length varies from one inch and a half to two inches. It has already been shown that the natural sacculi ani are located at the superior extremity of the anal canal, while the hæmatomata which sometimes result in morbid pouches, are chiefly developed in the inferior two thirds of the anal canal, but may even be developed externally, and may be divided into *internal*, *interioexternal*, and *external*. The interioexternal tumors are those which are located at or near the internal and external borders of the anus, partly within and partly without. The external hæmatomata are those which appear on the outside of the anus and a little below its margin. The color of these bloody tumors, when caused by venous blood alone, is usually purple, but may be modena or livid; but, when caused by both venous and arterial blood, their color is mottled. The writer will now give the names of a few of the many distinguished authors who differed entirely with the pathogeny of the preternatural pouches of Dr. Physick; but, strange to say, gave no reasons for, nor any explanations of the differences, but simply ignored Dr. Physick's opinion on the subject altogether. If he was in error, it behooved them to point out the error in a plain and unmistakable manner, which they have not done; his opinion, therefore, stands firm, erect, and unharmed by any sound argument or rational criticism brought against it.

Dr. Gibson was the first surgeon who differed with Dr. Physick, both in regard to the name and to the nature of the affection, according to the testimony of Dr. Reynell Coates, who, in reviewing, in 1835, the fourth edition of Dr. Gibson's *Institutes and Practice of Surgery*, says: "Among the other additions made since the first appearance of this work, we may name *Encysted Rectum*, a name applied with rather dubious propriety to the preternatural pouches detected by Dr. Physick, as to the true nature of which Dr. Gibson appears to differ from the discoverer." (*American Journal of the Medical Sciences*. No. 32. August, 1835, p. 460.)

Dr. Gibson, after very accurately describing the normal sacculi of the anus under the head, *Encysted Rectum*, says: "So far back as the year 1792, Dr. Physick met with a peculiar disease of the rectum, which had never been described or noticed by any writer. It consisted of one or more sacs of different dimensions, which, by bending a probe upon itself, introducing it into the rectum, and hooking it into the mouth of the sac, could be drawn down and made to appear on the outside of the anus. From that period he was accustomed, in his surgical lectures, to speak of this case and of others which he subsequently met with. From what has been said, it will be readily inferred that this disease, to which the attention of Dr. Physick was originally drawn, must consist in an expansion or dilatation of the small natural sacs of the rectum described in the commencement of this section. Such we have every reason to believe to be the fact, though, strange as it may seem, no dissection has ever yet been made, so far as we are acquainted, calculated to demonstrate that the preternatural pouch is an actual enlargement of the natural one. From the circumstances, however, of small portions of fæces, or of foreign bodies, such as seeds, having been found in the dilated sacs at the time of the operation, it is more than probable that these articles, by finding their way occasionally into the natural pockets, may, by irritating them, cause their expansion and elongation and produce the disease in question." (*The Institutes and Practice of Surgery*. 8th edit. Vol. II, p. 158. Imp. 8vo. Philadelphia, 1851.)

It will be perceived that Dr. Gibson applies the term *Encysted Rectum* to the normal sacculi of the anus, without giving any reason for such application. The word *cyst*, in pathology, signifies a closed pouch or bag, not an open one, and the term *encysted* means a sac or vesicle, contained within a cyst, as an encysted tumor, and is therefore in no sense applicable to either the natural sacculi ani, or to the preternatural pouches of Dr. Physick. The term *encysted rectum*, which originated solely with Dr. Gibson, has been credited to Dr. Physick by some eminent surgeons, as will be shown, but it is well known that he never used it to designate the disease which he called preternatural pouches.

Dr. Gibson gives no substantial reason whatever why he believes that the pouches of Dr. Physick and the normal anal sacculi are identical, but he is candid enough to say that no dissection has ever been made to demonstrate the fact that the preternatural pouch of Dr. Physick is an actual enlargement of the natural one. Indeed, in the opinion of the writer, it is impossible by any process to reconcile the description of Dr. Physick with the description of the morbid natural sacculi ani so as to make it evident that they describe one and the same affection.

Dr. Gibson attempts to explain the cause and the manner by which the normal sacculi become diseased, which is, he says, by foreign bodies finding their way occasionally into them, irritating them, and causing their expansion and elongation. He thinks that because small foreign bodies are sometimes found in the sacculi, when operated on, that such bodies got into them first and caused the disease in question, they being the primary cause. The writer has already plainly shown in a previous part of this article that the disease of the normal sacculi is not caused by small foreign bodies getting into them first, as Dr. Gibson says, for such bodies cannot get into the sacculi unless they are previously diseased, by being relaxed, dilated, and elongated by some other cause altogether, as has been shown.

The late distinguished surgeon, Dr. Gross, when speaking of the morbid natural sacculi ani, says: "A singular affection of the anus, first described by Dr. Physick under the name of encysted rectum, is occasionally met with, though comparatively seldom. A more appropriate appellation for it would be, saciform disease of the anus, as it consists simply in an altered condition of the sacs, pockets, or pouches naturally existing in this situation." (*A System of Surgery*. Vol. II., p. 739. Imp. 8vo. Philadelphia, 1859.) Dr. Physick, be it known, never described the disease he called preternatural pouches under any other name; the name encysted rectum has been shown to have originated with Dr. Gibson. Neither did Dr. Physick, in his very lucid description, make any reference or allusion whatever to the morbidly altered condition of the normal sacculi of the anus, as Dr. Gross implies or intimates.

The late able surgeon, Henry H. Smith, when speaking of the preternatural pouches described by Dr. Physick, says, under the head, Encysted Rectum: "These pouches were subsequently minutely examined by the late Dr. Horner, of the University of Pennsylvania, and their anatomical relations strictly defined, so that now they are usually regarded as a normal portion of the gut, which only demands interference when it becomes the subject of disease." (*A System of Operative Surgery*. 2d edit. Vol. II, p. 329. Imp. 8vo. Philadelphia, 1856.) From what Dr. Smith says, it is evident that he himself had no personal experience or positive knowledge of this subject, and only adopts that which he has obtained from those who declare that Dr. Physick was in error or mistaken. It will be observed that Dr. Smith greatly exaggerated Dr. Horner's description.

Dr. Horner makes the following few and very brief remarks relative to Dr. Physick in connection with the natural sacculi ani; he says: "At the lower end of the wrinkles between the columns are small pouches, from two to four lines in depth, the orifices

of which point upward. They are occasionally the seat of disease, and produce, when they are enlarged, a painful itching. An original observation of Dr. Physick, on the nature of this affection, and the remedy for which consists in slitting them open, or removing them, induced me to look for the natural structure, which I have ascertained to be as now described." (*Op. cit.* p. 47.)

The writer has already fairly presented Dr. Horner's lucid description of the natural sacculi ani, both in health and in disease; and he has also fairly presented Dr. Physick's equally luminous description of the preternatural pouches of the anal canal; and the two descriptions disagree *in toto*. Dr. Horner seems to have taken it for granted, as others have done, that no morbid pouches ever occur in the anus and rectum, except the natural sacculi, when invaded by disease; that Dr. Physick was in error, and could not have meant any others. Now, it has already been demonstrated by dissection and careful investigation that the preternatural pouch of Dr. Physick, which is a morbid production of a peculiar kind, differs most widely from a diseased natural sacculus, and cannot mean the same thing. It is neither a phantom nor a myth, but an entity, and is just as much so as any other morbid pouch of the anus or rectum. It seems strange that so remarkably acute an observer as Dr. Horner should, in this instance, have passed over the importance attached to this question, so briefly, so lightly, and so inexplicitly.

Various Morbid Rectal Pouches.—Pathological pouches of the rectum and anus do occur, which are entirely independent of the morbid natural sacculi, and of the preternatural pouches of Dr. Physick. They are those which are consequent upon ulceration of the mucous membrane of the rectum, the direct result of chronic dysentery, diarrhoea, or at the close of low and long fevers, or of exhausting or wasting diseases, thus causing follicular ulceration, chiefly in the rectum and sigmoid flexure of the colon; these ulcers are sometimes small and numerous, and when low down in the rectum, may be felt with the finger or seen through the speculum. In all these cases of ulceration, the solitary follicles first become inflamed and disintegrated, and finally open on the surface, the openings or orifices at first quite small and showing no disposition to heal, gradually enlarge, while the little cavities below them penetrate into the submucous tissue and thus become elongated, and finally result in sinuses, pouches, or pockets. The same result may take place, from the destruction of small patches of the mucous membrane of the rectum and anal canal by the same causes, as well as by tuberculous or syphilitic ulceration, and, sooner or later, form small pits or pouches.

How to Detect Anorectal Pouches.—The dis-

ceased natural pouch and the preternatural pouch of Dr. Physick have each their natural boundaries permanently fixed, and are thus comparatively easy to detect with the probe hook; there is, however, a considerable distance between their localities, which, in a surgical point of view, is important; for the former is situated at the superior end of the anal canal, while the latter may occupy any part of the space of the lower two thirds of the same canal, hence Dr. Physick's pouch is much easier found with the hooked probe and brought down to the anal surface and incised; this cannot be done with a diseased natural sacculus, which is so much higher up in the canal and cannot be pulled down to the surface without pain and laceration, but must be hooked and incised at its location between the blades of an open rectal speculum. All other pouches of the rectum may be detected by the bent probe carefully manipulated; it should be passed up into the canal three or four inches, and then brought slowly back with the point of the probe bearing successively on the different parts of the circumference of the canal, and should any morbid pouch or occult fistula exist, the reverted point of the probe will pass into its orifice and cavity, and render its existence and character at once sufficiently obvious. A hook for detecting occult anal and rectal fistula and other pouches of the same locality was used by the great French surgeon, Dionis, and figured. (*Cours d'opérations de chirurgie démontrées au Jardin du Roi*. 8me Edit. Time I, p. 405. Planche XXV. Fig. P. Par De La Faye. Paris, 1782.) Heister also used a similar hook for the same purpose. (*Institutes of Surgery*. Translated from the Latin. Part II. Sec. 5, p. 256. Tab. 35. Fig. 14. 4to. London, 1743.)

The writer will now briefly conclude by saying that our sentiment in this respect should always be, "Render unto Cæsar that which is Cæsar's," or all that which bears his image and superscription.

THE TREATMENT OF HÆMORRHOIDS BY ENUCLEATION.*

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Hæmorrhoids are usually described as bluish-red vascular tumors, occurring in the circumanal space (the boundaries of which are the internal sphincter above, and the external sphincter below), and in the thickened mucous membrane of the anus. When first seen, these spaces usually present a typical picture of chronic inflammation, involving veins and surrounding tissue; the pile mass looks angry and the mucous membrane is ulcerated and of low vitality. At a later

stage of this condition extensive slough and septicæmia are liable to follow.

In this paper we shall consider only internal hæmorrhoids, which, from a pathological standpoint are generally considered to be varicose dilatations of the internal hæmorrhoidal vessels, brought about by obstruction of the blood current and by a chronic inflammatory process.

In describing the internal hæmorrhoid it is only necessary to make two classes, the capillary and the venous. The capillary is in reality an erectile tumor, composed of the terminal branches of the arteries and veins, and of the capillaries which join them. This form of tumor is not very large and never projects far into the cavity of the rectum; its surface is granular, and the membrane covering it is of extreme thinness and bleeds freely upon the slightest provocation. On the other hand, the investigation of Reinbach, as recorded in Ziegler's *Pathology*, "has demonstrated that a hæmorrhoid is a true angioma, whose development, which may begin in early childhood, depends on a new formation, and a cavernous metamorphosis of the blood vessels, and may be quite independent of any obstruction of the blood flow." This report was confirmed by our fellow, Dr. Pennington, in his original research and clinical observation. Pathologically, there may be some difference between the opinion as expressed above and that held by pathologists in general, but that difference is so slight that I do not care to discuss it; but from an operative point of view there is absolutely no difference.

For the sake of argument, and that we may bring this subject clearly before us, let us use the technics of the author of this operation. Given a case of well-defined internal hæmorrhoids:

The second night before the operation administer two to three grains of calomel in broken doses. The following morning give half an ounce of Epsom or Rochelle salts; at nine o'clock, the night before the operation, shave the anus and give a bath and a colonic flushing. At seven o'clock the following morning give an enema of one pint of cool water, and operate two hours later. This gives a clear field in which to operate. The patient being anesthetized with either local or general anesthesia, is held upon the operating table in the lithotomy position by means of a Glover's crutch. The sphincter is then gently and carefully divided with the fingers, and the rectum irrigated with an antiseptic solution, followed by normal salt solution. Each anal quadrant is now grasped at the mucocutaneous junction with a T forceps. These are held by an assistant. By means of these instruments the anus is everted and the internal tumors are exposed. Now, seizing with the full hand the forceps attached to the posterior quadrant, fully erect it, and I think it is more fully done by placing the index finger under the lower blade of the forceps and pressing upwards, and with a pair of scissors sharply curved on the flat,

* Read before the American Proctological Association, at Saratoga Springs, June 11, 1902.

remove an ellipse from the apex of the hæmorrhoid, commensurate with the size of the tumor; this permits most of the blood to escape. All of the angiomatic tissue is now removed by dissection, when the remaining walls collapse. This leaves a very small area of denuded tissue. Each quadrant is treated in like manner; a stream of hot sterilized salt solution, 115° to 125° F., flows over the field continuously during the operation. Any spurting vessels are caught with a hæmostatic forceps and thoroughly twisted. Should this fail to control the hæmorrhage throw a ligature around it, which at this writing I have not found necessary at the time of operation. The T forceps are then removed and all external tumors and tags removed with a pair of straight scissors, care being taken not to make an incision in the mucutaneous junction when it can be avoided, as this is the most sensitive point around the anus. This same precaution should be observed when removing the internal tumors. The field is then dusted with some antiseptic powder, and a rubber-covered tampon introduced through a bivalve speculum. The tampon is allowed to protrude about $1\frac{1}{2}$ inch beyond the anal orifice. Gauze is now carefully and snugly wrapped around the protruding portion; the anchoring string is wrapped around a piece of gauze held close to one side of the anus, and other gauze interwoven around the anus to prevent the tampon slipping in or out of the anus. Over this is placed gauze and cotton and held in place by a T bandage, which is made quite taut, and the patient is now placed in bed. By operating in this manner there are no slumps to slough, or nerves caught and squeezed, producing excruciating pain, as there are when the ligature is used; neither are the nerves and tissues painfully burned, as when the clamp and cautery are employed. In lieu of this a fibrous exudate is deposited over the operated field, which exudate is not destroyed or disturbed upon removal of the dressings. The danger of stricture is obviated, as the normal calibre of the bowel is left practically covered by mucous membrane. At the end of forty-eight hours the patient is given a cathartic and the tampon removed, which is easy and painless. From this time on, convalescence is well established; the parts should be irrigated once or twice a day with an antiseptic solution and dusted with an antiseptic powder; after this the patient is instructed to keep his stools soft for two or three weeks by a mild laxative. In cleansing the anus after a stool some soft detergent should be used.

After a comparatively limited experience with the Pennington operation for hæmorrhoids by enucleation, I am willing to allow that in some regards it is ideal, and yet it is open to objection in at least two or three instances. Assuming that perfect hæmostasis would always obtain, and perfect coaptation of incised mucous membrane always occur, then surely there would not be much more to be desired to constitute radical relief from piles. But, gentlemen, while hæmorrhage in the vast majority of cases will be perfectly prevented by tampon, yet, that it will not in every case be prevented, I am quite confident. A

perfect mechanical adjustment of tampon or Pennington plug with the wounded area, presuming this perfect adjustment is not interrupted for twenty-four hours or more, will certainly control bleeding. This nicety of mechanical relationship for one reason or another will not always occur. I can readily understand how bleeding may follow in this operation from a paretic condition of the bowel wall from any cause engendering paresis, and, by virtue of loss of contractile bowel power, compression may be imperfect. How blood may be prevented from making its way from the bowel, owing to grasps of the plug by the sphincters, and yet accumulate in the bowel in an indefinite quantity, is instanced in the following case I report:

CASE I.—Harry W., age twenty-two years, single, occupation book-keeper. Had been complaining for several weeks of pain in the rectum, due to hæmorrhoids and fissure, previous to his admission to St. Elizabeth Hospital April 7, 1902. The usual preparation for the operation was made: April 9th, 10 a. m., the Pennington operation by enucleation was done. Ether was the anæsthetic chosen. The hæmorrhoids were small, except the one in the anterior quadrant, which was quite large and granular. For the first twenty-four hours his condition was not at all satisfactory, but we thought it due to the anæsthetic, as there were no visible signs of hæmorrhage. The bowels were somewhat distended; strychnine sulphate, grain $1/30$, was given hypodermically every four hours. April 10th, 1 p. m., temperature 103° F., pulse 130, irregular; 10 p. m., pulse 140, temperature 103.5° F.; April 11th, 9 a. m., condition unchanged; external dressings were removed and tube washed out, with negative results so far as hæmorrhage was concerned; two hours later, there being no improvement, the tampon was removed, and the rectum found to be full of well organized clots, which were removed by irrigation and breaking them up with the finger in the rectum. These clots were dammed up above the sigmoid and were removed by the aid of massage from above, over the bowels, and irrigation. Fully three pints of these clots were removed, and then the search began in earnest for the bleeding vessel, but with negative results, except that we learned that the bleeding came from the anterior quadrant. A fresh tampon was prepared, differing from the first in that the upper end was made larger in diameter, hoping by compression to catch the bleeding vessel. In this we were successful. The patient was removed to his bed and stimulants freely given in connection with transfusion of salt solution. Acute pneumonia developed on the evening of April 11th. April 12th, 3 p. m., salts were given and the forementioned treatment continued, and the tampon was removed; at 6 p. m. the bowels moved and no hæmorrhage followed. His recovery was slow and uneventful, except for an enlargement of left submaxillary gland. Discharged, April 22, 1902.

Now, gentlemen, as to the second weak point of this operation, it would require a pronounced credu-

lity to believe that there will always be such nicety of coaptation of mucous membrane falling together as hermetically to seal the wounds made; that collapse of the parts operated on, and tamponing, will always insure against sepsis. In this reservoir of nastiness, where even comparative asepsis is but for a moment, we certainly have reason to fear infection when there is a wound agape. There certainly cannot be, in all instances, in this operation, such nice coaptation that there will not be an open way for infection. Does not the surgeon destroy this coaptation when he introduces the tampon, and are not exuberant granulations likely to follow? If this should follow, and it is not improbable, then the operator has paved the way for infection, as is instanced in a fatal result from sepsis in the following case I report:

CASE II.—Mrs. H., married, aged forty-one years, no children; admitted to St. Elizabeth March 23, 1902. Diagnosis, large granular hæmorrhoids in each quadrant. Had had several severe hæmorrhages, and is consequently very anæmic from the great loss of blood. Had taken salts before entering the house, and the remainder of the preparation for the operation was done afterwards. The operation was done at 9.30 a. m., March 25th. Ether was the anæsthetic chosen. The field of operation was as clean as any preparation could make it; it seemed to be perfect; extra flushing with antiseptic and salt solution had been practised because of the character of the hæmorrhoids. There was no spurting and very little oozing. She left the table in an excellent condition. She had a chill on the morning of the 26th; some tenderness over the bowels in the afternoon, but no tympanites; was restless and very nervous; temperature 102° F., pulse 120. At 11 p. m. she fell into a sleep; the nurse saw her every hour and thought her asleep as she was so quiet. March 27th, at 5.30 a. m., the chief nurse was called, and at once realized her condition; pulse weak and irregular; respiration bad, temperature 103° F. I saw the patient at 6 a. m., and found her dying. The dressings and tampon were at once removed, and found to be absolutely free from hæmorrhage. The abdomen was distended and tympanitic; the bowels were moved by high enema; strychnine hypodermically and whiskey given during the day, but she died at 5.30 P. M. No autopsy was made.

So, gentlemen, in this operation, as in all others for hæmorrhoids, we fail to find an ideal one. In its application, as in all others, no doubt it is restricted. In cases in which the varicosities are comparatively accessible, when from any reason there is no bowel paresis and the plug can be placed securely and securely remain for a time, thereby insuring protection from hæmorrhage and likely from infection, it is no doubt a very agreeable and satisfactory operation to both patient and operator; but to be able to determine in every instance in which the apparent weaknesses of the operation may manifest themselves, it seems to me will be difficult.

In conclusion, I have done this operation twenty-two (22) times with the most happy and satisfactory results to both myself and patient, with the exception of the two above reported cases, and shall continue to follow this technique on cases that I think indicate it, otherwise I shall use the clamp and cautery or ligature.

REPORT OF A CASE OF SUCCESSFUL REMOVAL OF A KIDNEY FOR INTERMITTENT HYDRONEPHROSIS.*

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HARTFORD, CONNECTICUT.

Mrs. O., aged thirty-three years, married, had one child three years ago.

The history of her trouble dates back thirteen years. At the age of twenty she first noticed pain in the right lumbar region, intermittent in character, with the development of a tumor which lasted from a few hours to a day or two, occurring at intervals of from two weeks to two or three months. These attacks increased in frequency and severity for the following ten years until they became so aggravated and painful that for the past three years she has been practically an invalid, her attacks occurring every few weeks and lasting from three to seven days.

They were usually ushered in with the following symptoms: Severe pain in the right lumbar region, generally to the right of the gall bladder line and extending into the right loin; severe nausea and vomiting, with chilly sensations, followed by fever and restlessness. The contents of the stomach seemed to be largely bile. The pain was usually so intense that it required large doses of morphine to allay it, even partially.

A tumor would suddenly develop, varying in size from that of an orange to that of an adult's head. This tumor extended into the abdomen to the right of the navel line, was hard, tense, and immovable. The upper end was rather undefined and could not be traced to the kidney. During the presence of the tumor the urine was frequently, though not always, diminished in quantity, and usually continued so until the abatement of the tumor, which, when it started to subside, frequently disappeared within an hour, followed by the passage of large quantities of urine, sometimes a quart or more at one time.

A noticeable feature was obstinate constipation during the attacks, which could not be relieved until after the subsidence of the tumor. Frequent examinations of the urine gave a specific gravity of 1.005 with considerable albumin.

During the last few months her attacks became so frequent and severe that life became unbearable. All medical means having been tried without avail, an operation was decided upon.

On January 4th of the present year, following an attack, I cut down on the right kidney, and found it freely movable, very narrow, and about seven inches

* Read at the annual meeting of the Hartford County Medical Society, April 16, 1902.

long, with a dilated pelvis and ureter about ten or twelve inches in circumference. This dilatation extended down the ureter nearly, if not quite, to the bladder. I therefore decided to remove the entire kidney and ureter. Before doing this, however, I made an opening in the peritonæum, passed my hand over, and examined carefully the left kidney, which I found to be normal. I then closed this opening in the peritonæum and removed the right kidney extraperitoneally.

I followed the ureter down a few inches, but, owing to the critical condition of the patient, was obliged to stop before removing the entire ureter to the bladder. The wound was closed and primary union obtained, with the exception of that portion left for drainage. The patient rallied and made an uneventful recovery.

During the first twenty-four hours after the operation the left kidney secreted forty ounces of urine, and since that time I have found by frequent examinations that the quantity and quality of the urine have been perfectly normal.

At the time of the operation she weighed less than ninety-seven pounds; to-day her weight is one hundred and ten pounds, being three pounds more than she has ever before weighed. She has been in excellent health and able to do all her own work since five weeks after the operation.

Correspondence.

LETTER FROM MANILA.

Cholera in the Philippines.

MANILA, P. I., July 20, 1902.

The spectacle of a dozen men vainly attempting to stamp out a prairie fire is being reproduced with painful fidelity in the Philippines, where a handful of sanitarians are waging practically hopeless warfare on an enemy a thousand-fold more formidable than were the scurrying tatterdemalions of the now historic insurgent army.

When cholera made its appearance in Manila, four months ago this date, the authorities realized keenly the full import of the situation; but the gloomiest pen could hardly portray at that time what was to follow. From a single focus in a filthy suburb the disease has spread, now slowly, now rapidly, until to-day nearly every province in Luzon has been invaded, and, from these, the islands of Leyte, Mindoro, Masbate, Samar, Cebu, and Marinduque.

In the city of Manila the cases have numbered from ten to sixty daily, with a mortality rarely falling below 80 per cent; the totals to date being reported as follows:

	Cases.	Deaths.
Filipinos	2,224	1,794
Chinese	185	100
Americans	60	37
Europeans	22	13
Others	15	8
Total	2,506	1,952

Mortality, 79½ per cent.

For the provinces, the latest report shows a total of 15,255 cases, with 11,491 deaths. When it is remembered that these figures fall far short of the actual number, on account of various causes hereafter to be discussed, the severity of the epidemic is apparent. In the report of the board of health for May the figures clearly show collusion among the native doctors to return misleading death certificates, thereby securing for their people common burial and avoiding the customary disinfection and surveillance imposed, respectively, on premises and contacts.

I quote the following: "The mortality for the month, 1,547, is practically double that of normal times. After subtracting 445 deaths which occurred during the month, from cholera, there remain 1,102, which would indicate that about 300 more casualties have occurred from other diseases than is customary—or, rather, that a certain number of cases of cholera have been wrongly certified to."

It is safe to say that more diagnostic crimes are buried in Manila every day than in any other city on earth. If such a condition obtains here under the immediate observation of the authorities, what can one expect from the provincial boards, who have in many instances failed to report the presence of cholera in their district until hundreds have died?

This subterfuge on the part of the Filipino physicians was but a feature of the well concerted plan to combat the regulations at every point; the rank and file being taught to regard the interdiction of travel, the segregation of contacts, the prohibition of festivals, and the supervision of food and water supply as an encroachment on their personal liberty.

Strange as it may seem, the various religious orders encouraged this belief and sought in various ways to negative such measures as were adopted to inhibit the spread of the disease. Indulgences were sold throughout the provinces and even in Manila, protecting the holder against cholera for a period depending on value received—this in the twentieth century and on American soil!

To secure cooperation of the public, concession after concession was made. The detention camp was abolished; bodies were buried in lime, instead of being cremated; permits to leave the city were given so freely that the cordon was finally withdrawn altogether, and to-day the last vestige of land quar-

antine was removed—the entire sanitary department being practically turned over to the Filipino doctors, who will conduct the crusade along their own lines. These gentlemen propose to treat cholera much as one would whooping-cough, in the patient's own home, surrounded by his friends and relatives, and within easy reach of the family rice pot. No particular change in the situation is looked for on this account, since the natives have stupidly and stubbornly opposed all regulations from the start.

The approach of the rainy season, with the accompanying typhoons and other marked meteorological changes, is expected to alleviate conditions until the epidemic dies out of itself, as did those of 1882 and '89, in the Philippines, and the one this year in Hong Kong.

Reports received here show that a veritable pandemic is now ravaging the Orient, particularly the cities of Shanghai, Tokio, Singapore, Canton, Tien Tsin, and Port Arthur, causing a loss of thousands of lives and untold millions in shipping interests.

The army in the Philippines has suffered severely, despite the precautions taken at every post. In General Bell's brigade alone, operating in the provinces of Batangas and Laguna, nearly two hundred soldiers and civilian employees contracted the disease, which proved fatal in about 65 per cent. The total casualties from this source have not yet been given out, but will certainly be startling. Severe losses have also been reported among the constabulary and the Philippine Scouts.

With an epidemic of plague or cholera every year, and insurrection brewing in a dozen different provinces, a new feature is added to the problem of occupation that has heretofore not been considered.

Therapeutical Notes.

For Dyspepsia.—*Progrès médical* for July 19th gives the following:

R Extract of malt, powdered...
Pancreatin.....
Pepsin..... of each 0.50 grammes
Sodium bicarbonate..... (7½ grains)
Prepared chalk.....

M. For one powder. One to be taken an hour after meals.

Treatment of Chronic Diarrhœas by Hydrochloric Acid.—Dr. M. Soupault (*Journ. de méd. et de chir. prat.; Journal médical de Bruxelles*, July 24th) in a recent communication to the *Société de Thérapeutique* spoke of the good effects of hydrochloric acid in idiopathic diarrhœas, independent that is, of any important anatomical alteration in the intestine, and of all local or general infections or intoxications. The acid must be prescribed in full doses; small doses are useless; from one to two grammes (fifteen to thirty minims) daily. The pure

official hydrochloric acid, containing 38 per cent. of anhydrous acid, is used. It may be ordered in the form of drops—10, 15 or 20 drops—at the beginning of meals in a glass of sugar water or mixed with a little citron juice, or the following lemonade may be used:

R Pure official hydrochloric acid... from 6 to 8 grammes
(90 to 120 minims)
Syrup of lemons..... 200 grammes
(6¼ ounces)
Water..... 800 grammes
(25 ounces)

M.

Summer Diarrhœa in Infants.—Dr. James H. McKee (*Philadelphia Medical Journal*, July 26th) lays stress upon the necessity for a purge as a preliminary to other treatment. Castor oil is best where there is a clear history of the ingestion of indigestible material. In dyspeptic cases seen late, with gastric irritability, and in all infectious cases, calomel in divided doses should be given. When a laxative has to be repeated several times in the course of the disease the following is recommended:

R Mercury with chalk..... ½ grain
Salol..... 1 grain
Bismuth subnitrate..... 5 grains
Sugar of milk..... 5 grains

M. For one dose.

When there is much tenesmus castor oil may be combined in a similar way:

R Oil of cloves..... 2 minims
Peppermint oil..... 2 minims
Castor oil..... 10 minims
Bismuth subnitrate..... 5 grains
Acacia mucilage. } Of each enough to make 1 drachm
Water..... }

M. For one dose.

For Intra-uterine Medication.—Dr. Léon Mabile (*Gazette de gynécologie; Journal médical de Bruxelles*, July 17th) in an article on the Medical Treatment of Metritis gives the following formulæ for use after cauterization with zinc chloride, creosote, tincture of iodine, or what not, to modify the mucous membrane in inflammation of the corpus uteri. The crayons when inserted into the uterine cavity, melt there:

R Iodoform..... 1 to 2 grammes (15 to 30 grains)
Gum arabic..... 0.10 gramme (1½ grain)
Distilled water.) of each the smallest amount necessary
Glycerin..... to make the crayon.

M.

Iodoform may be replaced by copper sulphate, or zinc chloride (in very small doses). One-third of a grain of extract of opium, and half a grain of cocaine may be added to the crayons to check pain.

For Hæmaturia.—The *Progrès médical* for July 5th ascribes the following to Giovanni:

R Extract of physostignia..... 0.40 gramme (6 grains)
Ergotine..... 2.00 grammes (30 grains)
Extract of gentian..... q. s.

M. ft. massa. Div. in pil 20.

Begin with one to two pills daily, and increase by one daily until the desired effect is attained or the limit of tolerance reached.

The After-treatment of Malarial Disease.—Dr. H. E. McKay (*American Practitioner and News, June*) recommends as a tonic to follow on the subjugation of the disease by quinine, the following prescription:

R Quinine sulphate.....	1 grain
Reduced iron	1 grain
Arsenous acid	1/50 grain
Strychnine sulphate.....	1/40 grain
Extract of gentian.....	¼ grain

M. ft. pil. One to be taken every four hours.

Forty grains of phosphate of sodium should be given first thing every morning.

For the Prurigo of Hebra.—M. de Beurmann (*Presse médicale, July 16th*) reported, at a recent meeting of the *Société Française de dermatologie et de syphiligraphie*, excellent results from the following local application:

R Camphor	12 parts
Tar	15 parts
Sulphur	8 parts
Chaulmoogra oil	3 parts
Petrolatum	62 parts

M.

Sodium Persulphate to Regulate the Digestive Organs.—M. Ricome and M. Andrianavony (*Journal des praticiens, July 19th*) in a Montpellier thesis for 1901 recommend the following prescription.

R Sodium persulphate.....	15 grammes (25 grains)
Water.....	150 grammes (5 ounces)

M. A tablespoonful one hour before luncheon and dinner, in a quarter of a glassful of water.

M. Robin, however, prefers weaker doses and gives a tablespoonful of the following solution half an hour before each of the two principal meals:

R Sodium persulphate.....	2 grammes (30 grains)
Distilled water.....	300 grammes (9½ ounces)

M.

This method of treatment is said to be indicated in incipient tuberculosis for convalescents from acute diseases when the digestive functions return poorly, after operations, and for chlorotics and neurasthenics.

A Non-irritating Antiseptic Ointment for Burns.—The *Revista de medicina y cirugía de Habana* for July 10th gives the following formula as very antiseptic and not at all irritating:

R Sodium naphtholate.....	0.30 gramme (4½ grains)
Spirit of geranium....	of each 0.20 gramme (3 grains)
Spirit of origanum....	
Spirit of verben.....	
Spirit of thyme.....	
Pure white petrolatum.....	30.00 grammes (1 ounce)

M.

For Fœtid Breath.—The *Revue médicale du Canada* for July 30th quotes the following from the *Journal de médecine de Bordeaux*:

R Infusion of sage.....	250 parts
Glycerin.....	30 parts
Tincture of myrrh.....	of each 12 parts
Tincture of lavender.....	
Solution of chlorinated soda.....	30 parts

M. To be used as a mouth wash.

Cacodylate of Strychnine in Pulmonary Tuberculosis.—Dr. Eysséric (*Journal de médecine et de chirurgie pratiques; Bulletin commercial, July*), in a Lyons thesis, has obtained very favorable results in pulmonary phthisis with cacodylate of strychnine. The effect is said to be due to the strychnine, the arsenical content of the drug being small. All the patients rapidly improved and increased in weight, while cessation of the drug was promptly followed by loss of weight. The author's method is as follows: The beginning dose is two milligrammes (about 1/30th of a grain), this amount being rapidly increased (at the rate of one, or even two mgms. daily) up to twenty mgms. (one-third of a grain), or to ten mgms. (one-sixth of a grain) in the female. The final doses are made to vary between twenty and thirty mgms., or between ten and twenty in women, according as the desired result is or is not obtained. There should be one day's intermission in each week. The treatment can be extended without inconvenience over several months. The subcutaneous method is considered best, though Professor Galtier has seen no bad results follow the administration by the mouth. The following formula is used hypodermically:

R Distilled water.....	90 grammes (22½ drachms)
Glycerin.....	10 grammes (150 minims)
Cacodylate of strychnine.	1 gramme (15 grains)

M. Dissolve the salt in the glycerin in a water bath, then add the water.

Each Pravaz syringe-ful contains one centigramme (1/100ths of a grain) of cacodylate of strychnine; each of its divisions corresponds to half a milligramme (about 1/120th of a grain). The maximum dose has been thirty-five mgms.; no toxic symptoms have been noted as following this amount.

Injections of Artificial Serum in Neurasthenia and Anæmia.—M. Albert Peillon (*Lyon médical, July 27th*) uses this formula in the preparation of his artificial serum for subcutaneous use:

R Phenic acid, snowy.....	3 grains
Sodium glycerophosphate.....	90 grains
Distilled water.....	2 ounces

M.

The injections must be made with strict antiseptic precautions, and may be practised four or five times weekly in doses each of about two and a half drachms of the solution. In six cases reported, Peillon achieved notable improvement in the general condition, especially in cases of anæmia due to pulmonary tuberculosis.

Danger of Tetanus from Subcutaneous Injection of Gelatin.—Dr. P. Krause (*Berliner klinische Wochenschrift, July 21st*) recalls the fact that some fatal cases of tetanus have followed the hypodermic use of gelatin solutions. The employment of gelatin in this way has undoubted value when used carefully for the checking of severe hæmorrhages. As some commercial samples have been shown to contain tetanus bacilli, the fatal cases must be due to imperfect sterilization of the solution previously to use. In order to be certain of having a germ-free solution, the author recommends boiling the solution for five successive days at a temperature of 122° F., for half an hour at a time. The solutions prepared in this way will remain sterile for several months.

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CHOLERA INFANTUM.

This name, much as it has been objected to, seems likely to endure as the ordinary appellation of the severe gastroenteric disease of infants with which, unfortunately, every summer renews our familiarity. At least it will probably remain the popular term for the fulminant cases. Any disease is reasonably sure to be better understood in a country in which it is of common occurrence in a pronounced form than elsewhere, and consequently we Americans are not given to looking beyond our own shores for information as to cholera infantum. Nevertheless, we have been much interested in an article on the subject, by Dr. W. Cecil Bosanquet, of the Victoria Hospital for Children, London, published in the August number of the *Practitioner*. Dr. Bosanquet remarks upon the confusion that has arisen from the diversity of names by which the disease is known—if, indeed, it is a single disease rather than a group showing similarity of the principal symptoms, but dependent for its origin on a number of different causes. He himself proposes the term "infective gastroenteritis of infants." In the present state of professional opinion, few, we imagine, will cavil at the word "infective;" we are all, practically speaking, well convinced that the disease is due to infection—not necessarily or even generally the infection of one child from another, but infection with some noisome material that gains access to the child's alimentary canal from without, whether tyrotoxicon, a ptomaine, or one or more microorganisms.

Although Dr. Bosanquet falls in with the view generally held as to the agency of summer heat in giving rise to the disease, namely, that it acts mainly by favoring the multiplication and diffusion of the materies morbi, he points to the occurrence of spor-

adic cases throughout the winter as proving that hot weather is not a necessary antecedent condition. He even thinks that in many a cases a chill acts as the exciting cause, and he adds that it is not unusual to find that a sudden fall of temperature after a hot period is the signal for an outburst. In connection with the matter of chilling as the cause, he makes the following forcible remarks: "The form of clothing adopted among the poorer classes when the baby is 'short-coated' seems specially adapted to favor the occurrence of chill. The infant wears nothing which fits closely except the necessary napkin, which, if 'necessary,' is not always harmless, for it is allowed to be come sodden and clammy with urine. Beyond it the whole superstructure of garments lifts up like an extinguisher, leaving the baby naked from the ankles to the axillæ, so that chilling of the surface easily occurs."

The author's views as to the treatment of the disease seem to us quite judicious, though they exhibit no novelty. He criticises American practitioners mildly for what he considers the undue value they attribute to gastric lavage and enteroclysis. When, he says, such a writer as Kerley finds it necessary to advise that washing out of the colon should not be done more than twice a day, there can be little doubt that this mode of treatment has been much overdone, and as to the contention that the procedure is soothing to the infant, he remarks that "the British baby appears as yet to have been scarcely educated up to this view of the matter."

MOSQUITOES AND YELLOW FEVER.

Convinced as we may be of the part played by mosquitoes in conveying yellow fever, there is yet to be told much that is germane to the subject. Some of it was told, and in a very entertaining style, by Dr. R. D. Murray, of Key West, Florida, in a paper entitled *Comments on Yellow Fever and Mosquitoes*, presented at the last meeting of the Tennessee State Medical Society, for a reprint of which, from the society's *Transactions*, we are indebted to the author. Dr. Murray says that it has not yet been proved to his satisfaction that the disease is conveyed solely by mosquitoes, although he admits that the theory is plausible. Probably he is not very far from being convinced, for his own paper gives powerful support to the idea.

As regards our old notion of formites, Dr. Murray says: "It [yellow fever] has 'by the records' been carried about in and on nearly everything movable, and has remained indefinitely in nearly everything immovable." No more importance does he allow to filth, as is shown in the following passage: "For many years I have been unable to attach much opprobrium to what is usually called 'filth,' in so far as cause and propagation are concerned, because I have seen the pest scourge the cleanest towns and let some dirty ones go free; and it is worthy of note that in 1900, when Havana was a 'sanitarily clean' city, the fever was worst in the cleanest and most respectable portion. Not referring to any especial cleanliness, the same conditions obtained in New Orleans in 1899. Tagliapiedra Wharf, or Dead Man's Hole, in Havana harbor, was noted for many years as a peculiarly fatal nook. The army engineers cleaned out the harbor bottom close by, and removed the earth from a large area of the adjacent square, without a case of fever occurring in any of the 125 or 150 employees, many of whom were known to be non-immune."

Though Dr. Murray is not convinced that the *Stegomyia* is the sole disseminator of yellow fever, he fully accepts its agency as proved by "clear, fair, and repeated experiments." In the work of exterminating mosquitoes, nice distinctions as to variety do not seem to him necessary. "It is possible," he says, "for a bright ten-year-old in an hour to learn to distinguish the three pestiferous genera—i. e., *Anopheles*, *Culex*, and *Stegomyia*. The long palpi, darkish wings, rather greater size, and resting position will do for *Anopheles*. The question of species can wait for the magnifying glass. The brownish color and indifferent appearance of the *Culex* will distinguish it and them from the diamond-dusted, Dolly Varden, 'calico,' or tiger-spotted *Stegomyia*. As between *C. teniorrhyncus* and *C. sollicitans* and the *Stegomyia*, the best-sighted boy will make a decision by a closer look at the thorax."

THE DIPHTHERIA BACILLUS IN PERSONS WHO ARE NOT SICK.

For the last two years a committee of the Massachusetts Association of Boards of Health has been engaged in the praiseworthy work of trying to ascertain the extent to which diphtheria bacilli are present in the throats or noses of persons who are

not sick, and of endeavoring to reach some conclusions as to the advisability of seeking to isolate such persons as are found to harbor the bacilli. In its investigation the committee has been materially assisted by a number of sanitarians and bacteriologists residing elsewhere than in Massachusetts, and those who have most prominently cooperated seem to have been virtually added to the committee, for their signatures are appended to the report.

At the outset of the inquiry there arose the question of what forms of the bacillus were to be considered as usually virulent. From a list of those regarded as virulent by so competent an observer as Dr. F. F. Wesbrook, of Minneapolis, three, representing respectively the granular, the barred, and the solid types, were settled upon as probably capable of propagating the disease, especially if their hosts had recently been in close contact with diphtheria patients, though doubt is expressed as to the pathogenic character of the solid forms, in spite of the fact that Dr. Wesbrook and Dr. Frederic P. Gorham, of Providence, reported having found them present alone in cases of diphtheria. The granular forms are considered to be the most important ones as propagators of the disease, and they are said to be found in from one to two per cent. of well persons in "this vicinity" (the vicinity of Boston?)

It was found that in only two places, Baltimore and Providence, had any systematic attempt been made to isolate well persons carrying diphtheria bacilli. In Baltimore the attempt had applied chiefly to school children belonging to families in which diphtheria had occurred. In Providence it had been more radical, but it had been given up after five years, during which time it excited much natural opposition. The committee regards any wholesale scheme for isolating the healthy bearers of the germs as impracticable. The committee believes, however, that it is advisable to keep the children of infected families confined to their own premises so far as possible, that teachers, nurses, and others who are brought in close contact with children should not be allowed to continue their work, and that the same is true of milkmen. Moreover, in instances in which diphtheria appears in a community that has for some time been free from it, it is thought to be advisable to isolate all persons who have been brought in contact with the patients until it has been shown that they are free from diphtheria bacilli.

THE TRANSMISSION OF VENEREAL DISEASE BY WATER CLOSETS.

Time was when the suggestion of water-closet contamination as the origin of a gonorrhœa in a patient as received with guffaws by his associates and with an incredulous but suave smile by his medical attendant. *Credia Judæus, non ego*, was the universal state of the mind. To be sure, even now, in the absence of very definite reasons to the contrary, we consider it much more likely to have been contracted in the ordinary way. But we no longer regard water-closet transmission as a *reductio ad absurdum* of ætiology. Still, as there are many who may, even now, be ultra skeptical, we would call attention to an article by Dr. M. T. Brennan, in the *Revue médicale du Canada* for July 9th. Dr. Brennan saw a patient with an acute gonorrhœa, and learned that while waiting to enter his consulting room, he had used the doctor's closet. The doctor took a slide from the discharge, and subsequently, moved by curiosity, examined the anterior and inner portion of the seat, and there found some crusts of pus, already dried. The crusts were moistened with sterilized distilled water and another slide taken. Both slides showed abundant gonococci. Dr. Brennan points out that, practically always, the penis of the man and the pubic hair of the woman come in contact with the front portion of the seat, and that almost infallibly, some of the crust, if present, will become moistened and be carried away on the person. Dr. Brennan enforces the very obvious, but rarely used, precautions of (1) always examining the seat, (2) avoiding contact of the penis or pubes with the anterior part, (3) covering the forepart of the seat with paper, especially by women, (4) never pulling the plug until after rising from the seat, (5) cleansing the parts with paper after using public conveniences. Finally, he suggests a return to the method in vogue a millenium ago in Pompeii, where the seats of the *Sterquilinia* were incomplete in front. By this means all contact would be avoided. We would add that, in our opinion, the circumference of the aperture in the seats of water closets is, in this country almost universally too small; in addition to the danger above mentioned, the compression of the nates seriously interferes with defecation and tends to induce habitual constipation.

THE PRODUCTION OF SEX AT WILL.

This subject seems to possess a widespread fascination. Dr. James S. Freeborn, of Magnetawan, writes in the *Canadian Practitioner* for August that he had his attention directed to the subject by the fact that wherever the mothers found they were "two or three weeks over their count" as to the time of confinement, he invariably delivered them of a male

child, and *per contra*, where the parturition took place early, a female one. This led him, on attending a labor case, always to ascertain the date of the last normal menstruation, take the average time of gestation, and count back. If the date fell in the first half of the interval between the menses he predicted a girl; if in the last half, a boy. These predictions, he says, in upwards of 500 cases have been verified in 98 per cent. From these data, assuming their correctness, it was easy to deduce the corollary that when a boy is desired, congress should be limited to say ten days prior to a period, and for a girl, to a few days after a period. In regard to his patients who desired boys, they have never been disappointed in the results. Girls appear to be at a discount, as he has "had no appeals" for them. The procedure has the merit of simplicity, and it should be merely a matter of a little collective observation to prove the truth or falsity of the principle; first by accoucheurs noting the date and making computations, as practised by Dr. Freeborn, and observing whether the event justifies the prediction based thereon; and, secondly, by advising those of their patients who may consult them in regard to the determination of sex to adopt the plan recommended, and noting the result. In default of more trustworthy procedure, it seems worth trying.

REMOVAL OF THE ENTIRE TEMPORAL LOBE OF THE BRAIN.

In our issue for July 12th we mentioned a case in which Poirier had successfully removed an extradural tumor weighing nearly ten ounces. Another notable example of success in the diagnosis of brain tumors is reported by L. Edinger (*Deutsches Archiv für klinische Medicin*, Lxxiii [Festband für Kussmaul]; *Centralblatt für innere Medicin*, August 9th). At Heidenhain's clinic, in Worms, a diagnosis of tumor of the right temporal lobe was made, although the patient's only manifestation of pressure effects was paresis of the inferior branch of the facial nerve of the left side. An operation was performed, and the tumor, a melanosaarcoma, was found to be practically coextensive with the temporal lobe, which consequently was removed entire. The disturbances following this extensive mutilation were wonderfully slight. Immediately after the operation there was total right hemiplegia, but at the end of five weeks only traces of it remained. Except for doubtful hemianopsia, no abnormality was observable. The patient was discharged in two months and a half from the time of the operation and remained entirely well for a week longer, when he rather suddenly died comatose.

News Items.

A Chair of Colonial Medicine has been established in the University of Bordeaux, France, and Marseilles has been made the seat of a military school of colonial medicine.

Cholera Quarantine has been established by Italy against Egypt, although so far the cholera in Egypt has been confined to the interior. The regulations promulgated place passengers arriving from Egyptian ports under sanitary surveillance, but do not take the form of isolation and sequestration.

Health Department Censured.—A committee of the upper house of the Kansas City, Mo., council was recently appointed to investigate the manner in which the affairs of the health department were conducted. As a result of the investigation the committee made a report severely censuring the methods used, particularly in regard to small-pox quarantine.

Honors for a Physician in High Office.—Dr. Bacelli, who is the Minister of Agriculture in the Italian Government, has been presented with a sumptuous and artistic shield in token of the gratitude of the agricultural interests for the benefits conferred by him in the discovery of a cure for aphtha epizootica. Prince Felix Borghese made the presentation.

Interstate Reciprocity in Medical Licensing.—The Maine Board of Registration of Medicine at its recent examination of candidates, according to the *Journal of Medicine and Science*, registered in reciprocity with the State of New Jersey without examination, Dr. L. F. Bishop, of New York. Thirty-one candidates successfully passed the examination, and were registered as physicians and surgeons.

The California Board of Medical Examiners at its recent meeting in San Francisco elected the following officers: Dr. David Powell of Marysville, president; Dr. Dudley Tait of San Francisco, vice-president; Dr. C. C. Gere of San Francisco, secretary, and Dr. Tisdale of Alameda, treasurer. Forty-four applicants were examined as to their qualifications for licenses to practice medicine in the State.

The Lincoln Hospital is the new name adopted for the Colored Home and Hospital in Forest avenue, between One Hundred and Forty-first and One Hundred and Forty-second streets, permission having been granted by a justice of the Supreme Court to drop the original title and assume the new name. The reason alleged by the trustees for asking for a change of name, was that the word "colored" caused a prejudice which prevented many white people from coming there, although there was a number of such patients always in the hospital. It was thought that a change of name would obviate this difficulty.

Surgeon to the President.—Dr. George Augustus Lung, surgeon, United States Navy, has been selected by the Navy Department for duty as Surgeon to the President, to succeed Dr. John F. Urie, who was made Assistant Chief of the Bureau of Medicine and Surgery. Dr. Lung entered the naval service in 1888, and was born in New York.

His excellent record and active service commended him to the Navy Department for his new assignment. He is now on waiting orders in New York, having been detached from active service last December.

Cholera in Manila.—Cable reports from Manila dated August 16, state that there are but few cases of cholera in Manila on that date, but that there were a large number in the provinces. The total number of cases reported to date is 23,636, with 17,596 deaths. Estimating the cases which have not been reported to the authorities, the total number is believed to have reached 30,000. Mail advices from Manila will be found in another item in this department, and also in a letter from our regular correspondent which is printed elsewhere.

American Dermatological Society.—The twenty-sixth annual meeting will be held at the Hotel Bellevue, Boston, on September 18th, 19th and 20th. The business meeting will convene at 9 on the morning of Thursday, the 18th, and the scientific session will convene an hour later. The programme includes the following papers: Address by the President, by Dr. Geo. Thos. Jackson; Cases of bullous dermatitis following vaccination, by Dr. J. S. Howe; An unusual case of epidermolysis bullosa hereditaria, by Dr. G. W. Wende; Four forms of generalized exfoliative dermatitis (*Erythrodermies, exfoliantes, généralisées, Besnier*), by Dr. J. T. Bowen; A critical review of L. Philippson's proposed reform of dermatology, by Dr. H. G. Klotz; A case of pellagra, by Dr. S. Sherwell; A clinical study of 450 cases of nail affections, by Dr. C. J. White; The clinical aspect and treatment of some affections of the fingernails, by F. J. Levisur; Note on the histology of herpes zoster, by Dr. Sigmund Pollitzer; (a) A preliminary note on the frequency of pompholyx in New Orleans; (b) A case of blastomycosis of the skin, by Dr. I. Dyer; Another instance of a disease caused by a fungus, by Dr. D. W. Montgomery, Dr. Howard Morrow and Dr. H. A. Ryf-kogel; A case of cutaneous blastomycosis followed by laryngeal and systemic tuberculosis, by Dr. F. H. Montgomery; General discussion: Acne vulgaris, (a) Etiology and pathology, by Dr. T. C. Gilchrist; (b) Symptoms and treatment, by Dr. G. H. Fox; The dermatoses occurring in exophthalmic goitre, by Dr. J. N. Hyde and Dr. E. L. McEwen; Dermatoses of the insane. Report of an examination of 1,200 inmates of the Long Island State Hospital, by Dr. J. M. Winfield; Structure and mode of formation of the smallpox pustule. Lantern-slide demonstration, by Dr. W. T. Councilman; The value of radio-therapy in cutaneous and other cancers. Illustrated with lantern slides, by Dr. Charles W. Allen; Radio-therapeutic observations, by Dr. J. Zeisler; and A further report on nævocarcinoma, by Dr. A. Ravogli. At the afternoon session on Friday there will be an exhibition of photographs, microscopical and other preparations, to which all members are invited to contribute, and of the Wigglesworth Collection of Baretta Models. Members are requested to append a brief description to each article exhibited.

The Canadian Medical Association will meet in Montreal during the second week of September. Dr. F. J. Shepherd will deliver the presidential address on Tuesday evening, September 16, and on Wednesday evening Dr. Osler, of Baltimore, and Dr. Stewart, of Halifax, will give addresses on medicine and surgery. Amusements have not been overlooked in arranging the programme, and the entertainment committee, of which Dr. H. S. Birkett is chairman, have outlined the following: Tuesday, September 16, a garden party; Thursday, September 18, the Grand Trunk Railway invite the members of the association to inspect the Victoria bridge, and will take them to Lachine, where lunch will be served on the Duchess of York, and a trip will be taken up the river. In the evening there will be a smoking concert at the Victoria Rifles armory.

Health Conditions in the Philippines.—The report of Lieutenant Colonel Maus, Commissioner of Public Health for the Philippines, for the month of May, which is dated Manila, June 15, which has just been received, states that: "The mortality for the month, 1,547, is practically double the monthly mortality during normal times. After subtracting 445 deaths which occurred during the month from cholera, there remains a balance of 1,102 deaths, which would indicate that about 300 more casualties have occurred from ordinary diseases, or that a certain number of deaths from cholera have been falsely certified to. As a large number of the cholera cases are found dead, and diagnosed after death, it is possible that certificates have been given by some of the native physicians without making a thorough examination of the body or reporting the case to the Board of Health. It is also believed that certificates have been issued by certain physicians in the city designedly to conceal the cause of death, at the request of the relatives of the deceased. The statistics very strongly lead one to believe that cases have been falsely diagnosed intentionally in quite a number of instances; for example, eclampsia is credited with 107 deaths, while the mortality from this condition during normal times ordinarily averages 40; beri-beri is credited with 71 deaths, when the mortality usually amounts to from 30 to 40; simple meningitis is credited with 50 deaths, where the usual mortality averages about 25; bronchitis is credited with 98 deaths, while it usually averages about 40; the casualties from tuberculosis are reported at 104, while usually the deaths from this cause amount to about 50. In order, in the future, to prevent the rendering of false certificates, through design or ignorance, the Board of Health passed a resolution, at a meeting held June 17, to the effect: That no certificate of death be given for the interment of any body in the city of Manila during the existence of cholera until the cause of death has been ascertained by a member of the Board of Health or one of its agents, and that any physician in the city of Manila, head of a family, or other responsible person, who has charge of a case of infectious disease, without reporting the same to the Board of Health in accordance with City Ordinance No. 4, enacted December 16, 1901, or Regulation No. 2 of the Board of Health, issued April 10, 1902, shall

be prosecuted. Furthermore, it was resolved at this meeting that one peso should be given to any person, not employed by the Board of Health, for reporting a case of cholera to the medical inspector of the district.

"From May 15 to June 15, 360 cases of cholera have occurred in the city of Manila, resulting in 303 deaths. From the 18th of May to the 7th of June there was a great diminution of cases in the city, and a general disappearance of the disease for a limited time. On account of this considerable decrease, it was deemed advisable by the Board of Health to raise the quarantine around the city of Manila and restore both passenger and business traffic to ports in the Laguna and Bay of Manila, as well as the provinces north of the city lying on the railroad. A large number of sanitary inspectors, both American and native, were also discharged during the month of May, and the daily expenses reduced from two to three thousand dollars gold per day. In view of the present increase in the city, the sanitary forces are being gradually increased, and quarantine reestablished against certain infected sections in the vicinity of Manila."

Concerning cholera in the provinces, the report says: "Cholera has almost disappeared from the Provinces of Bataan, Bulacan and Pampanga. From last reports, not more than half a dozen cases were noted in these three provinces. The Province of Bataan was placed under the charge of Capt. F. W. Dudley, assistant surgeon, U. S. Volunteers; Bulacan, under Major R. H. Zauner, surgeon, U. S. Volunteers, and Pampanga, under the charge of Capt. C. F. de Mey, assistant surgeon, U. S. Volunteers. The work performed by these three officers is highly praiseworthy. They deserve great credit for securing the cooperation of the natives and suppressing cholera in these provinces. No complaints by the natives have been received from these provinces against measures taken by these three officers. Experience has taught us that more can be accomplished in eradicating cholera from provincial towns by enlisting the aid of the natives than by instituting forceful and arbitrary measures.

"Cholera had not reached the various ports of the Laguna de Bay previous to opening the ports, which occurred May 1, 1902. Since that time it has sprung up in a number of pueblos around the margin of the lake, and appeared very seriously in the towns of Santa Cruz, Pagsanjan, Calamba, and Biñan, where it is believed to have been introduced by troops. Major Isaac W. Brewer, surgeon, U. S. Volunteers, was sent to Vera Cruz, and Dr. H. E. Winslow, to Calamba. Splendid results have been secured in each of these pueblos since the arrival of these officers. Biñan, in the Province of Laguna, has suffered more than any other pueblo in the Archipelago, in proportion to its population. The town is supposed to contain about 10,000 inhabitants, and up to the present date has lost 671 from that disease alone. From reports received from that town it is believed that the natives have rendered no assistance to the military authorities in charge of the epidemic, and have persisted in concealing their cases from the authorities."

Communicable Diseases in Michigan.—The reports of the Michigan Board of Health for the five weeks ending August 2nd, indicate the occurrence of meningitis at 11 places; diphtheria at 51 places; whooping cough at 52 places; typhoid fever at 85 places; scarlet fever at 100 places; smallpox at 113 places; measles at 118 places, and consumption at 257 places. Reports from all sources show meningitis reported at 1 place more; diphtheria at 1 place less; whooping cough at 9 places more; typhoid fever at 12 places more; scarlet fever at 19 places less; smallpox at 8 places less; measles at 5 places more, and consumption at 22 places more, in the month of July, 1902, than in the preceding month.

Modified Milk Free of Charge at Coney Island.

—So much illness has been caused in children who are taken to Coney Island during the summer, for the benefit of the sea air, etc., because they are often fed milk which has turned sour, as the result of carrying a bottle around in the sun all day that the necessity for providing some means whereby they may be fed perfectly fresh milk while there, has been felt by the medical profession. During July, August and September, modified cow's milk will be served, free of charge at Chamber's Drug Store, Surf Avenue, under the directions of a competent woman who will be qualified to fill physicians' prescriptions for modified cow's milk and give babies other needed attention. Prescription blanks for this purpose have already been sent physicians in Brooklyn and New York, and duplicates will be sent any doctor upon request, by Smith, Kline, French Co., Philadelphia.

Mississippi Valley Medical Association.—The twenty-eighth annual meeting of the Mississippi Valley Medical Association will be held in Kansas City, Mo., October 15th, 16th and 17th. The annual orations will be delivered by Dr. Hugh T. Patrick, of Chicago, on Medicine, and Dr. Geo. W. Crile, of Cleveland, O., on Surgery. The exhibit of pharmaceuticals and other preparations will this year be a feature of the meeting, as formerly. The headquarters of the Association will be at the Midland Hotel, the Convention Hall and the Exhibit Rooms being on the same floor, the Committee of Arrangements having leased one entire floor for this meeting. The Committee of Arrangements is ably officered by Dr. A. H. Cordier, of Kansas City, who was the president of the Association in 1901. Excellent entertainment is promised by the Committee, and as this is the first meeting held in Missouri there is no doubt that their promises will be fulfilled.

A Crusade Against Spitting in London.—The Public Health Department of the City of London has issued a circular asking for cooperation "in preventing so far as possible the growing habit of spitting in the streets and other places of public resort." The Department draws attention in its circular to the danger of infection through promiscuous expectoration, and appeals to employers of labor to assist the corporation in attempting to remedy the nuisance by directing the attention of employees to the evils of the habit and to the importance of suppressing it. The City of London is not alone in taking, or even the first to take, the field against expectoration in

public places. The interim report of the National Association for the Prevention of Consumption and other Forms of Tuberculosis (July 14th) shows that, in consequence of the activity of the association, already both in Glasgow and in Liverpool the corporations have inserted a clause in their by-laws making spitting on the street railway cars a finable nuisance.

An International Surgical Society.—Dr. Marcel Baudoin, editor of the *Progrès Médical*, has for many years past advocated the establishment of an international surgical society which would confine its attention to the study of certain great problems. The Belgian Surgical Society has decided to invite the leading surgeons of various countries to attend its next annual meeting at Brussels on September 8th to 11th, with a view to the possible formation of such a society as has been proposed by Dr. Baudoin. The meeting will be devoted exclusively to the discussion of the following questions: (1) The Treatment of Appendicitis (to be introduced by Drs. Broca of Paris, Gallet of Brussels, Roux of Lausanne, and Sonnenburg of Berlin); (2) The Treatment of Fractures of Limbs (to be introduced by Drs. Depage of Brussels, Rothschild of Frankfurt-on-the-Main, and Tuffier of Paris); Operative Asepsis in regard to the Preparation of the Hands, the Region to be Operated on, the Sutures and Ligatures (to be introduced by Dr. Walravens, of Brussels).

Minimum Requirements of the Illinois Board of Health.—The Illinois State Board of Health has mailed a circular note to each medical college in the United States enclosing a copy of the schedule of minimum requirements, adopted by the board on July 8, 1902, for the regulation of medical colleges which may be determined in "good standing" by the Illinois State Board of Health, in accordance with the purposes of the Act Regulating the Practice of Medicine in the State of Illinois, in force July 1, 1899. The rules and regulations embraced in this schedule of minimum requirements, will be in force on and after January 1, 1903. No medical college will be determined in "good standing" with the Illinois State Board of Health unless it complies in every particular with the provisions of the schedule of minimum requirements, and no graduate of any college not in "good standing" with the Board, will be admitted to examination or permitted to practice medicine in the State of Illinois. Whether a college be deemed reputable or in "good standing" by the Board of Health or the board of medical registration or examination of another state, cannot be a question for the State Board of Health of Illinois to consider. The law of the State of Illinois clothes the Board with power to determine whether a college be in good standing, and to ascertain and determine what constitutes good standing. The Board cannot delegate its discretionary power to or be governed by the action of any other organization or body. In the language of the Supreme Court of Illinois in the case of the People v. State Board of Dental Examiners, 110 Ill. 180, "The action of the Board is to be predicated upon the existence of the requisite facts, and no other tribunal is authorized to investigate them, and if necessary, therefore, they must do so."

The Tunnel a Menace to the Health of New York.—The Board of Health of the City of New York has sent to the Rapid Transit Commission a report of Charles F. Roberts, Sanitary Superintendent, showing that the conditions existing in the excavations are in many places a menace to the health of persons living along the line of the tunnel. The unsanitary conditions mentioned were disconnection of sewers, stagnant water, the escape of sewage, the use of the excavations as dumping places, and the prevalence of foul odors. The report is a summary of the reports of various inspectors, and covers conditions for the entire length of the tunnel. President Lederle of the Board of Health said after the meeting that it had seemed to him for some time that the contractors for the rapid transit tunnel, in common with contractors generally, were apt to be careless of the inconvenience they might cause the public. He himself had noted about the excavations in places more stagnant water than seemed necessary, and simultaneously mosquitoes appeared in the neighborhood of these places, though that section of the city was ordinarily free of those pests. It occurred to him that the stagnant water and the appearance of mosquitoes might be connected as cause and effect. Already, President Lederle continued, separate action was being taken by the board against individuals among the tunnel contractors who were guilty of maintaining nuisances, but it seemed well to the board to put the Rapid Transit Commission in possession of the full facts, so that the commission could see to it that its contractors conformed strictly to the terms as to the sanitation which were no doubt included in the contracts. If the commission took no action in the matter, President Lederle said, he would proceed at once against the individual contractors. Dr. Lederle went on to say that, in his opinion, most of these nuisances could be abated by the police, and should be so abated. Dr. Lederle also called attention to the clause suggested by the Mayor as a part of the contract for the Pennsylvania Railroad Tunnel, giving the Board of Health charge of the maintenance of sanitary conditions in the contemplated excavations. Such a clause, he thought, ought to exist in all contracts made by the city for work of that character.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending August 10, 1902:

DISEASES.	Week end'g Aug. 9.		Week end'g Aug. 16.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	80	19	104	16
Scarlet fever.....	92	9	65	6
Cerebro-spinal meningitis.....	0	3	0	3
Measles.....	119	8	87	4
Diphtheria and Croup.....	167	28	134	20
Small-pox.....	5	2	2	1
Tuberculosis.....	246	124	220	115

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending August 16, 1902:

Smallpox—United States.			
California....	Los Angeles.....	July 26-Aug. 2.....	2 cases
	San Francisco.....	July 27-Aug. 3.....	3 cases
Colorado....	Denver.....	July 26-Aug. 2.....	1 case.
District of Columbia....	Washington.....	Aug. 2-9.....	4 cases.
Florida.....	Jacksonville.....	Aug. 2-9.....	3 cases.
Illinois.....	Chicago.....	Aug. 2-9.....	3 cases.
Indiana.....	Indianapolis.....	Aug. 2-9.....	2 cases.
Iowa.....	Ottumwa.....	July 5-Aug. 2.....	8 cases.
Kentucky.....	Covington.....	Aug. 2-9.....	3 cases.
Maine.....	Portland.....	Aug. 2-9.....	1 case.
Massachusetts.....	Boston.....	Aug. 2-9.....	10 cases. 1 death
	Everett.....	Aug. 2-9.....	2 cases. 1 death.
	Lowell.....	Aug. 2-9.....	1 case.
	Somerville.....	Aug. 2-9.....	6 cases.
Michigan.....	Detroit.....	Aug. 2-9.....	2 cases.
Missouri.....	St. Joseph.....	July 26-Aug. 2.....	17 cases.
	St. Louis.....	Aug. 2-9.....	4 cases.
Montana.....	Butte.....	July 27-Aug. 3.....	1 case.
Nebraska.....	Omaha.....	Aug. 2-9.....	3 cases.
N. Hampshire.....	Nashua.....	Aug. 1-8.....	1 case.
New Jersey.....	Elizabeth.....	July 5-Aug. 9.....	1 case.
	Hudson County.....		
	Jersey City in.....		
	Indic.....	Aug. 3-10.....	1 case. 1 death.
	New York.....	Aug. 2-9.....	6 cases. 3 deaths.
New York.....	New York.....	Aug. 2-9.....	5 cases. 2 deaths.
Ohio.....	Cincinnati.....	Aug. 1-8.....	4 cases.
	Cleveland.....	Aug. 2-9.....	42 cases. 5 deaths.
	Toledo.....	July 26-Aug. 2.....	1 case.
Pennsylvania.....	Altoona.....	Aug. 2-9.....	3 cases.
	Johnstown.....	Aug. 4-11.....	5 cases.
	McKeesport.....	Aug. 2-9.....	3 cases.
	Philadelphia.....	Aug. 2-9.....	1 case. 1 death.
	Pittsburgh.....	Aug. 2-9.....	18 cases. 5 deaths.
Utah.....	Salt Lake City.....	July 26-Aug. 2.....	2 cases.
Smallpox—Insular.			
Philippine Islands.....	Manila.....	June 11-21.....	2 cases.
Smallpox—Foreign.			
Argentina.....	Buenos Ayres.....	May 1-31.....	10 cases.
Austria.....	Prague.....	July 19-26.....	1 case.
Belgium.....	Antwerp.....	July 19-26.....	4 cases. 1 death.
Brazil.....	Pernambuco.....	June 1-30.....	35 deaths. 1 death.
China.....	Hongkong.....	June 14-July 5.....	3 cases. 2 deaths.
Gt. Britain.....	Dundee.....	July 12-19.....	1 case.
	Liverpool.....	July 26-Aug. 2.....	2 cases. 2 deaths.
	London.....	July 12-19.....	48 cases. 15 deaths.
	".....	July 19-26.....	23 cases. 4 deaths.
India.....	Bombay.....	July 8-25.....	3 cases. 3 deaths.
	Calcutta.....	July 5-12.....	1 case. 1 death.
	Madras.....	July 5-12.....	1 case. 1 death.
Italy.....	Naples.....	July 12-26.....	2 cases.
	Palerio.....	July 12-26.....	11 cases. 2 deaths.
Netherlands.....	Rotterdam.....	July 26-Aug. 2.....	2 cases.
Mexico.....	City of Mexico.....	July 19-Aug. 3.....	4 cases. 4 deaths.
Russia.....	Moscow.....	July 12-19.....	13 cases. 1 death.
	Odessa.....	July 19-26.....	1 case.
	St. Petersburg.....	July 12-19.....	9 cases.
Spain.....	Barcelona.....	July 12-19.....	3 deaths. 1 death.
	Valencia.....	July 16-31.....	1 death.
Uruguay.....	Montevideo.....	July 10-July 2.....	21 cases.
Yellow Fever.			
Brazil.....	Pernambuco.....	June 1-30.....	1 death.
Colombia.....	Bogota.....	July 21-Aug. 1.....	3 deaths.
Mexico.....	Coahuila.....	July 26-Aug. 2.....	1 case.
	Merida.....	To Aug. 5.....	7 cases. 2 deaths.
	Progreso.....	To Aug. 5.....	3 cases.
	Vera Cruz.....	July 27-Aug. 9.....	33 cases. 1 death. 20 deaths.
Cholera—Insular.			
Philippine Islands.....	Manila.....	June 8-21.....	277 cases. 207 deaths.
	Provinces.....	Mar. 20-June 21.....	5892 ca's. 4268 d'ths.
Cholera—Foreign.			
China.....	Amoy.....	June 2-28.....	275 cases. estimated.
	Hongkong.....	June 21-July 5.....	26 cases. 17 deaths.
	Tientsin.....	July 21-30.....	222 cases. 107 deaths.
Egypt.....	Maucha.....	July 15-23.....	227 cases. 162 deaths.
India.....	Calcutta.....	July 8-15.....	2 cases. 2 deaths.
	Calcutta.....	July 5-12.....	31 deaths. 1 death.
	Madras.....	July 5-11.....	11 cases. 9 deaths.
Java.....	Batavia.....	June 7-July 5.....	92 cases. 77 deaths.
Plague—Insular.			
Hawaiian Islands.....	Honolulu.....	July 28.....	1 death.
Philippine Islands.....	Manila.....	June 8-21.....	1 case. 1 death.
Plague—Foreign.			
China.....	Hongkong.....	June 14-July 5.....	125 cases. 124 deaths.
India.....	Bombay.....	July 8-16.....	22 deaths.
	Calcutta.....	July 5-12.....	20 deaths.
Madagascar.....	Majunga.....	June 8-22.....	37 deaths.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending August 16, 1902:

DUNN, H. A., Assistant Surgeon. Detached from the Naval Hospital, Yokohama, Japan, and ordered to duty with the Marine Brigade, Cavite, Philippine Islands.

LIPPITT, T. M., Assistant Surgeon. Detached from the Washington Navy Yard, September 8th, and ordered to be examined by the retiring board, and thence home to await orders.

MARCOUR, R. O., Assistant Surgeon. Detached from the *Abarenda* and ordered home to await orders.

MORGAN, D. H., Passed Assistant Surgeon. Detached from the *Philadelphia* and ordered to the *Boston*.

ODELL, H. E., Assistant Surgeon. Detached from duty at Olongapo, Philippine Islands, and ordered to the *Solace*.

PLEADWELL, F. L., Passed Assistant Surgeon. Detached from the *Sylph* and ordered to the *Kearsarge*.

WILLIAMS, R. B., Assistant Surgeon. Detached from the *Kearsarge* and ordered to the Naval Hospital, Newport, for treatment.

WILSON, H. D., Passed Assistant Surgeon. Detached from the Marine Brigade, Cavite, and ordered to duty at Olongapo.

Public Health and Marine-Hospital Service:

Official List of Changes of Station and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service, for the Seven Days ending August 14, 1902:

GLENNAN, A. H., Surgeon. Granted leave of absence for one month from September 1st.

HAMILTON, H. J., Acting Assistant Surgeon. Granted leave of absence for three days.

HASTINGS, H., Passed Assistant Surgeon. Granted leave of absence for one month from September 3rd.

SMITH, A. C., Passed Assistant Surgeon. The Bureau letter of June 9, 1902, granting him leave of absence for thirty days from July 10th, is amended so that the said leave shall be for twenty-seven days.

WILLIAMS, L. L., Assistant Surgeon General. Granted leave of absence for fifteen days from September 1st.

Board Convened.

Board convened to meet in Washington, August 11, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Assistant Surgeon General G. T. VAUGHAN, Chairman; Assistant Surgeon, B. S. WARREN, recorder.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending August 16, 1902:

CARTER, W. F., Major and Surgeon, is relieved from temporary duty at Fort H. G. Wright, N. Y., and will return to Fort Totten.

IRELAND, MERRITT W., Captain and Assistant Surgeon, will assume temporary charge of the supply depot at St. Louis, until the arrival at that place of HARRY O. PERLEY, Major and Surgeon.

LUGO-VINA, JOSE, Captain and Assistant Surgeon. The leave of absence granted him on account of sickness is extended one month.

PINGUARD, JOSEPH, Contract Surgeon, will proceed to Fort Leavenworth, Kansas, for duty.

SEIBERT, E. G., Contract Surgeon, is granted leave of absence for seventeen days, to take effect on August 18th.

WALKER, WILLIAM H., Contract Surgeon, will proceed to Camp Thomas, Georgia, for duty.

WOOD, MARSHALL W., Major and Surgeon, having been found incapacitated for active service on account of disability incident thereto, his retirement from August 12, 1902, is announced.

Births, Marriages, and Deaths.**Married.**

BACON—SHULL.—In Kerens, Texas, on Thursday, August 7th, Dr. George H. Bacon, of Chesterville, Illinois, and Miss Jessie Shull.

CAPEHART—HIRSCH.—In Hampton, Virginia, on Saturday, August 9th, Dr. W. P. Capehart, of Norfolk, Virginia, and Miss Ray Hirsch.

MOSSBY—BELL.—In Staunton, Virginia, on Tuesday, August 5th, Dr. Ernest Mosby, of New Hope, Virginia, and Miss Katherine W. Bell.

Died.

APPEL.—In Milwaukee, on Saturday, August 9th, Dr. William Appel, in the fifty-second year of his age.

BRUNELLE.—In Mountain View, N. Y., on Wednesday, August 6th, Dr. J. A. S. Brunelle, of Laval University, Montreal, in the fiftieth year of his age.

CROCKETT.—In Graham, Virginia, on Tuesday, August 5th, Dr. Gratton A. Crockett, in the fifty-second year of his age.

DALTON.—In Harrodsburg, Kentucky, on Monday, August 4th, Dr. J. M. Dalton, in the forty-eighth year of his age.

KERR.—In Shanghai, China, on Thursday, July 17th, Dr. Sarah Kerr, daughter of Commissioner John W. Kerr, of Toledo, Ohio, in the thirty-third year of her age.

JERSEY.—In Allendale, N. J., on Saturday, August 16th, Dr. Charles A. Jersey, in the forty-second year of his age.

OBITUARY NOTES.

DR. J. A. S. BRUNELLE, professor of external pathology at Laval University, Montreal, and surgeon to the Hotel Dieu, died recently at his summer home at Mountain View, N. Y., at the age of 30 years.

DR. LEOPOLD SCHENCK, of Vienna, died at Schwanberg, Styria, on August 18th. Dr. Schenck was for many years a member of the faculty of the University of Vienna and was regarded as an authority on embryology up to 1898, when he published a popular work on the predetermination of sex which drew upon him the censure of his colleagues and resulted in his retirement from his professional chair.

DR. CARL GERHARDT, professor of clinical medicine in the University of Berlin, and chief of a medical clinic at the charity hospital, died on July 20th, at the age of 69. Dr. Gerhardt was a graduate of the University of Wurzburg, where he served as *prival docent*. In 1861 he was appointed to the chair of clinical medicine at Jena, and in 1862 took the same chair at Wurzburg. In 1885 he succeeded the late Professor Theodor von Frerichs in the chair of clinical medicine at Berlin. Dr. Gerhardt was among the first to make use of the laryngoscope, and paid much attention to the diseases of children, having edited an encyclopædia on children's diseases. He also published some works on infectious diseases.

Pith of Current Literature.

PRACTICE OF MEDICINE.

The Causation and Prevention of Phthisis. By Dr. B. Bramwell (*Lancet*, July 26th). Lecture IV.—The measures (in addition to the general sanitary measures that it is the duty of the sanitary authorities to carry out), which should be taken in order to reduce the prevalence of phthisis to the lowest attainable point, include: (1) The compulsory notification of the disease; (2) the provision of laboratories for the testing of sputum and other suspected discharges, and of milk, meat, etc., supposed to be tuberculous, and the reporting thereon; (3) the removal of any unsanitary conditions which are harmful to patients affected with phthisis or are likely to conduce to the propagation of the disease to those healthy persons with whom they live and work; (4) the diffusion by leaflets, etc., of information regarding the nature of the disease, its modes of propagation, and the precautions which should be taken by the phthisical patient and by those with whom he is in close contact in order to prevent the extension of the disease; (5) the provision of the necessary appliances for the destruction and disinfection of the sputa; (6) the periodical inspection by competent officers—but only in those cases in which such inspection is requested by the attending physician—of phthisical patients, their homes and workshops, with the object of seeing that the necessary preventive measures are carried out; (7) the removal to a hospital to be provided and maintained by the sanitary authority of those cases of phthisis which are a distinct source of danger to the persons with whom they live, and to the community; and (8) after the death or removal of phthisical patients, the purifying, renovating, and disinfecting of rooms and houses which are contaminated with the tubercle bacillus.

In the author's opinion, the compulsory notification of phthisis *per se* would be of little use unless accompanied by the various other measures mentioned above.

[Attention is called to the fact that the scheme here suggested corresponds almost identically with what has been carried out in New York city by the department of health for several years past.]

Paratyphoid Fever.—Dr. William B. Johnston (*American Journal of the Medical Sciences*, August) reports four cases which occurred during the fall of 1901 in the medical wards of the Johns Hopkins Hospital. In two, a paratyphoid bacillus was isolated in pure culture from the blood, and in two the diagnosis was made upon the ability of the patients' sera to agglutinate Gwyn's "paracolon" bacillus and the organisms isolated from the other two cases. In all four cases the Widal reaction was negative in result.

The author concludes as follows: 1. There is a type of disease due to infection with the paratyphoid bacilli which in all its variations presents a clinical picture identical with that frequently produced by infection with *Bacillus typhosus*. 2. Diarrhoea and a termination of the fever by crisis are apparently of more frequent occurrence than in typhoid fever. 3. Myositis and purulent arthritis, rare complications in typhoid fever, have been recorded. 4. Though

the disease may be severe it is usually mild, and fatal cases are rare. 5. Absence of intestinal ulceration may prove to be a distinctive feature of the disease. 6. The disease, though wide-spread and occurring in localities where typhoid fever is present, is comparatively rare. 7. Every instance of negative Widal reaction is not due to infection with paratyphoid bacilli.

In the same issue Dr. A. W. Hewlett goes exhaustively in the bacteriology of the disease. Dr. Hewlett concludes, as the result of his investigations, that the serum reactions suggest the close relationship of the following micro-organisms: B. "Noonan;" Gwyn's paracolon; Johnston's Badach; Schottmüller's Müller (type "A"); Cushing's Bacillus "O;" Johnston's Milefsky; and Colman & Buxton's in Case 7, reported in the *American Journal of the Medical Sciences* for June. The journal also contains an article on Paracolon Infection, by Dr. Warfield T. Longcope, with the report of a fatal case and of the autopsy thereon.

Cancer and Tuberculosis.—Dr. G. W. McCaskey (*American Journal of the Medical Sciences*, July) summarizes the results of his investigations, as follows: 1. Cancer and tuberculosis are so rarely associated in the same individual as to indicate a mutual antagonism between the two diseases. Autopsies on 281 cancer patients revealed only 1¼ percent. of cases of tuberculosis. In the non-cancerous its frequency is nearly twenty times as great. 2. The antagonism is not "diathetic," but is probably due to the chemical products of the two morbid processes, that of each being inimical to the other. 3. There is a rather intimate relationship existing between the two diseases in certain families. The existence of either appears to favor the occurrence of the other, probably by a lowering of "resistive power" in the individuals of such families. 4. The two diseases are not absolutely incompatible. They may very exceptionally exist in different parts of the same individual. Still, more rarely, they may exist in the same organ, and even in identically the same tissue. In the latter case it is probable that the primary disease was quiescent when the secondary one developed. 5. In view of these apparent antagonisms, and the occasional retrocession of cancer after the use of tuberculin (though very doubtfully attributable to the latter), it would seem worth while in properly selected inoperable cases of cancer to try the systematic local injection of tuberculin in the cancerous tissue.

Diagnosis of Gastric Tumors.—Dr. K. Glæssner (*Berliner klinische Wochenschrift*, July 21st), calls attention to his previous statements that the fundus and pylorus of the stomach act differently in the gastric ferment-forming processes, the pylorus being active in the formation of pepsin, but having no part in the formation of the rennet ferment. This fact has enabled the author to differentiate the location of gastric tumors in thirteen cases. In cases in which the fundus was involved, the examination of the gastric contents showed a marked diminution of rennet and pepsin, while in the pyloric cases, both ferments were found in normal quantity. In instances in which tumors cannot be palpated, these facts may be used to advantage in localizing the gastric growths.

Infantile Rheumatism and Cardiac Symphysis.

—M. Huchard (*Journal des praticiens*, July 26th) says that pericarditis accompanying an invasion of rheumatism in children is not rare. There is a rich vascularization of false membranes in the pericardium, with organization and a tendency to the formation of adhesions, which continue to develop after the pericarditis has run its course. The physical signs are: 1. A pleurocostal systolic depression; 2. A fixity of the apex-beat and of the cardiac dulness; 3. Subphrenic pains during inspiration. Treatment consists in reducing pain and calming the heart's action. Friction over the heart with the following ointment is efficacious:

R Lanolin	450 grains,
Vaseline	300 grains,
Methyl salicylate	150 grains,
Menthol	75 grains,
Lavender water	30 grains.

Internally *Convallaria majalis* and small doses of digitaline are useful.

On Pancreatic Calculus, with Notes of a Case.

By B. G. A. Moynihan, F. R. C. S. (*Lancet*, August 9th).—Pancreatic calculi are generally white, greyish-white, or yellowish-white in color, and rounded, ovoid, or elongated, like a date stone. They are found in all parts of the duct of the pancreas, though much more frequently in the head; in the tail of the gland they are rarely seen. The calculi may be branched like coral, the trunk of the stone lying in the main duct. At times the canal of Wirsung is packed with a coarse mortar, or sand, or fine rounded pellets. The stones are chiefly composed of phosphorus and carbon salts. The antecedent condition necessary for the formation of stone is probably retention of secretion. This may be produced by inflammation of the canal of Wirsung extending upwards from the duodenum, or by a chronic interstitial pancreatitis. Associated with calculi are found at times certain more or less profound alterations in the pancreas, such as acute and chronic interstitial inflammation, atrophy, dilatation of the duct, cyst abscess, fatty degeneration, and carcinoma. Cases of carefully observed pancreatic lithiasis are so rare, that but little can be said as to the symptoms. There is usually pain or great discomfort in the upper part of the abdomen, at or near the middle line. This pain comes on in sharp, colicky attacks similar to, but less severe than those due to gall-stones. After the attack some fragments of stone may be found in the fecal movements. Diabetes is a common accompaniment of calculus, its onset being probably due to the chronic inflammatory changes induced in the gland by the calculus. Fatty stools have been occasionally observed. There is usually marked bodily wasting. A careful report is given of a case of pancreatic lithiasis in a woman aged fifty-seven years. The condition was correctly diagnosed and operation advised, upon the performance of which there was removed a pancreatic stone of the size of a kidney-bean. The interesting points in the case were: 1. The long illness of itself, but especially the length of time ere jaundice appeared, as proving the real origin of the condition. 2. The value of routine blood examination as an aid to diagnosis. In this case the leucocyte count was normal, while in cancer of the pancreas there is al-

ways a leucocytosis. 3. A peculiar bronzing of the skin, which at first suggested Addison's disease, the patient having many other symptoms in common, and later the pigmentation plus the progressive emaciation gave the patient the appearance of suffering from some obscure abdominal malignant disease.

A Peculiar Case of Scarlatina Hæmorrhagica.

By V. C. De Boinville, M. B. (*Lancet*, August 9th).—The author reports the case of a boy, aged four years and a half, suffering from scarlet fever. The disease ran its usual course, but on the sixteenth day of the disease, just as desquamation was setting in, bleeding from the anterior nares commenced. Hæmorrhagic spots appeared on the scalp and in the neighborhood of the knee-joints. Desquamation stopped, and although the total quantity of blood lost was small, yet it was impossible to check it. The patient grew weaker and the temperature rose higher, and he died five days later in a state of collapse. The interesting feature of the case is that the hæmorrhagic symptoms did not appear at the onset of the disease, as in an ordinary case of scarlatina hæmorrhagica, but at a period when convalescence was to be expected. In other words, a profound toxæmia set in at a time when it was to be supposed that in the ordinary course of events antitoxine would be forming and immunity becoming established.

Abarticular Tuberculous Rheumatism.—M.

Poncet (*Gazette hebdomadaire de médecine et de chirurgie*, July 20th) in concluding his study of a case, says that tuberculous rheumatism not located in the joints, evokes, like other infectious rheumatisms or pseudo-rheumatisms, the most diverse clinical manifestations emanating from the most various organs. The cardiopathies, polyneuritides, dermatoses and neuralgias originating in this way, may appear in the course of the articular affection or afterward and often represent attenuated rheumatic and tuberculous forms, characterized clinically by mobility, absence of serious illness and by their curability. They may, however, produce incurable sclerotic conditions. The tubercle bacillus can be demonstrated in these cases.

Lavage of the Colon.—M. Froussard

(*Presse médicale*, July 23rd) states that lavage of the colon not only frees it from fecal collections, but promotes its asepsis by removing pathogenic saprophytes and bacteria which have their habitat there. While lavage promotes dilatation and peristalsis, its too frequent repetition brings about the opposite result. The procedure is contraindicated when the patient is very nervous, or in the presence of cardiac disease and arteriosclerosis, or in ulcerative conditions of the intestine. Its indications are: 1. To produce intestinal asepsis, to diminish self-intoxications, to enhance the tonicity of the intestine, or to modify the circulation in the vena cava. 2. In constipation especially of the habitual kind and when symptoms arise from it. 3. In nervous diarrhœas. 4. In infectious diarrhœas (typhoid fever, sporadic dysentery, cholera, cholera nostras). 5. In intestinal obstruction and volvulus, in which it is a tentative procedure. 6. In hepatic affections, in which cold lavage of the colon is often of service in relieving a jaundice due to retention or infection.

A Very Rare Case of Hæmaturia. By Dr. S. Lopriore (*Gazzetta degli ospedali e delle cliniche*, June 29, 1902).—In this case a young married woman was seized with suppression of the menses and with severe hæmaturia and difficulty in micturition, which were relieved by catheterization and repeated irrigations of the bladder with boric acid. It was noted that the attack of hæmaturia had come on after a period of excessive sexual indulgence, and the latter was therefore limited, with the result that the hæmaturia and dysuria did not recur. The author considers the congestion of the pelvic organs due to sexual excess the cause of the hæmaturia in this case. The suppression of the menses was also due to the same cause.

The Diagnosis and Treatment of Malignant Stricture of the Œsophagus. By C. J. Symonds, F. R. C. S. (*Lancet*, August 9th).—The diagnosis of malignant stricture of the Œsophagus resolves itself into the passage of a bougie, to ascertain the presence of an obstruction, and the treatment into deciding the best way of introducing food. A gradually increasing dysphagia is the common history in most cases, but in quite a number the onset is sudden—*e. g.*, choking at a particular meal, or following prolonged cheering. Before a bougie is passed many patients are treated for dyspepsia; such patients lose flesh, not because of the inability to swallow, but because of the restricted diet incident to treatment for dyspepsia. Œsophageal obstruction may give rise to any or all of the symptoms of gastric dyspepsia. A diagnosis can generally be made by asking the patient to swallow a little liquid; he makes one ordinary effort, followed by several smaller ones; then he brings up a little gas, hits his chest, and says it is gone.

Provided that a fair sized bougie is employed, no force used, and no pressure made when the patient strains to extrude the instrument, there is no danger from its use. The bougie should be advanced during deep inspiration or during an act of deglutition.

Stricture of the cricoid orifice or beginning just below the ring is always malignant. It begins at from eight inches and a half to nine inches below the teeth and usually involves two or three inches. The chief peculiarity is the tendency to cicatrize and contract. The conditions most often confused with malignant disease at the cricoid are dysphagia in elderly people, a nervous dysphagia very common in men, and especially in doctors, the presence of a pharyngeal pouch, and malignant disease of the lower end of the pharynx.

In the middle third of the Œsophagus obstruction is usually due to carcinoma. Aneurysm and mediastinal growths rarely give rise to serious dysphagia. Œsophageal pouches in this locality are often very difficult to detect. The lower end of the Œsophagus is the only point where we find a simple, non-malignant obstruction. The author does not believe that there is such a complaint as "spasmodic stricture" of the Œsophagus, apart from the hysterical cases. All the cases seen by him for spasm, except the hysterical, have had a basis of malignant growth. Here there may be difficulty in distinguishing from cancer of the stomach causing great reduction of the cavity (leather bottle stomach).

Two methods of mechanical relief are available: One to overcome the obstruction by inserting a tube of some kind, and the other to open the stomach below the obstruction—*i. e.*, to perform gastrostomy.

While the patient can swallow fluids and semisolids, and while a bougie can be passed and plenty of nourishment taken, a patient may be left alone as long as he can swallow well, or a small bougie, no. 12 catheter gauge, can be passed. If the dysphagia increases, even though a bougie can be passed, then a tube must be inserted or gastrostomy must be performed. These conditions are seen in the soft fungating forms. If a bougie cannot be passed, or passes with difficulty, then the same course must be followed, as complete closure may occur at any time. If the patient cannot swallow and a bougie cannot be passed, then immediate mechanical treatment is required.

The passage of bougies with a view to dilating the stricture is not advocated. It is injurious in that it irritates and leads to increase of obstruction; it may split up a hard stricture and set up rigor and fever from absorption. The author favors the use of a permanent feeding tube; the thinnest-walled rubber tube will keep a malignant stricture dilated. The tube will last a long time, and if it comes out it can always be replaced if the attempt be made at once. Where the patient is low and unable to bear abdominal section it is the only available mode of treatment. It often sustains life in comfort equal to the most successful gastrostomy. Where a patient is intolerant and objects, gastrostomy can only be offered.

Disease involving the cardiac orifice of the Œsophagus is difficult to treat by a tube, and early gastrostomy should be advised.

Hypertrophy of the Lingual Tonsil as a Cause of Cough.—Dr. Herman Jarecky (*American Journal of the Medical Sciences*, July) calls attention to "hypertrophy of the lymph tissue at the base of the tongue, of the lingual tonsil, or the lingual adenoid, as it is variously termed, as a cause of reflex cough. This tissue is situated at the base of the tongue between the circumvallate papillæ and the epiglottis, and is sometimes at the sides in continuity with prolongations from the faucial tonsils. To inspect it, the laryngoscope must be placed a little higher and further forward than when viewing the larynx. Normally, we see a few small irregular elevations on the back of the tongue, but the medioglossopiglottidean ligament and the fossæ on either side are quite visible. It is superimposed upon a firm base of solid muscular tissue, fasciculi from which run into its substance and interlace between its crypts, and is sparingly supplied with bloodvessels.

When this tissue becomes hypertrophied it is seen more or less to fill up the glossopiglottic fossa and to encroach or impinge upon the epiglottis, perhaps touching its laryngeal surface, and producing various symptoms. Sometimes bloodvessels become varicose, forming, as Lennox Browne termed them, "lingual hæmorrhoids," but these are usually associated with some systemic disturbance.

The symptoms due to the chronic hypertrophy are: feeling of foreign body in the throat, loss or impairment of singing voice, huskiness, radiating pain in the ear and chest, tickling and feeling of ful-

ness in the throat, dysphagia, vomiting, glottic spasm, and, lastly, cough. This cough may be a short, hacking one, an irritating or exasperating one, one of violent paroxysms, or of a croupy, barking nature, and is accompanied by no expectoration.

The author reports twelve cases, in eight of which no other abnormality was present. Removal was practised in most cases; when operation was declined, application was made of the following solution:

R Iodine crystals, 1 drachm; potassium iodide, 1 ounce; glycerin to 4 ounces; peppermint oil, enough to flavor. Myles's lingual tonsillotomy is recommended as the most suitable instrument for operating with.

The Administration of Water in Disease.—Dr.

G. Frank Lydston (*Medical News*, August 8th) points out the danger of carrying to extremes the principle of flushing out the economy by the free ingestion of water, at present becoming very popular. He pertinently asks whether the action of the water in "washing out" is so intelligently selective as to remove *only effete material*. The effect of water upon freshly-drawn blood corpuscles indicates the danger that accrues in the alteration of the integrity of the blood. The hydræmia produced by the excessive ingestion of water is necessarily associated with perturbation of the circulation. To this cause, the author thinks, may be ascribed many cases of "weak heart," "nervous irritability," etc., occurring in the subjects of water-drinking treatment. Languor and debility, also, may be explainable on this ground. Moreover, the absorptive power and gastro-motor efficiency of the stomach is an individual factor in each case and must be considered individually. Finally, the author suggests the possibility of the ingestion of large quantities of water causing a "renal water habit," analogous to the "purgative habit" in the bowel, whereby the habitual use of aperients ultimately renders the bowel incapable of functioning without them. The author has "come to believe that certain waste products which are rapidly removed by the kidney, and the formation of which is limited by restriction of the proteid food elements, are necessary to the normal performance of the renal function." The kidney, both by heredity and requirement, has become habituated and adapted to stimulation by proteids, whence the presence of a certain amount of proteid substances in the diet in some cases of renal disease is desirable. (Edema and anasarca, while often relieved by the free ingestion of water, may at times be increased by it, especially where gastromotor inefficiency and impaired absorption of fluids exists. Vicarious, rather than renal, elimination is often best in renal disease. Finally, inflammatory affections of the lower portion of the genito-urinary tract—*e. g.*, cystitis, urethritis, or prostatitis—are often deleteriously affected by excessive water drinking, through the mechanical disturbance necessitated by the resultant frequent and copious micturition.

SURGERY AND ANATOMY.

The Ligation of the Lingual Artery Through the Mouth in Excision of the Tongue.—Mr. Charles W. Cathcart, F. R. C. S. (*Annals of Surgery*, July), describes this operation as follows: The

jaws are opened widely; the tongue drawn forward with a stout silk suture in each half; the mucous membrane divided along the middle line of the dorsum, behind the growth, and between the tongue and the jaw; the tongue split; and the fibres of the geniohyoglossus divided close to the symphysis with scissors so that the diseased half of the tongue can be drawn well out of the mouth. After this, with a few vertical strokes of a director or other blunt instrument, the anterior edge of the hyoglossus muscle is defined. The director is then insinuated beneath the muscle, the tissues being separated with the point before the instrument is pushed on. The muscle is next carefully cut through on the director for about two-thirds of its extent, and the fibres retracting leave the artery at the bottom of the wound covered only by a little connective tissue. With the point of an aneurysmneedle or director the vessel can then be easily defined as a bluish cord, and traced downward and backward. An aneurysmneedle should then be passed under it, and the vessel tied before it is cut. Some may prefer to seize it with forceps and cut before tying it, but the previous ligation is easier. After the artery has been ligatured and divided, a few snips should be made with the scissors radiating out from the ligatured artery into the substance of the tongue. This lessens the chance of cutting the artery again in the later stages of the operation. All that now remains to be done is to complete the operation, cutting wide of the disease.

The advantages of this method are said to be ease and certainty in securing the lingual artery; diminished bleeding from small vessels; greater certainty in cutting wide of the disease; along with an intact condition of the tissues of the neck for subsequent removal of the submaxillary and lymphatic glands.

OBSTETRICS AND DISEASES OF WOMEN.

Myoma of the Vagina. By W. R. Williams, F. R. C. S. (*Lancet*, August 9th).—Cancer of the vagina is rare, sarcoma is rarer still, and myomatous tumors are the rarest of all. Although the vaginal musculature is much thinner than that of the uterus, in other respects they are very similar, except that the former lacks the postembryonic developmental capacity of the latter. It is owing to this functional difference and to a different arrangement of the blood-vessels, that myomata are so much more common in the uterus than in the vagina. As in the case of their uterine congeners, the precise structure of vaginal "fibroids" has been much debated; but the great majority of recently reported cases, at least, have been myomatous. Vaginal fibroids are nearly always solitary, yet two instances of multiple vaginal myomata have been reported. Aberrant uterine myomata, sequestered from their original matrix, sometimes acquire a juxtavaginal habitat. The great majority of vaginal myomata originate anteriorly. At an early stage of development the vaginal "fibroid" presents as a small, hard, circumscribed, mobile tumor in the vaginal wall. As it increases in size it usually tends to project into the vagina, being covered by its mucocutaneous lining membrane. The tumor is at

first sessile, and it may continue so, but more commonly it acquires a short, thick pedicle. Sometimes the pedicle becomes so elongated that the fibroid hangs from the vulva, and large tumors have been known to reach even as low as the knees. They increase slowly in size, but seldom attain large dimensions. When first noticed they were about as large as a walnut, but specimens of the size of a child's head and weighing ten pounds have been met with. Large tumors cause great distention of the vagina and by their bulk interfere with the functions of adjacent organs, such as the bladder, rectum, etc. Extruding tumors are apt to be complicated by inversion of the vagina. Such tumors may even separate spontaneously and be expelled *per vaginam*. The tumors are generally encapsulated, circumscribed, nodulated, and of dense quasi-fibrous texture. Calcification is rare. The commonest superinduced changes met with are those resulting from septic infection—congestion, œdema, inflammation, necrosis, and gangrene. Any form of malignant disease originating in vaginal myomata is most exceptional. These fibroids occur, on the average, several years earlier than their uterine congeners. Most cases arise prior to the menopause. Most of the patients are single, and among the married the ratio of sterility is higher than normal. Menorrhagia or other menstrual derangements are seldom caused. The projection of the tumor at the vaginal orifice is usually the first indication of the disease. Myomata of any size, especially when they interfere with natural functions or present signs of septic infection, should be removed. If the pedicle is of no great thickness, and accessible, it should be transfixed, ligatured in two places, and divided between the ligatures. Before effecting division it is well to ascertain that no diverticulum of the vagina, bladder, or rectum is involved in the pedicle. In all other cases enucleation is the best method of treatment.

Congenital and Transverse Atresia of the Vagina.—M. Audebert and M. Payrau (*Gazette hebdomadaire de médecine et de chirurgie*, July 27th) report a case of cicatricial transverse atresia of the vagina, which caused dystocia until the diaphragm was sufficiently dilated to permit the passage of the fetus. In such cases the authors advise gradual dilatation of the transverse membrane during pregnancy; if it is undisturbed until labor sets in, they suggest its rapid dilatation or a bilateral incision. After delivery, the vagina should be tamponed to prevent the surfaces from again becoming agglutinated.

Chorioepithelioma of the Vagina.—Dr. Hubert Peters (*Centralblatt für Gynäkologie*, July 19th) reports a case of a woman who, according to an imperfect history, probably gave birth to a hydatid mole, which was followed by irregular bleeding from the vagina. A growth, which proved to be a chorioepithelioma, of the size of a large walnut, was found in the lower third of the vagina. The uterus was normal in size and position, and a microscopic examination of curetted material showed a normal endometrium. The vaginal growth was extirpated, but recurred within a year, causing death of the patient with intense emaciation and with evidences of secondary de-

posits in the brain. An autopsy was refused. Excision of the entire vagina should be performed in these rare cases, says the author, which give evidence of the intense malignancy of the process of development of the chorionic epithelium, even when deposited in the vaginal mucosa.

On the Pathogenesis and Treatment of Eclampsia. By Professor V. V. Stroganoff (*Roussky Vrach*, July 13th). (*Continued*).—Leonovitch has found a germ which he asserts to be the true pathogenic cause of eclampsia. The infectious theory of eclampsia, championed by the author, finds corroboration in Leonovitch's discovery; and thus many phenomena belonging to the disease may be explained. Leonovitch has found that the germ of eclampsia develops most easily upon a medium prepared of human placental tissue. It is well known, now, that placental elements are carried away by the blood during pregnancy, and possibly they render the mother's blood receptive for infection with eclampsia germs, thus accounting for the fact that pregnant women only are subject to eclampsia. In the same manner may be explained the predisposition of primiparae and of women with multiple fetuses. In these the intrauterine pressure is greater, and the passage of placental elements into the systemic circulation of the mother is more easily accomplished. In nephritis the uterus is, as a rule, more irritable, and it is probable that in these cases too, there is an increased intrauterine pressure. In the same manner may be explained the frequency of eclampsia during labor and soon after labor, and the comparative infrequency of the attacks during pregnancy, and, later, *post partum*—the placental elements disappear from the mother's organism and render it invulnerable to the eclampsia germ. As yet the investigations of Levinovitch have not yielded complete results, and cultures of blood taken from eclamptic women without the addition of placental tissue only occasionally gave rise to a growth of germs. An analysis of the cases recorded in the St. Petersburg Lying-in Institute showed that the percentage of autochthonous cases is steadily diminishing. The number of these cases between 1896 and 1901 was as follows: In 1896-7, 1 case in 96.5 labors; in 1897-98, 1 case in 120 labors; in 1898-99, 1 case in 133 labors; in 1899-1900, 1 case in 150 labors, and in 1900-1901, 1 case in 179 labors—while the average for the preceding four years was 1:114 cases. In the treatment of eclampsia, too, we find corroborations of the incorrectness of the toxic theory. Many now limit the use of morphine and chloral hydrate in eclampsia, with the idea that the introduction of new poisons in addition to that of the disease should be discouraged, and yet these remedies give excellent results in eclampsia. In the same way, the fetus need not be removed at all risks in all cases. If the attacks are arrested for twenty-four or forty-eight hours by means of narcotics, the eclamptic seizure will be arrested, even if the fetus continues to grow.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Lecithin.—M. Leclerc and M. Porteret (*Lyon médical*, July 27th) have studied the methods of the elimination of lecithin and its action on the

excretion of urea and phosphoric acid. They conclude that the internal administration of lecitin in therapeutic doses, from five to nine grains, is not followed by its elimination in the urine, for, if it were, there would be a great increase in the quantity of the phosphates or of glycerophosphoric acid, which is not the case. It is undoubtedly absorbed and becomes fixed in the somatic cells.

Injection of Soluble Mercurial Salts.—M. Jaulin (*Presse médicale*, July 26th) prefers the subcutaneous use of the soluble salts of mercury to the insoluble ones because they are less painful and because they rarely cause toxic symptoms or a stomatitis. In 115 injections, no abscesses were obtained. If the injection is made slowly, it is less painful. Diarrhœa is the first symptom of mercurial intoxication. The author advises large doses (from six to ten cubic centimetres) of the oil of the biniodide of mercury. The therapeutic effect upon secondary and tertiary lesions has been most marked. The elimination of the soluble salts proceeds in the same manner as that of the insoluble salts, and, while the author does not think the latter should be wholly displaced, he finds abundant evidence in his results for the employment of the former, especially in large doses.

On the Action of Quinine upon the Parasite of Malaria. By Dr. Achille Capogrossi.—The author's investigations (*Riforma medica*, April 18th and 19th) lead him to conclude: That the emigration of the malarial parasite from the red blood cell in the blood may be evoked indifferently in preparations made with distilled water, with salt solution, or with quinine solution. The conditions for accomplishing this emigration are the swelling and decolorization of the red cells, in consequence of disturbances of the osmotic equilibrium, which permit an entrance of the isotonic solutions of quinine, etc., into the cells. Probably one of the conditions is also the fact that the protoplasm of the red cell swells before that of the parasite. The emigration of the malarial parasite from the red cells may be effected by means of other alkalis, in solution, and does not therefore depend on the action of quinine. We are not, therefore, in a position to assert that the therapeutic action of quinine consists in causing the parasites to leave the red cells. Experiments made in preparations should not be employed as criteria in judging what may happen *in vivo*.

NERVOUS AND MENTAL DISEASES.

Anatomical and Histological Changes in the Nervous System in Parkinson's Disease.—M. Francesco Burzio (*Gazette hebdomadaire de médecine et de chirurgie*, July 27th,), in recording two autopsies, says that the dura mater was softened and adherent to the internal surface of the skull. The cord showed an atrophic sclerosis of the posterior columns, especially of Burdach's column. In a second case, the posterior columns and pyramidal tracts were atrophied, the cells of the spinal ganglia were atrophied and there was a hyperplasia of the connective tissue of the ganglia. The alterations of the motor cells of the cord and cortex and the atrophy

of the crossed pyramidal tracts, correspond to the clinical muscular rigidity. Disturbances of equilibrium and of sensation are accounted for by the atrophy and sclerosis of the posterior columns. The changes correspond to those induced by experimental chronic intoxication. The author ascribes them to a slow modification of nutrition under the influence of some form of self-intoxication.

Cerebral Bladder Disturbances.—Dr. E. von Czychlarz (*Wiener klinische Wochenschrift*, July 31st) remarks that three centres for innervation of the bladder reside in the brain, one in the neighborhood of the hip centre in the cortex for voluntary micturition; one in the corpus striatum for automatic urination following conscious sensation; and a third in the optic thalamus for vesical movements the sequel of pathological irritation. He reports a case in which there were present papillitis, recurrent headaches, vomiting and vertigo; reduction of motor strength with unimpaired motility except gait disturbance and a tendency to fall backwards. The reflexes were heightened and there was uncertainty in intention movements. There were fecal and urinary incontinence with retention of the voluntary opening of the sphincters. At the autopsy, a tumor was found which had destroyed bilaterally and almost symmetrically the heads of the caudate nucleus and the adjoining outer portion of the lenticular nucleus with that portion of the internal capsule lying between them. The rostrum and genu of the corpus callosum and the vermiform process of the cerebrum were also destroyed and an intense œdema surrounded the parts. The local examination of the bladder was absolutely negative, although during life the patient had had, at times, attacks of complete retention, which could be relieved temporarily by hot applications.

Spinal Reflexes in Hysteria.—Professor Steiner (*Münchener medicinische Wochenschrift*, July 29th) has studied several cases of hysteria with reference to the spinal reflexes, and concludes that the disappearance of the patellar reflex does not militate against the diagnosis of hysteria if the reflex of the testicle is retained. This observation is especially true in cases in which there are disturbances of cutaneous sensation. In hysterical persons, it cannot be said that the retention of the patellar reflex, any more than the cutaneous disturbances, is of cerebral origin; and the explanation of the mixed symptom-complex must still be kept *sub judice*.

Verbal Obsessions. By Dr. J. Shaw (*Lancet*, August 9th).—An obsession is a mode of cerebral activity in which a word, thought, or image rises into consciousness—involuntarily and without discomfort when physiological, but forcibly and with painful persistence when pathological. Verbal obsessions are those in which isolated words—mostly obscene or blasphemous—constitute the morbid besetment. They should be distinguished from coprolalia, obscene speech; from the blasphematory mania of Verga; and from the onomatomania of Charcot. In the two cases of verbal obsession here reported, the besetting words were never uttered. The words differed from psychical or psychomotor hallucinations in that they were never spoken of as "voices

in the head" or as "voices" at all. The first case exemplifies the induction of obsessional melancholia by verbal obsessions; in the second case verbal obsessions constituted the leading feature of a sort of obsessional aberration. The prognosis is much less favorable in the latter than in the former.

Spontaneous Fracture in Syringomyelia.—M. Louis Renon and M. Jean Heitz (*Presse médicale*, July 26th) record the case of a woman of sixty-six years of age suffering from syringomyelia who, while making a bed, spontaneously fractured her left humerus. The authors attribute fractures of this kind to osseous changes. The prognosis is fairly good, but owing to a formation of poor callous in patients with spinal disease, a pseudarthrosis is likely to develop in healing. The earlier in the course of the disease the accident happens, the better is the prognosis.

OPHTHALMOLOGY.

Transplantation of the Cornea. By Dr. G. M. Souroff (*Roussky Vrach*, July 13th).—The author performed a series of experimental corneal transplantations in 22 animals, for the purpose of testing the possibility of thus curing cataract. The technics of transplantation is a difficult one; and the essential point is to secure as large a surface of cornea as possible in apposition to as large a portion of transplanted tissue as possible. The author dissected away the conjunctiva around the cornea, reflected it upon the corneal surface, and removed nearly half the depth of the cornea down to the horizontal axis of the latter. This was transplanted to the corresponding half of the cornea of another animal. The conjunctiva was sutured into place with very fine silk or catgut, and the stitches removed on the tenth day. In most cases the result obtained was favorable, though nearly always the cornea became opaque soon after operation; but after three or four weeks, under the influence of irrigations with salt solution and inunctions of yellow oxide of mercury ointment, the transplanted corneæ usually began to clear, and after from two months to two months and a half it was sufficiently transparent to show the pupil and the edges of the iris. On removing the healthy eye in these animals, it was found that they got about very well with the transplanted corneæ. The author hopes in the future to improve the technics of corneal transplantation and to report more complete results.

GENITO-URINARY DISEASES.

Pollakiuria Nocturna.—M. Bazy (*Journal des praticiens*, July 26th) says that pathological frequency of urination in men is usually regarded as of prostatic origin. In women, since prostaticism can not exist, the author has ascribed the titular name of this article to those cases in which the woman is compelled to leave her bed three or four times a night. It is due, he says, to involvement of the kidney, either by some irritation or by an inflammatory or infectious disorder. The diagnosis is much facilitated by the use of the cystoscope and the ureteral catheter. The symptoms must be carefully studied and watched, vesical disorders must be eliminated. Pyelonephritis can

be diagnosticated with certainty if polyuria is combined with great frequency of urination, especially at night, with or without pain at the end of the act of micturition. If there is pain at the lower end of the ureter and pain can be elicited by palpation of the kidney, even if it is not enlarged, the opinion is confirmed. If the tubercle bacillus is found in the urine, the case is, of course, tuberculous in nature.

PHYSIOLOGY AND PATHOLOGY.

Disturbances of Sensation in Hemiplegia of Cerebral Origin.—M. A. Breton (*Journal des praticiens*, July 26th) concludes that the motor and sensory centres are localized in the same cortical areas, but the latter occupy a more extensive zone than the former, and are more widely diffused. The so-called motor area, then, should be designated as the motor-sensory area.

Hypoplasia of the Aorta as a Cause of Aneurysm. By Dr. W. L. Dickinson (*Lancet*, August 9th).—The author reports four cases of aneurysm of the aorta, in which post-mortem examination failed to show any ordinary explanation of the aneurysm, such as syphilis, atheroma, or strain, but did show the aorta and large arteries to be in a state of hypoplasia, narrow in calibre, and thin in the walls, though in all other respects practically healthy. Congenital delicacy of the arteries, when it exists, must predispose to the formation of aneurysm and favor its development. Such cases are prone to rupture, and as arterial hypoplasia is more common in women than in men, this goes to explain the relatively unfavorable prognosis of aortic aneurysm in women. The association of hypoplasia and aneurysm is unfavorable also as regards the prospect of cure by the deposition of fibrin. Hypoplasia is in some way closely connected with hæmophilia, as disease which depends essentially upon deficient coagulability of the blood.

New Experiments Upon the Effect of the Rays of the Sun During the Spring Months. By Professor Claudio Ferni (*Gazzetta degli ospedali e delle cliniche*, June 29, 1902).—In concluding this series of experiments upon the injurious effects of solar rays the author says that under the influence of the direct rays of the sun about 83 per cent. of persons experimented upon fell ill during the two months of trial. In 69 persons headache was complained of by 52, sleeplessness by 15, conjunctival irritation by 25, heat sensations in the face in 35, dryness of the nose in 46, thirst in 40, dryness of the lips in 15, a slight pharyngitis in 44, weakness of the feet in 32, coryza in 52, and fever in 12. These persons were exposed to the rays of the sun in April and May for a variable number of hours each day and were given light muscular work. It was found that the April sun produced more physical discomfort than the May sun. No difference was found between the action of the morning rays and that of the afternoon rays. Experiments with colored glass and with solutions of alum through which the rays were passed showed that the heat rays, rather than the chemical rays, were responsible for the disturbances observed in persons exposed to solar rays.

Our Subscribers' Discussions.

A SERIES OF MONTHLY PRIZE ESSAYS.

[Questions for discussion in this department are announced once a month. So far as they have been decided upon, the further questions are as follows:

XVI.—What is the best non-operative treatment of dysmenorrhœa? (Answers due not later than September 10, 1902.)

XVII.—How do you treat nocturnal incontinence of urine in children? (Answers due not later than October 10, 1902.)

XVIII.—How do you prevent mammary abscess? (Answers due not later than November 10, 1902.)

XIX.—How do you treat frost bite? (Answers due not later than December 10, 1902.)

Whoever among our subscribers (with the limitations mentioned below) answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short, if practicable, no one answer to contain more than six hundred words. So far as our space will allow, we shall publish the substance of such of the answers as seem to us most likely to prove interesting to our readers, and we reserve the right to publish any of the answers in any department of the JOURNAL.

Only subscribers to the NEW YORK MEDICAL JOURNAL (including regular and volunteer officers of the medical corps of the United States Army, Navy, and Marine-Hospital Service, commissioned or under contract) will be entitled to compete, and all persons known to be engaged in medical journalism are disqualified. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish....

The prize of \$25 for the best essay submitted in August has been awarded to Dr. Hermann G. Klotz, of New York, whose paper appears below.

PRIZE QUESTION NO. XV.

THE TREATMENT OF RHUS POISONING.

By HERMANN G. KLOTZ, M. D.,

NEW YORK.

Rhus poisoning as a rule does not cause any systemic disturbances, unless complications exist. The aim of every treatment therefore must be to relieve the subjective symptoms, burning and itching, to reduce and remove as quickly as possible the inflammation of the skin, and to prevent the spreading of the inflammatory process. In mild cases, where only few and small areas are affected, this is comparatively easy, but the difficulties largely increase when an extended surface of the body is affected and when the dermatitis attains an intensity similar to that found in erysipelas. Ointments as a rule are not well borne in the early stages; dusting powders are more soothing than healing and are not likely to prevent the extension of the disease. It is very inconvenient and often almost impossible to apply the different lotions which are most generally recommended in the books, or to keep them applied as regularly and frequently as desirable in cases where the dermatitis has involved a large part of the body.

A remedy which can easily be applied to any locality, which will remain active without too frequent renewals, which checks the spreading of the poisoning almost immediately and permanently, which promptly reduces the redness, heat, and swelling of the skin, and even more rapidly alleviates and removes the itching and burning while perfectly harmless and non-poisonous, I have found in ichthyl, and I recommended it for the purpose in 1897 in a paper read before the American Dermatological Association (*Journal of Cutaneous and Genitourinary Diseases*, XV, p. 462).

Ichthyl is used in the following manner: The drug itself is quite sticky and not easy to handle, but, mixed with water in equal parts or in the proportion of 1 to 2 or 1 to 3, becomes quite liquid and can easily be spread over the skin by means of a not too soft brush, or preferably a small tuft of absorbent cotton twisted around a wooden toothpick or similar contrivance. It rapidly dries, even in warm weather, into a thin, perfectly elastic film which does not contract or crack like collodion, but forms a sufficient cover to protect the skin against the air. Glycerin must not be added, as it prevents the drying. In a given case the affected parts of the body, where their condition allows, may be thoroughly washed and scrubbed with soap and water to remove the poisonous substance derived from the plants, or may be wiped clean with absorbent cotton moistened with benzine, particularly where ointments or other greasy substances had previously been applied. After carefully drying the surface by dabbing with absorbent cotton, a strong solution of ichthyl, not less than 1 to 2 of water, is painted on and gently rubbed into all the affected places and in the apparently healthy skin in their neighborhood for at least the width of an inch. Small vesicles can remain undisturbed, but larger ones must be opened by cutting off the top with curved scissors. Large bullæ should be laid open and the epidermal cover removed as in burns before the ichthyl is applied; but such moist, denuded surfaces may be covered with a thin veil of absorbent cotton, which is allowed to remain undisturbed when further applications of the ichthyl are made. Where the swelling is very severe, pads of absorbent cotton or lint moistened with mild (1 to 2 per cent.) solution of ichthyl may be kept on during the first day, but ordinarily no other treatment is necessary but renewed painting with the stronger (1 to 2 or 1 to 3) solutions every four to eight hours, according to the symptoms, without removing the remnants of the former applications. These repeated layers of ichthyl gradually form a skin, which after a few days begins to peel off, leaving a more or less healthy surface, or it can be washed off with water or soap and water. It is optional to dust some indifferent powder over

the ichthyol after it has become dry. According to the intensity of the inflammation, the skin returns to its normal condition within from two to five or six days; sometimes it remains slightly scaly and itching after the removal of the ichthyol, when a mild ointment of boric or salicylic acid may be used with advantage.

When first applied, the ichthyol causes a more or less severe burning, particularly on portions denuded of the epidermis, but this is usually of brief duration and almost immediately followed by relief from the itching and burning experienced before, so that the patients often are enabled to enjoy rest and sleep at once. Objections are frequently made against the ichthyol on account of its color and odor. As the stains can easily be removed, not only from the body, but also from bedclothes and other clothes, the odor ought hardly be considered, although naturally the appearance of the patients is not very prepossessing. As to the disagreeable smell of the drug, it is perceptible only on very close approach, and does not extend from the patient to his surroundings. It is hardly noticeable when you enter the sick room and does not stick to the fingers after simple washing, like iodoform, balsam of Peru, and other drugs. But wherever an idiosyncrasy or insufferable dislike prevails, thiol may be substituted, an almost odorless synthetical product, which is alleged to be chemically identical with ichthyol. In the paper cited above the history of a severe case of rhus poisoning treated with ichthyol was reported; within the last seven or eight years all cases that have come under my observation in private and dispensary practice have been treated in a similar way, and always with very satisfactory results.

42 EAST TWENTY-SECOND STREET.

THE VALUE OF ICHTHYOL CORROBORATED.

Dr. Z. E. Lewis, of New Rochelle, N. Y., writes:

I treat rhus poisoning with ichthyol. If the poisoning shows itself in discrete spots of moderate size, I usually apply with a camel's-hair brush a fifty-per-cent. aqueous solution of ichthyol, making as black a stain as possible, and getting it quite dry before exposing it to the friction of the clothes. In some localities I cover with absorbent cotton and a bandage. Every spot, with a liberal surrounding area, must be stained. This application is repeated at twenty-four hours' intervals till all evidence of disease is removed, which is frequently accomplished by one thorough painting—especially in cases seen early—and very seldom are more than three stainings required. It is very important that every spot shall be stained.

Where, for any reason, the above described method is contraindicated, I use an ointment. The

combination suggested by Slevin¹ is excellent; the proportion of ichthyol may be varied—I think, advantageously increased—and the odor should be covered. "Probably the greatest drawback to the use of ichthyol is its strong odor and the fact that it stains the linen brown. The odor can be largely overcome by the use of aromatic essences or fragrant essential oils, and the stains are not permanent, but can be removed by boiling in soap and water."² Stains of the skin disappear under gentle washing in warm soap water—at worst after several washings. It is well to bear in mind that the skin has just escaped (or recovered from) a severe inflammation, and to exercise patience with the stain rather than a bath brush.

The twenty-four-hour interval, which I have generally found satisfactory when using the solution, may at times with advantage be diminished, especially when an ointment is used. Sometimes the ointment should be merely spread over the surface, but ordinarily a gentle friction should be employed, and the application repeated in whole or in part, as often as any revival of irritation calls for relief. Thoroughness and fidelity in carrying out the treatment are essential to the highest success.

SPARTEINE AND SERPENTARIA.

Dr. Christopher C. Beling, of Morris Plains, N. J., writes:

There are several species of rhus, which are capable of producing a dermatitis in individuals exposed to their influence. *Rhus radicans* is responsible for most of the cases which occur around this part of the country. The dermatitis varies in intensity from a simple erythema to an acute swelling of the skin, resulting in the formation of vesicles, pustules, and blebs, and is accompanied by more or less acute sensations of itching and burning. The parts generally involved are the hands, feet, and genitals, though the whole body may be involved. Though the question calls only for the treatment of rhus poisoning, I would venture to make some remarks with regard to the duration of the lesion and the susceptibility of the patient to future attacks.

The attack is supposed to be self-limited by some, and the duration is supposed to be from one to six weeks. Dr. B. D. Evans, however, recites one among the many cases he has treated which lasted about twelve weeks, and was treated with lead and opium wash, fluid extract of lobelia, red oxide of mercury ointment, applications of chloride of ammonium, etc. There is a marked susceptibility to rhus poisoning

¹ N. Y. Med. Jour., March 6, 1901, page 410. Slevin's formula is: "Ichthyol and lead iodide, of each 45 grains; ammonium chloride, 10 grains; and petrolatum, enough to make 1 ounce. The substitution of glycerin, rose ointment, or cacao butter does not alter its efficiency."

² Merck's Digest, No. 29, page 11.

in some individuals, who are affected by mere proximity to the plant. Others are able to handle it with impunity. Treatment does not seem to prevent susceptibility to future attacks.

The general indications for treatment are:

1. Remove the source of irritation (toxicodendric acid) from the skin as soon as possible by washing with ethereal antiseptic soap and water as freely as possible.

2. Instruct the patient to refrain from scratching the part and conveying the poison from one part to another.

3. Institute treatment immediately after thorough ablation, and keep it up continuously.

Before toxicodendric acid was discovered by Maisch, and shown to be the active principle on which depended the effects produced, a light diet with saline purgatives and the local application of weak lead water was the regular routine treatment. The alkaline treatment then followed. Numerous remedies have from time to time been put forward as specifics. Among these *Grindelia robusta* occupies a prominent place. It generally yields good results. Externally, apply half a fluid ounce of the fluid extract to four fluid ounces of rose water freely on cloths. Internally, order a mixture of equal parts of the fluid extract and cinnamon water; a teaspoonful to be taken three or four times a day.

During the last two summers I have treated nearly all my cases with the internal administration of sparteine sulphate, 1/10 of a grain every three or four hours, till the dermatitis was well recovered from. In obstinate cases the dose of sparteine sulphate may be increased with caution up to ¼ of a grain. In one case the combination of sparteine sulphate and tincture of serpentaria produced excellent results, along with the local applications of ichthyol in an aqueous solution of 2 drachms to 4 ounces every three or four hours. Mild cases can be treated with external applications of lead and opium lotion applied on cloths.

R Lead acetate 1 drachm;
Tincture of opium ½ fluid ounce;
Distilled water, enough to make 8 fluid ounces.
M. Sig. Apply continuously on cloths.

Other suitable remedies are solutions of sodium bicarbonate, resorcin, mercury salts, and zinc salts.

Dr. Cossitt cites a case of rhus poisoning in which there was a recurrence of a very marked description two months after as the result of the patient's wearing a pair of gloves which she had used during the first attack. The patient returned for treatment, not knowing what had caused the severe eruption. The treatment in both instances consisted of large doses of tincture of serpentaria internally and lead and opium lotion externally. The sole use of the lead and

opium wash in the first instance did not seem to benefit the patient, but improvement followed quickly on the administration of large doses of tincture of serpentaria.

THE OCCASIONAL NEED OF SYSTEMIC TREATMENT.

Dr. Marion Nute, of Dorchester, Mass., writes:

The dermatitis of rhus poisoning is due to toxicodendric acid, a volatile poison contained in the leaves of the various plants and trees of the rhus group.

The treatment is mainly local, but in severe cases or in debilitated persons a tonic, supporting treatment is important.

First have the face and hands carefully but thoroughly washed with soap and water for purposes of cleanliness, as these parts, being most exposed, are usually first attacked, the poison then being spread to the genitals and other parts by the hands. Scratching and breaking the vesicles should be avoided. It is well to advise a patient, if the desire to scratch is great, to saturate a soft linen cloth with the wash and sop it freely on the itching area instead of scratching or rubbing. A very efficient local application in the acute stage is as follows:

R Zinc oxide ½ ounce;
Carbolic acid 1 drachm;
Lime water 1 pint.

M. Sig. Shake and apply freely.

This may be used as a wash and sopped on frequently, or soft linen cloths may be saturated and laid on the affected area.

The zinc oxide acts as a mild astringent, the lime water neutralizes the poisonous acid, thus preventing the spread of the inflammation, and the carbolic acid by its local anæsthetic action helps to allay the intolerable itching, and is also somewhat antiseptic.

When the acute stage has subsided, a mildly astringent and protective ointment, such as one of equal parts of zinc oxide ointment and rose water ointment, with five minims of carbolic acid to the ounce of ointment, may be used over excoriated areas and the desquamating surfaces oiled daily with sweet oil.

As the recovery is more rapid when the patient is in good health, attention should be given to the general condition. If constipation exists, a mild saline laxative should be given. For an adult give calomel and sodium bicarbonate, each half a grain, every half-hour for three or four doses, followed by a Rochelle powder; for children, calomel, a tenth of a grain every half-hour for eight to twelve doses, according to age, followed by compound licorice powder.

If the case is severe or the patient in poor condition, a tonic is indicated, the following being excellent for adults:

R Iron and quinine citrate..... 10 parts;
 Tincture of cinchona..... 40 parts;
 Alcohol 20 parts;
 Simple elixir, enough to make 120 parts.

M. S. A teaspoonful, in water, three or four times a day.

For children I order 10 to 30 drops of syrup of iodide of iron, to be taken three times a day.

When the pain and itching are so severe that the patient experiences an extreme irritability of the nervous system or is unable to rest or sleep, it is wise to give enough opium or morphine to allow a fair amount of rest.

HYDROGEN DIOXIDE, STRONG CARBOLIC ACID, AND SODIUM SULPHITE.

Dr. F. S. Nicholson, of St. Paul, Neb., writes:

For a person who has been exposed to poisoning by *Rhus toxicodendron*, but who has not yet been seized with the characteristic eruption, I recommend that the parts of the body exposed to the poison be bathed with hydrogen dioxide, which I believe to be an excellent preventive.

On being confronted by a well developed case of poisoning, I invariably follow out the following treatment, viz.: I first paint or swab the affected surface with strong carbolie acid. If the surface to be covered is a large one, it is best to treat only a small area at a time, for fear that the acid first applied may act too strongly before its action is arrested. After allowing the acid to remain on the skin until the latter commences to turn of a whitish color, I swab the surface with pure alcohol, thus stopping the action of the acid. This treatment relieves all itching and burning almost instantaneously.

It is well to give a small dose of magnesium sulphate at the beginning of the trouble, and to keep up the laxative action by further small doses from time to time or by some mineral water.

I find that frequent baths in strong hot soda water give great relief to the affected parts. As a topical application the following solution has given good results in my hands:

R Sodium sulphite 1 drachm;
 Glycerin ½ fluid ounce;
 Camphor water, enough to make 4 fluid ounces.

M.

This may be mopped on the affected surface at frequent intervals. I vary this in some cases by using lotio hydrargyri nigra in the same manner, but, I think, with hardly as good results.

At nighttime, when it is not convenient to use one of the above-mentioned washes, I have the following ointment applied to the affected parts:

R Carbolic acid..... }
 Calomel } each 10 grains;
 Rose water ointment, enough to make

1 ounce.

M. Sig. Apply to the affected surface at bedtime.

Internal remedies are ineffective and useless.

A PARASITIC THEORY; THE EFFICIENCY OF LEAD SUB-ACETATE.

Dr. Paul H. Schwankhaus, of Louisville, writes:

The books on skin diseases, while making mention of this troublesome, perplexing, and painful condition, are entirely too superficial on this subject to be of much assistance to the physician in treating these cases. This is possibly due to the lack of experience of the authors with the disease and the failure of proper and diligent research for the true cause. For many years it has simply been taken for granted by the profession that the exciting cause of rhus poisoning was the acrid juice or exudate of the crushed leaves coming in contact with exposed surfaces on the body, and by its irritant properties setting up the disease. Having been very susceptible to it myself, and having had it not fewer than fifty times in my life, ten of which have occurred in the last year, I have had an opportunity to study it carefully and give all remedies, both domestic and otherwise, a fair trial. Besides having had it so often myself, I have treated some thirty or forty cases. I will relate my worst case, which was in myself, my hands being the seat of the trouble.

In December, 1901, I was out quail shooting near Louisville, and killed several birds along an old rail fence where they had been in hiding. I picked them up with bare hands and smoothed down the ruffled feathers. The temperature in Louisville was then 2° below zero, and had been around that mark for a week. I relate this case for two reasons: First, because I wish to show that the disease may be got in very cold weather. Secondly, I wish to ask if anyone remembers seeing leaves on rhus vines at that time of the year, and whether or not there would be an acrid juice or exudate oozing out of vines with the temperature 2° below zero? Then it occurred to me that it was either a vegetable or animal parasite, living on the vine, depending on it for support, and capable of existing under a very low temperature. During the same week, and many times since, I made microscopical examinations of vines, and found many bacteria and fungi, but there were so many I did not know which one to blame. I am of the opinion that it is an animal organism resembling the chigoe (*Sarcopsylla penetraus*) of the West Indies and South America, which penetrates the skin and sets up inflammation and causes troublesome small

ulcers. I shall continue the examinations until I succeed in finding the cause, if that is possible, and will make it known if I do.

The disease may be divided into three stages. 1. Inflammation. 2. Vesication. 3. Desquamation.

Within twenty-four hours, or near that time, after exposure, there is a sense of burning or severe itching of the affected area, which is quickly followed by the appearance of the vesicles. The itching and burning are not continuous, but intermittent and worse in the morning and at night. If this is not met by medical interference, new vesicles will appear each day for four consecutive days. Desquamation begins on the fifth day and continues to about the twelfth. The fluid of the vesicles does not spread the disease, nor does the disease recur every year, which has been a popular idea.

A good dose, from 3 to 5 grains, of calomel, followed by a saline, should be given, also 3 grains of quinine sulphate every three hours until thirty grains have been taken. The vesicles should not be opened. A saturated solution of subacetate of lead, applied three or four times daily, is a specific, and will control itching instantly and dry up the vesicles in three or four days. Then an ointment, such as simple cerate or rose water ointment, applied several times a day for a day or two will complete the treatment.

ALUMINUM ACETATE.

Dr. D. T. Marshall, of New York, writes:

Prophylactic.—After an exposure, wash the hands and face well with soap and water. I have often taken a piece of soap with me to the woods so as not to lose time in washing off the poison. Washing off the perspiration and dust in the plain water of a brook is an easy and pleasant precaution.

Active Treatment.—Cover the part with gauze wet with a solution of acetate of aluminum:

R Alum	25 parts;
Acetate of lead.....	125 parts;
Water	1,000 parts.

M. S. Use as a lotion.

When the eruption has reached the stage of blebs, apply boric acid ointment.

When the poison is disseminated pretty much all over the body, baths containing washing soda or borax are soothing.

THE IMPORTANCE OF SECLUSION OF THE AFFECTED PARTS.

Dr. Alexander G. Brown, Jr., of Richmond, Va., writes:

In the treatment of this form of dermatitis, the clinician will be zealous in the application of proper measures for *isolation* or *quarantine* of the *part*. The immediate seclusion of the inflamed area is ne-

cessary, and must be accomplished by strict injunctions to the patient to carefully avoid rubbing the affected part on non-inflamed skin. This oral caution must be reinforced by mechanical measures, such as a surgical dressing, confining the site of inflammation.

Owing to the fact that there are several stages, erythematous, vesicular, and pustular, which may be distinct or combined, and in view of the varying position of the disease, the treatment, as set forth here, may be altered to suit circumstances.

In the initial stage of this dermatitis, when the sides of the digits and the dorsal palmar surfaces of the hand are swollen, hot, and itching, I wash the hand in warm water and castile soap, then dry thoroughly, and wrap each finger, and cover each surface with sterilized gauze, and encase the whole in sterilized cotton. This I soak in a solution of hydrochloride of cocaine (6 to 8 per cent.). This is to relieve the intolerable itching.

Next I apply a lotion of *Grindelia robusta* made by mixing from one half to one drachm of the fluid extract in from four to six ounces of water. This is constantly applied to the inflamed part.

A number of other lotions and decoctions are used with varying degrees of success: Hyposulphite of sodium (1 to 6 drachms in a quart of water); strong decoction of chestnut leaves, white or black oak bark, or black alder—bathing the inflamed area with these every three or four hours.

If the inflammation has reached the pustular stage, ointments are indicated. Iodoform, oleate of zinc or lead, and ichthyol ointments are efficacious. The pustular and swollen tissues may be washed in a solution of hydrogen dioxide and then encased in antiphlogistine. A cast of this earthy product may remain on the inflamed area for twenty-four hours, when a like application may be made.

As to further measures, rest, low diet, laxatives, with some mild analgetic, will be what is necessary. To sum up the treatment—isolate the part; relieve the itching, protect the inflamed area, and apply an antidote to the poison.

AN OINTMENT OF MENTHOL, ZINC OXIDE, EUCALYPTOL, CARBOLIC ACID, AND BORIC ACID.

Dr. T. E. Biery, of Scottsburg, Ind., writes:

For the immediate relief of the burning and itching I use an ointment made with zinc oxide, eucalyptus oil, carbolie acid, boric acid, menthol, and petrolatum, all in due proportion and applied as needed to ease the patient, say every two, three, or four hours. This method of treatment has never failed me and I have used it for more than twenty-five years. Before that time I used the remedies recommended in the text books extant at that time for seven years or more. The remedy is not original

with me, for I found it in some medical journal about that time, and, as I had considerable trouble with the remedies I used before in promptly relieving my distressed patients, and as it was alleged that this remedy would promptly put an end to the disease, I gave it a trial in the first case that presented itself to me for treatment, and I was delighted with the result stated, and it has been just as reliable ever since.

There are cases of this trouble that are of a mild form and probably would soon end in resolution *without any treatment*, as is the case with many other ailments, but quite often the symptoms are not only distressing but serious, and in this class of cases the magical results of the above-mentioned treatment are speedily realized.

A young man, eighteen years of age, presented himself for treatment, he having been poisoned three days before with rhus. His entire body was involved, being swollen and showing the characteristic eruption, itching, and burning to such an extent that he was not recognizable by his friends. In six hours there was marked relief generally, and in twenty-four hours he was quite restored to his former self. I have had many such cases, one but a month since, and my treatment has invariably been the same and the success of it as gratifying.

CONSTITUTIONAL TREATMENT OFTEN NECESSARY.

Dr. Edwin Wayte, of Herman, Minn., writes:

The treatment consists in antidoting the poison and in allaying the inflammation with its accompanying symptoms. Lead acetate precipitates the poisonous oil. The following may be used as a routine treatment if the skin is unbroken:

- R Lead acetate..... 4 grains;
- Alcohol..... 8 fluid ounces
- M. S. Use as a wash.

This is followed by cooling applications. No ointments should be used, as they dissolve the oil and spread the irritation. Another lead solution used is as follows:

- R Liqor plumbi subacetatis... 3 fluid ounces;
- Glycerin..... 1 fluid drachm;
- Water, enough to make..... 1 pint.
- M. S. Use as a wash.

If there is much pain attending the inflammation, an ounce of tincture of opium may be substituted for the glycerin.

All solutions should be made much weaker if the skin is broken, as poisonous quantities of lead may be absorbed.

Among the cooling applications, to follow the lead wash, I prefer the following:

- R Sodium sulphite..... 1 drachm;
- Glycerin..... 1/2 fluid ounce.
- Camphor water, enough to make 4 fluid ounces
- M. S. Apply with cotton and cover with oiled silk.

Constitutional symptoms frequently accompany rhus poisoning, and with all local treatment the following should be given:

- R Tincture of belladonna..... 10 minims
- Spirit of nitrous ether..... 1/2 fluid ounce
- Water, enough to make..... 4 fluid ounces
- M. S. One teaspoonful every two hours.

Camphor and croton oil also antidote the constitutional symptoms of rhus poisoning. The patients should be kept within the house if possible and a saline laxative given. The remaining treatment is that of any acute localized inflammation.

Book Notices.

Outlines of Anatomy. A Guide to the Methodical Study of the Human Body in the Dissecting Room. By EDMUND W. HOLMES, A. B., M. D., Demonstrator of Anatomy, University of Pennsylvania, etc. Second Edition. The New Era Printing Company, 1902. Pp. 6 to 185.

This little volume might better have been named *A Guide to Anatomical Dissection*. It is intended to systematize the study of anatomy on the cadaver, and with that idea in view the author divides the dissector's work into regular sessions and maps out the structures to be studied in each one. Representing as it does the author's long experience as a demonstrator of anatomy in a large dissecting room, the work may be followed to great advantage by the student.

Outlines of Physiology. By EDWARD GROVE JONES, M. D., Lecturer on Physical Diagnosis in the Atlanta College of Physicians and Surgeons, etc. 107 illustrations. Philadelphia: P. Blakiston's Son & Co., 1902. Pp. vii-17 to 442 (Price, \$1.50.)

The description of complicated experiments, the discussion of moot questions, and lengthy disquisitions on chemico-physiological problems have all been avoided in the writing of this book. It is by no means, however, a "high-school physiology," but contains the essentials for a medical student's manual, and is condensed rather than elementary. It is therefore an admirable work.

BOOKS, ETC., RECEIVED

A Brief Necroscopy and its Medico-Legal Relation. Arranged by Gustav Schmitt, M. D., Milwaukee. New York and London: Funk & Wagnalls Company, 1902. Pp. 5 to 186. (Price, \$1.)

The Purin Bodies of Food Stuffs: Their Estimation, Action, and Significance. By I. Walker Hall, M. D., Assistant Lecturer and Demonstrator in Pathology, Owens College, Victoria University, etc. Manchester: Sherratt & Hughes, 1902. Pp. 9 to 108. (Price, 2 shillings.)

Miscellany.

The Mental Examination of Women Adulterers.—*Médecine orientale* for July 10th, says that up to now no one has ever thought of making adulteresses the subjects of mental examination by alienists. Recently, however, on the application of Maître Georges Dufour, the advocate for the wife of an engineer charged before the correctional tribunal of the Seine, with adultery, the *juge d' instruction*, M. Lefresne, has appointed three alienist physicians, Dr. Garnier, Dr. Dupré, and Dr. Vallon, "to determine the degree of responsibility of the accused at the time of the alleged act of adultery." It is to be noted that the woman now submitted to examination as to her sanity for an act of adultery, was eighteen months ago adjudged irresponsible by Dr. Legras in a case of incendiarism in which she was implicated, and the question is asked: If the woman was irresponsible as an incendiary, is she responsible as an adulteress?

Bathing in Winter.—Dr. W. Freudenthal (*Medical Record*, August 9th) in Some Hints to the General Practitioner on the Treatment of Chronic Nasopharyngeal Catarrh, a paper read at a meeting of the Eastern Medical Society, says:

"How shall we bathe in winter—cold or warm? There is no doubt that cold bathing in winter is very invigorating and a great preventive against catching cold. Besides this it does little to alleviate the unpleasant symptoms of our patients. The amount of moisture that is absorbed by the system during a cold plunge of two or three minutes or a cold douche of one or two minutes' duration is comparatively small. If we want more humidity (and more is necessary) the bath must be taken lukewarm. My patients undress completely in the bathroom while the hot water is running down from the douche. Before the tub is half filled with hot water the whole atmosphere of the room is saturated with steam. By adding cold water the temperature of the bath-room becomes tepid. After remaining in it about ten minutes the patient should stay in the bath-room another ten, fifteen, or twenty minutes dressed, or still better, undressed. I allow no gas stove in the room. If the patient feels chilly sitting naked, all he needs to do is to turn on the hot water again and very shortly the room is filled with heat and moisture. If the patient before going into or after coming out of the bath exercises with dumb bells or Indian clubs or anything similar, this will be of advantage. The lower respiratory tract thus becomes charged with moisture, while there will be a reserve supply for the time when the upper parts become dry again. These are things which most people can do in their own homes, and without any extra expense."

Turpentine Packing in Metrorrhagia.—Dr. Liénévitch, of Astrachan (*Semaine médicale*, April 23d; *Gazette de gynécologie*, July 1st) has for five years treated metrorrhagia as follows: The cervix uteri is fixed by forceps, and a tampon moistened with a one-in-four solution of phenic acid in glycerin is inserted. The cervix is then dilated. A strip of iodoform gauze, 5 or 10 per cent., and sufficiently long to fill completely the uterine cavity, is soaked in pure turpentine and introduced into the uterine

cavity. The end of it remains in the vagina, and the excess of turpentine that will have accumulated during the introduction of the gauze is removed. A medium-sized vaginal tampon is then inserted, and the patient bidden to lie down for from three to six hours. At the end of this time, when the patient begins to experience uterine colic, the dressing is withdrawn. Generally the hæmorrhage is definitely arrested, and there remains for three or four days only a mucosanguinolent discharge. Occasionally, however, one is obliged again to resort to the procedure; but this should not be necessary if the first tamponing has been properly effected. Mr. Liénévitch has never seen any toxic symptom or other serious accident, even in the case of a uterus reaching to the umbilicus. The procedure is said to be especially efficacious in hæmorrhage due to interstitial fibromata, as well as in the metrorrhagias of the menopause and even in fluxes of inflammatory origin, when the tamponing could be affected without lowering or dilation of the cervix. He has never, however, used it in post-partum hæmorrhage, for fear of causing embolism.

A Curative Serum for Typhoid Fever.—Dr. William Royal Stokes, and Dr. John S. Fulton (*Maryland Medical Journal*, August) record the results of their experimental investigations carried on in the laboratory of the State and City Board of Health. These experiments lead them to the conclusion that it is not difficult to produce a serum of high agglutinative strength and immunizing power by injecting the hog with pure typhoid cultures. Although little can be learned from five cases of its employment in typhoid fever in the human subject, the use of this serum seemed to produce a slight favorable effect in three cases. The authors are preparing more serum, and hope to use it soon on other cases in combination with the normal serum of various animals.

Depletion and Depression.—The *Army and Navy Journal* for August 9th has the following note, "The perusal of a letter written sixty-one years ago brings forcibly to view the change in medical practice which has occurred during this period. The writer was the nine-year-old daughter of a clergyman, and she describes how the doctors dealt with her father in a case of sore throat. First, they bled him; the next day they gave him calomel and jalap, and the third day dosed him with a powerful emetic. The effect upon the good clergyman is shown in a letter from him, dwelling upon the unsatisfactory state of his spiritual condition and rejoicing that life is short, so that the end will at the most soon come. There is unconscious humor in the apparent absence of any suspicion that the doctors had anything to do with his state of spiritual gloom. As he lived forty-five years longer, and to the age of eighty-five, it is apparent that he had a constitution which was too much even for the old school doctors; but their victims must have been numerous. Here is a problem for the philosopher: To determine the relation between the old practice of medicine and gloomy views of religion. No doubt bad feeding and heroic systems of medical treatment are responsible for a very large amount of the heresy that is abroad in the world."

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Special Articles.

THE EDUCATION AND DEVELOPMENT OF NEUROTIC CHILDREN.

By GRÆME M. HAMMOND, M. D., LL. D.,
NEW YORK.

Neurotic children are those whose nervous force is below the normal standard, whose nerve elements, either through heredity or from accident or both combined, are imperfectly developed, and who are thereby incapable of normal resistance and, if left to themselves, never reach the proper condition of physical development. Their number seems to be increasing. This is probably not due so much to the increase in population as it is to the rapid development of the country, to the accumulation of wealth, and to the comforts, ease, and luxuries of living which have become common in this country. There are many causes which tend collectively to produce the neurotic child. When men and women worked hard for a living, lived on plain and wholesome food, when their amusements were healthy, there was less likelihood of their producing neurotic children.

One of the most potent causes of the development of neurotic tendencies in children is, of course, the existence of some nervous disease on the part of either parent or both, but in addition to this there are other causes, and not the least important of these are alcohol and syphilis. These diseases, separately or together, are probably responsible for a large proportion of neurotic children. A neuropathic predisposition in a child simply means that it has been born with a nervous system so unstable that it is liable to be sized with a nervous disease under conditions in which such a disease would not develop in a normal child.

The question will at once suggest itself, Is there any way of determining during its infancy whether the child is of a neurotic predisposition or not? Often this cannot be done, but in many instances we see children in infancy acquiring diseases which clearly indicate that they have a neurotic predisposition; thus, infantile convulsions from such causes as indigestion, dental and intestinal irritations, chorea, night terrors, and kindred nervous disorders clearly indicate the nervous child. In most instances, however, the neurotic condition of the child does not manifest itself until a later period.

Toward the fifth or sixth year or upwards, the neurasthenic and hysterical temperaments begin to show themselves. Exceptional mental ability without corresponding physical strength is sometimes the early and only manifestation of the neurotic temperament. Children whose mental development seems to outstrip their physical development, who learn with avidity far beyond their classmates, these are children of a distinctly neurotic type. Neurotic children who are allowed to grow up into manhood and womanhood under the ordinary training common to most children do not develop into a high type of individual. If precocious and clever in early youth, as neurotic children frequently are, they fail to achieve those positions in life which their early mental brilliancy seemed to promise. With the advent of puberty, or even before this time, nervous disorders are most likely to show themselves. In many instances the degenerate condition of the nervous system is shown in the character of the children; they are fretful, nervous, irritable, changeful in mood. With the advent of puberty certain nervous disorders become quite common. It is at this time that migraine usually begins, epilepsy develops, and neurasthenic and hysterical conditions, which are so frequently seen through the lives of neurasthenic people, have their origin. Masturbation and abnormal sexual conditions frequently begin at this time. The neurasthenic taint is seen again affecting the life of the individual as he matures. He may be clever in conversation, well read in the lighter literature, generally attractive in manner and in his relations with other people, but he generally lacks application, seldom has any desire for hard work, and has little ambition, or if there is ambition it is not accompanied by sufficient determination or force of character or nervous strength to keep up the sustained and prolonged work which must necessarily be combined with ambition to achieve success in life.

The remedy for this condition should begin early in life, in fact, as soon as the neurotic element is discovered. I am firmly convinced by my experience in many cases that the neurotic predisposition, like the tuberculous predisposition, may be entirely eradicated by a proper system of training. The earlier in the life of the child special education is inaugurated the more effectually can the neurotic tendency be eliminated and the child converted into a strong and vigorous individual.

The diet of the neurasthenic child should be mainly

nitrogenous; there is no other form of diet which has so great a tendency to improve the development and facilitate the growth of the brain as nitrogenous elements of food.

It is maintained that in epilepsy a non-nitrogenous diet is an essential feature of the treatment. I do not believe this. It is true that in epilepsy, as in other instances of nervous diseases, the digestive powers of the individual are impaired and are unable to cope with large quantities of nitrogenous material. Nitrogen can be administered in moderate quantities, and as the health of the individual improves the quantity of nitrogen can be increased without intestinal putrefactive products resulting, a condition which, of course, should be avoided. But when properly given nitrogenous diet is certainly to be recommended as the form of diet for neurotic children.

A word of caution should be said in regard to overfeeding. Most children are given too much food; they are allowed to eat between meals of anything they please. In fact, after the age of five or six years little care or thought is given to the diet, the child being allowed in most instances to eat pretty much what he pleases. Most children apparently experience little harm from an unrestricted diet, though it is probable that in no instance can the digestive organs be abused for years without detrimental effects. But the supervision of the diet of the neurotic child is a matter of the utmost importance. A good digestion with nitrogenous food is essential to the child's proper development, and this should be insisted upon during his early years and impressed upon his mind as he reaches the age of understanding.

The moral treatment of the neurotic child is also of great importance. Many such children, as has been already stated, are fretful and nervous, being inclined to show peculiarities of character. These children more than any other require a firm restraining hand. They should be taught strict obedience. Harshness or punishment should be avoided when possible, but correction should certainly be used whenever necessary. Many parents who have epileptic children or those who show a neurotic taint in other ways are afraid to oppose them, give them their own way in little things and great things too, and indulge them in every way. The result of this course of treatment is only to increase the neurotic tendency. They more than other children need restraint, to be taught to practise self-restraint, to control their emotions, and above all things to learn obedience.

The mental training of the neurotic child should be carefully considered in each individual case. As a rule, up to the seventh or eighth year, sometimes even longer, the nervous system is developing rapidly. It is especially important during this period of

development that the mental application of the child should never be such as to produce mental fatigue or exhaustion. There is a strong tendency in many neurotic children to show marked avidity for learning, their memory is very retentive, and they usually acquire knowledge rapidly. Frequently parents and teachers are delighted by the brilliancy of such children and their mental processes are cultivated to a great degree. This is a mistake. Such children more than others need repression. They should be given very light mental work, and that only of the simplest kind. It does not mean that they are endowed with superior mental qualities; it is the evidence of disease and should be so regarded.

In general it may be said that the education of neurotic children should be very cautiously advanced, while the physical education should be regarded as a matter of paramount importance. Direct the physical training of the child so that he will grow up a healthy and vigorous man; leave his mental training until a condition of physical health is firmly established. *Mens sana in corpore sano* can with truth be said to apply to neurotic children. The mind of the child who has been developed into a hardy specimen will soon acquire knowledge, and rapidly, too, so that in a few years he will equal and surpass children whose mental training began at an early age.

I believe that the neurotic predisposition can be effectually eradicated by a proper course of physical training, conjoined with proper hygienic surroundings. With careful attention to the diet, sleep, various bodily functions, fresh air, and proper clothing, in addition to systematic, well regulated, and long continued physical culture, there should be no remains of a neurotic predisposition as the child enters into manhood. The physical culture of such children should be carefully conducted; where a moderate amount of exercise builds up, too much exercise breaks down. The age and physical condition of each child must be taken into consideration, and such exercises, preferably outdoor, should be followed as circumstances permit. Whatever those exercises may be, the proper point is their continuance with regularity for years. Practical experience has shown me that by the methods just suggested children of undoubted neuropathic tendencies may without the shadow of a doubt develop into perfectly healthy men and women.

Angina Due to Bacillus Megatherium.—M. H. Vincent (*Presse médicale*, July 26th) reports such a case. He points out that the same bacterium may find a focus of reproduction in the human species and, by its action, may determine a local infection. The pharyngitis in this case was benign and yielded readily to ordinary treatment.

Original Communications.

THE PASSIVE CARRYING FUNCTION OF THE ARM: ITS IMPORTANCE, ITS DESTRUCTION, AND AN OPERATION FOR ITS RESTORATION.*

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The normal arm is not a straight one. The forearm articulates with the upper arm at an outward angle of about 170 degrees instead of a straight line. Consequently the forearm diverges from the line of

average of about ten degrees from a right angle. (Figs. 1 and 2.)

This angular junction of the two segments of the upper limb is of considerable value in the mechanics

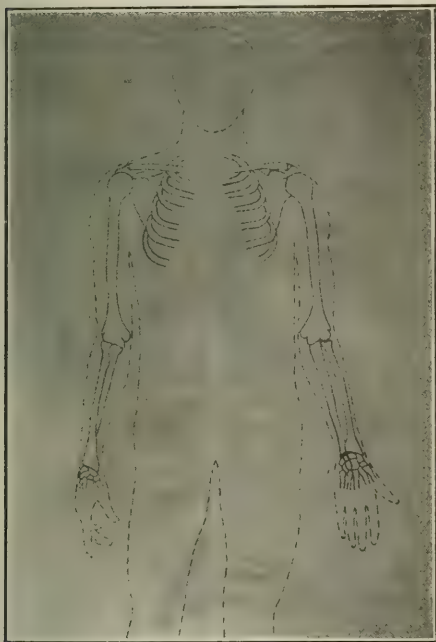


FIG. 1.—Diagram of normal skeleton. Forearms held from sides by lateral elbow angles.

the body when the upper arm is held parallel to it. This divergence of the forearm is due to the fact that the plane of the articular surface of the lower end of the humerus is not at right angles to the axis of the shaft, but that its inner extremity is lower than its outer, so that a line passing through it would form an inward obtuse and an outward acute angle with the shaft of the humerus, each varying on an

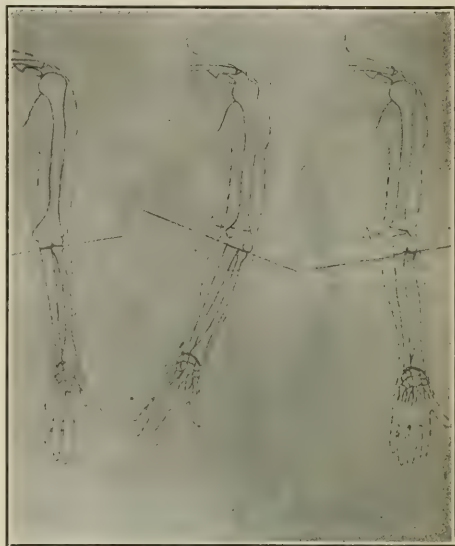


Fig. 2.

Fig. 3.

Fig. 4.

FIG. 2.—Normal arm, showing carrying angle. Articular surface of humerus faces slightly outward. Forearm joins upper arm at an outward angle.

FIG. 3.—Deformed arm before operation, showing loss of carrying angle. Articular surface of humerus faces slightly inward. Forearm joins upper arm at an inward angle. A, line of osteotomy.

FIG. 4.—Same arm after operation, showing new carrying angle above joint. A, triangular gap to be filled with new bone.

of the human frame, and its loss through any cause leads to inconvenience. Normally, weights can be carried in one or both hands with no more expenditure of muscular energy than that required in holding the hand closed; the only muscles used being the flexors of the hand. The upper arm remains a passive agent, and the weight is held away from the thigh by the outward angle at the elbow. (Figs. 1 and 7 and left arm of Fig. 5.)

Destruction of this outward, or "carrying," angle may be brought about by various elbow fractures, by distortion from rickets, or by anything that changes the direction of the articular surface from one facing slightly outward to one facing directly downward or slightly inward. In the latter case the normal angle would be reversed, and open inward instead of outward, giving rise to the condition commonly known as gunstock deformity, or cubitus varus. (Figs. 3, 5, and 6.)

That this deformity is a common result of fracture at the elbow is evidenced by its frequent men-

* Read before the American Orthopædic Association, at Philadelphia, June 7, 1902.

tion and illustration in many of the works on surgery, including even the old ones.

Allis¹ taught that its usual cause was fracture through the internal condyle and trochlea with up-

ward displacement. Later investigations seem to show that it is most frequently due to supracondylar fracture. However, Allis, by his classic writings,

the first to suggest rational means for its prevention. When the passive carrying function is lost a substitute must be provided to prevent a weight carried in the hand from striking the thigh and interfering

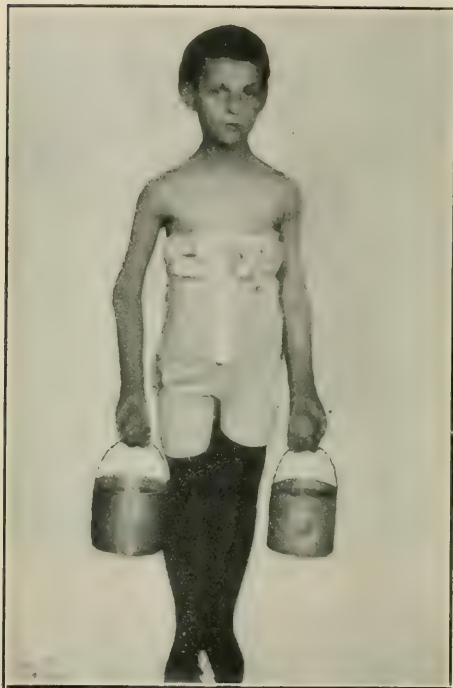


FIG. 5.—Before operation. Bucket in right hand kept from crossing thigh by action of shoulder muscles. That in left, by normal elbow angle.



FIG. 7.—After operation. Bucket in right hand kept from crossing thigh by new carrying angle above joint. Some thickening above elbow from callus.

ward displacement. Later investigations seem to show that it is most frequently due to supracondylar fracture. However, Allis, by his classic writings,

with locomotion. The only device at the disposal of the human machine to compensate for the loss of this normally passive function is muscular activity. The



FIG. 6.—Right arm before operation



FIG. 8.—Right arm after operation

caused it to become generally recognized, and was

muscle best adapted to assume this function is the deltoid, which carries the arm directly from the side. In this action it receives assistance from the supra-

¹Quoted in *Annals of the New York Academy of Medicine and Surgery*, Brooklyn, Vol. II, 1880, No. 8.

spinatus. It is further assisted by the trapezius, which elevates the point of the shoulder. If one considers the relative positions of the shoulder joint, the attachment of the deltoid to the humerus, and the hand carrying the weight, it will be plain that the deltoid is acting at a great disadvantage; in fact the mechanism is that of a lever of the third class, in which the power is placed between the weight and the fulcrum. In this mechanism the upper limb is the lever and the head of the humerus its fulcrum. The power is represented by the attachment of the deltoid into the humerus, and the weight (or resistance) by the hand and its contents. As the distance from the weight at the hand end of the lever to the head of the humerus, or fulcrum, is about four times that of the humeral insertion of the deltoid, or power, to the same point, every pound held in the hand will exert about four pounds of pull upon the deltoid. Consequently, even a small weight will be a considerable burden to carry in this manner. That even the weight of the limb alone held a few inches from the side for several minutes is tiring, can be readily proved by simply trying it. Fig. 5, a photograph of a child whose right arm shows a gunstock deformity, illustrates the action of the deltoid and trapezius. It is of interest to note that, despite this action, the bucket on the deformed side is held in contact with the thigh as if to give the shoulder muscles as little work as possible. The weights employed here were about three pounds each.

Even in walking without weight carrying, the deformity would be a source of annoyance; for, if the arm were allowed to hang at the side, the hand would tend to cross in front of the moving thigh, from which it would have to be held by action of the shoulder muscles. It is curious and worthy of note that deformity of the elbow should lead to strain not at the elbow, but at the shoulder.

Flexing the elbow and rotating the arm outward also would suffice to carry the hand away from the thigh; but this would lead to even greater muscle exertion than the shoulder action.

The passive carrying function is one of considerable importance, and its loss no small deprivation.

Gunstock deformity not only leads to interference with the carrying function, but is also unsightly and causes awkwardness in using the arm.

The writer recently performed an operation that he had for some time contemplated resorting to in the first suitable case that presented itself for treatment. The patient, aged ten, had a typical gunstock deformity of the right arm following fracture and upward displacement of the inner condyle sustained nine months and a half before. (Figs. 5 and 6.)

One method of treatment that naturally suggested itself was to loosen the misplaced condyle from its abnormally high attachment and bring it with the

attached ulna into the normal position. But, as the patient could fully extend the elbow and could flex it to beyond a right angle, I feared that a bone operation involving the joint might interfere with one or both of these motions.

As the misplaced condyle produced the deformity by changing the plane of the articular surface of the humerus from one facing slightly outward to one facing slightly inward, the conclusion was reached that an operation reversing the articular plane to its normal direction would suffice to correct the fault, and that this operation could be performed without interfering with the joint surfaces.

Several methods presented themselves, but I chose what appeared to be the simplest and made a section of the humerus just above the inner condyle at the point marked A in Fig. 3 and bent the forearm with the lower humeral fragment outward, which left a triangular gap to be filled with new bone. (See A in Fig. 4.) This established a new carrying angle above the joint, which, for practical and cosmetic purposes, served as well as did the original one at the joint.

The result, while not an anatomical restitution, was functionally a good one. This I think the photographs show. (Figs. 7 and 8.)

I operated by the open method for fear of wounding the ulnar nerve. In a normal arm this nerve could be readily avoided during a subcutaneous osteotomy as the ridge formed by the internal intermuscular septum, behind which the nerve lies, would serve as a guide. In the case related, however, the septum was much relaxed by the elevation of the condyle and could not be readily outlined. This made it safer to carefully dissect through the soft parts before making section of the bone, which was then divided with a three-eighths-inch Macewen osteotome and mallet. The fragments were neither wired nor nailed, and the wound was closed without drainage. The arm was bent to correspond in contour as nearly as possible to the normal one, and was fixed in extension, by a plaster of Paris dressing. At the end of the third week, good union being present, the plaster splint was removed but the child was not allowed to carry weights for six weeks thereafter.

When performing this operation it is well to remember that the musculospiral nerve lies to the outer side of the humerus. To avoid injuring it the bone should be cut only three fourths through and then broken. With ordinary care there is little or no danger of wounding the brachial artery or median nerve.

The reasons for dividing the bone from the inner side are: First, any operation on the outer side may directly or indirectly involve the musculospiral. Second, after simple section from the inner side the bone is broken in a direction away from the cut and toward

the position of correction. This will leave an unbroken covering of periosteum on the outer side. Third, simple section on the inner side will give a longer arm than a cuneiform operation on the outer. That the triangular gap left by separation of the bone surfaces will invariably be filled with new bone is well demonstrated by the results of innumerable similar operations performed for bow-legs and knock-knee.

An explanation of how the diagrams, Figs. 2, 3, and 4, were made, may be of interest. First, Fig. 2 was drawn to represent a normal arm. Then the inner condyle and trochlea were cut through and the fragment with the forearm attached slipped upward. This was retraced and all sharp projections rounded, and the result was Fig. 3. This in turn was divided above the elbow at the point marked A, and the forearm carried outward. A tracing of this gave Fig. 4. Thus it will be seen that the diagrams accurately represent the case here reported. It is astonishing how closely the diagram of the corrected arm resembles that of the normal one, also, that the lengths of the two are equal. Examination of the photographs will show that the same occurred in the living subject.

At the time this report was written, the writer believed that his was the first operation ever performed for the relief of gunstock deformity. This belief was founded upon his inability to find reference to it in the mass of literature then at his command and upon negative replies to diligent inquiries made of numerous surgeon friends.

Within the past few days, however, he has learned that several surgeons, each independently, have performed operations for the relief of this deformity.

Tilanus² operated in one case, dividing the humerus from its *outer* side. This was followed by temporary paralysis of the musculospiral nerve.

G. G. Davis³, one of our members, operated in three cases with satisfactory results. In two an electric drill was used to divide the bone; in the third he used an osteotome. The division in each case was made from the inner side.

Brackett, in a case of severe gunstock deformity following elbow fracture, performed an open cuneiform osteotomy from the outer side, with good result. This case is cited by Cotton in an exhaustive paper on Elbow Fractures in Children.⁴

The risks of operation should be very small. Very few ill results have followed the thousands of osteotomies performed for the correction of bow-legs and knock-knee. Macewen⁵, in 1884, collected 1,384

cases of osteotomy of the femur, in three of which the patients died after operation. With our improved method of asepsis, fatalities should be reduced to practically nothing.

705 NORTH CHANNING AVENUE.

A HARELIP INCISION.

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For many years I have been seeking to find or devise an incision for the operation for hare lip that

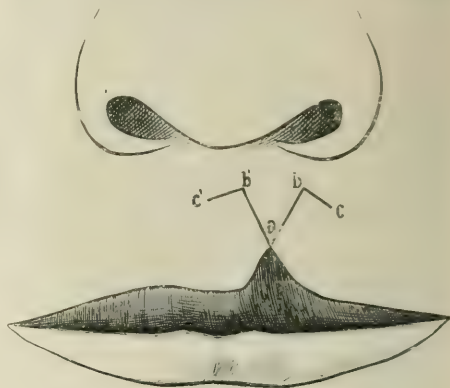


Fig. 1.

should conserve the whole of the red border and also avoid the sacrifice of any of the tissue of the lip above the natural red border.

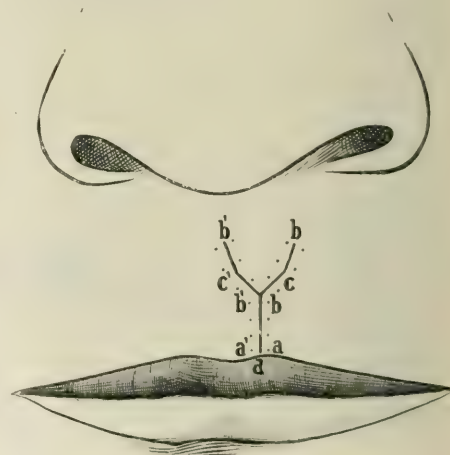


Fig. 2.

Rose's incision preserves most of the red edge, but his method of treating it shortens it considerably

¹ Deutsche Zeitschrift für orthopädische Chirurgie, 1891, vol. ii.

² Annals of Surgery, January, 1899.

³ Annals of Surgery, March, 1902.

⁴ Lancet, September 27, 1884.

⁵ Lancet, September 27, 1884.

and sacrifices a considerable amount of the tissue above.

Nélaton's operation is applicable only to the simple notch, and results in the objectionable feature of



Fig. 3.

projecting the white skin into the red border of the lip.

Giraldès's operation sacrifices a large portion of



Fig. 4.

the red margin, but in one part it gave me a hint which aided me in planning the incision which I describe in this paper.

I have found no others that seemed at all to approach a true solution of the problem.

In 1890 I used a horizontal incision in the body of the lip and drew down the lower portion, thus converting the horizontal into a vertical incision, to correct the deforming notch so frequently existing after operations for harelip. [This proved very successful, but it was rather difficult fully to approximate the extremities of the incision. I have also successfully applied it in doing primary operations. By the use of it I was able to conserve all of the red border and fully to correct the deformity. A description of this was published in the *Proceedings of the Maine Medical Society* for 1890.

During the past year I have had a case of primary notch in the lip complicated with a cleft palate. The palate was closed by the method which I have previously described in the *International Dental Journal* of September, 1898. To correct the deformity of the lip, I applied a modified form of the M incision, as is shown in the accompanying cuts. The diagrams, Figs. 1 and 2, explain the operation. Commencing at the red border at *c*, I cut obliquely upward, making the incisions *ab-ab'*, the length of the dotted line *a-d* being the length needed to correct the notch. Then at *b* I cut downward at right angles to the incisions *ab-ab'*, which, being of one half the length of *a-b*, when straightened out will just approximate the line *b-c* with *a-b*. Then, drawing down the point *a*, Fig. 1, to *d*, Fig. 2, the lines *ab-ab'* will be approximated, *bc-bc'* will meet *ab-ab'*, giving the result as shown in Fig. 2.

Fig. 3 shows the lip of the patient as Nature produced it; also the lines of the incisions.

Fig. 4 shows the same after operation.

Postoperative Leucocytosis.—Dr. Herbert Maxon King (*Transactions of the Chicago Pathological Society*, May 12 and June 9, 1902) arrives at the following conclusions as the result of observations made to establish a standard of leucocytosis in nonseptic postoperative wound repair, a departure from which would indicate sepsis:

1. An increase of from 5,000 to 10,000 leucocytes per cm. following operation in from six to thirty-six, or even forty-eight hours, is a normal postoperative condition, provided it is not sustained.
2. Probably the maximum leucocytosis in the majority of cases occurs within the first twelve hours after operation, and is very transient.
3. The leucocytosis in the normal reparative process bears but slight relation to the pulse and temperature.
4. A leucocytosis of 10,000, or more, above the individual normal, sustained for more than a few hours, may be looked upon with suspicion.
5. The apparent increase in number of erythrocytes following operation is not caused by an actual increase of red cells in the circulating blood.

RADIOLOGICAL DIAGNOSIS OF A CASE OF TRAUMATIC PERIOSTITIS.

By CHARLES VERGE, M. D.,

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The accompanying radiograph represents a typical case of periostitis as affecting the first phalanx of the fifth finger after the knocking of the latter against a very hard body. Pain was actually very

characteristically defined. This contusion, though of a serious nature at first, has not developed any suppurative complication, and recovery is now certain without the danger of necrosis to be feared, the patient, on the other hand, having no tuberculous tendency or heredity to interfere with a favorable prognosis. The length of exposure was one minute, using a self-regulating high vacuum tube, worked by my 8-plate static apparatus.

GYNÆCOLOGY AND THE COUNTRY DOCTOR.*

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So far as we are permitted to know, it was never planned by a wise and beneficent Providence that

every general practitioner of medicine should be an expert gynecologist, but it surely must have been included in the general scheme of usefulness that, when occasion demanded he at least should be in possession of superficial knowledge concerning the whys and wherefores of genital lesions and be prepared to institute a proper course of treatment. I would not have it understood that I advocate the dipping into this specialty by every general practitioner who has time to spend or patients willing to be experimented on. On the contrary, those located within convenient call of a gynecological specialist, in a city or large town, for instance, would do better to employ their time along different lines; but it is the legion of country doctors, for the most part absolutely dependent on their own knowledge and skill, to which this should apply.

Everyone knows that the family doctor in a country district must possess and be ready to apply more varied knowledge than the city doctor, and he is not to be blamed if, of

necessity, certain phases of this knowledge are not distributed in equal proportion with the

* Read before the Fifth District Branch of the New York State Medical Association.

pronounced on pressure even several months after the injury took place, *i. e.*, at the time the patient was taken to my office to be placed under the rays. The inflammatory rugosities are here clearly and



rest through his gray cells. Taking into consideration the variety and scope of his duties, this could not well be otherwise, and all credit is due to him for what he has accomplished and is accomplishing every day, but when, with ambition in every way commendable, he sets about brushing up in certain branches, it is a curious fact that the study of gynæcology apparently is the one most superficially pursued. Unless he is consumed by that rare ambition to get to the bottom of things and learn all that is to be learned, which animates the comparatively few after a long period of active work in general medicine, he treats symptoms only, and at this point he is willing to rest. There is no lack of ability on his part to grasp details, no lack of earnestness or strength of purpose, perhaps, but he simply fails to go to the root of things and determine the primary cause of the lesions, forgetting that it is on a foundation of aetiology only that a superstructure of rational treatment and prognosis can be erected.

At practically all but the largest and most important undergraduate medical schools in this country the teaching of gynæcology is confined almost exclusively to didactic lectures and amphitheatre operations and demonstrations, practical work by the student being almost an unknown quantity; in a majority of the post-graduate schools the teaching is apt to be far over the head of the average student, and is unusually very unsystematic. The day of the purely didactic lecture in medicine, however, is rapidly passing, and it will not be long before those undergraduate institutions which follow old methods must fall in line and revise their curricula or be relegated very much to the rear. Practical laboratory and clinical work by small sections of classes at a time, each student coming into close personal contact with his teacher, and having the benefit of the latter's constant supervision, is yielding such eminently satisfactory results that the adoption of the method marks a distinct advance in every branch of teaching. Extended to the teaching of gynæcology, this improved method should consist of systematic drilling of the student in diagnosis on the living subject; of a thorough course in microscopic work, in which normal as well as pathological sections are made the subject of study; of oral examinations or quizzes at very frequent intervals, embracing every portion of the subject recently gone over; and of the study of wet specimens, both normal and pathological. Methods of treatment should figure largely in the clinical work, and when possible, students should be given opportunity to follow the effect of treatment in illustrative cases beyond the classroom. Advanced students should be permitted to assist in the performance of major operations, and, in selected instances, should be allowed to perform those of a minor character themselves under

the supervision of the teacher and his assistants.

There is no good reason why ordinary post-graduate work, as far as the average general practitioner is concerned, should not be carried out along the same lines, and in colleges and special schools of the first order this, to a great extent, is the method pursued. In this country, in schools equipped solely for post-graduate teaching, a very small percentage of the students, it is to be remembered, follow a particular line of study with the object of perfecting themselves as specialists. The bulk of the attendance at such institutions is of general practitioners who wish to "brush up" in all departments, at the same time, perhaps, devoting particular attention to one special branch. It is to this class that systematic instruction is of greatest value, a fact that is too frequently ignored by those who hold the clinics. By teaching "over the head" of the average post-graduate student, I mean that the teacher nearly always takes it altogether too much for granted that his listeners have been well grounded in the principles of a particular branch, and that he, therefore, fails to enter sufficiently into the details of his subject. This is particularly likely to be true when a large number of patients is present at the clinic, necessitating rapid and more or less cursory attention to each in order that the routine work may be completed in a specified time.

At a majority of post-graduate schools the teaching of gynæcology is entirely of a practical or clinical nature, didactic lectures not entering at all into the scheme. A very evident result, at some of these schools, is that there is a lack of uniformity or consecutiveness of method in such teaching, and that the facts imparted to the student are those picked almost at random from suggestions offered by the case in hand. The class of ailments most in evidence at a clinic, therefore, almost entirely indicates the direction and scope of the instruction. It may be argued that this kind of clinical work is exactly that of which the average post-graduate student stands most in need; that it is the commonest forms of pelvic lesions that he will be called upon to treat in the course of his general practice; that, so long as he does not intend to devote his time and talents exclusively to the practice of gynæcology, circumscribed knowledge on his part is all that is necessary or advisable. An argument such as this is without meat. No material or ethical good was ever yet accomplished in any walk of life by effort to limit knowledge in any direction. A six weeks' or three months' course at a post-graduate medical school will not serve to make of even the most earnest of workers a competent specialist in any branch of medical work, of course, but close application and a sincere desire to learn will pave the way admirably for future reading and other work which,

in the end, will be productive of most desirable results, especially in the case of the country doctor who aims to include gynæcology in his general practice. And for this reason the work, on the part of the teachers, should be systematized to the last degree. Indeed, it is a debatable question whether, in many instances, it would not be well to resort to the now under-the-ban didactic lecture in order to supplement or lead up to the practical demonstrations, that the subject in hand may be fully gone over. Unless some such plan is adopted, consecutiveness and thoroughness are out of the question.

As far as the receptivity of these general-practitioner post-graduate students is concerned, and their ability to desiccate opinions and reserve for future use only what appeals to them as being best, it is to be remembered that, in the light of their practical experience in gynæcological work, the majority stand but slightly in advance of the third- or fourth-year undergraduate medical student, and whatever they listen to from the benches should, as far as possible, be unargumentative. That this phase of post-graduate teaching should be largely elementary in character can easily be demonstrated. In a class numbering nearly seventy I once succeeded in discovering but a bare half-dozen who understood the proper technique of a combined vaginal-abdominal examination, and but a small proportion of the class could satisfy me as to the soundness of their knowledge of the normal relative position of the uterus and ovaries. During an entire winter session, a year or two ago, not one student in any of my operative classes could explain the principles involved in the use of the Smith-Hodge pessary. It had probably never occurred to any one of them that the uterosacral ligaments and vaginal attachments played a very important rôle in the usefulness of this instrument, and each supposed that the uterus was held up from its abnormal position by the innate strength of the pessary itself. It has been very seldom that any member of a class could palpate the ovaries in more than five per cent. of uncomplicated cases, and even in those instances in which success crowned his efforts, it was more a matter of accident than anything else. And this was simply because it had not been thought necessary to explain to any one of them that, the ovaries being in what we are supposed to think is their normal position, a finger hooked under the uterosacral ligaments invariably would fail to reach them. Yet, as regards knowledge of the progress of general medicine, these men were an exceptionally well informed lot, and probably every one could have detailed the most up-to-date treatment of typhoid fever, or made a microscopical blood examination in a manner above criticism.

Now as to operative gynæcology. It may be ar-

gued that the great majority of country doctors would do well to leave this branch alone also, but is it equally well that, in hundreds of cases, minor lesions of the genital tract should be allowed to exist as the chief factor of invalidism, because the local doctor is not an expert operator? Nine out of ten of his patients are not so situated pecuniarily as to permit of a journey to a specialist, and perhaps a protracted stay in a hospital or sanitarium. No sensible reason exists, therefore, why the country doctor should not learn to perform these minor operations himself, at the patient's home, if necessary, and thus give her a chance of recovery of health and happiness. The question of his entering the arena of abdominal surgery under any or all circumstances, perhaps, is a debatable one. My experience has been that the proportion of men so situated, competent to attack major surgical conditions in the abdomen, is small. Lack of proper training, as well as of practical experience in this important line of work, begets lack of confidence and lack of skill. On the other hand, some of the most brilliant abdominal surgery that has come to my knowledge has been performed by certain country doctors in negro cabins in the South, and on isolated ranches in the Far West—results that could not have been improved on in the most gorgeously appointed operating rooms in New York or elsewhere.

But the training for surgical work should be thorough and systematic, and can be obtained in only one way—as an assistant to a good operator. No first-class surgeon was ever yet evolved as a result alone of the study of text-books. No matter how precise the directions for an operation may be in a given case, some detail or details will invariably be overlooked, or the directions will not fit the case to which the operator wishes to apply it. How many would-be operators could seat themselves before a patient, with an open text-book beside them, and correctly perform one of the classic plastic operations on the vaginal wall? Nor is this an experiment that has not frequently been tried. I have known of the urethra being closed completely by the introduction of the purse-string suture in Stoltz's operation on the anterior wall, and could cite more than a score of instances in which the size of the vaginal entrance had been so reduced by attempts to follow out text-book instructions in operating that the canal would not admit the end of a lead pencil. As a matter of course, each pathological condition necessitating correction is a case unto itself, and text-book rules merely apply to the generality in the way of laying down principles. To illustrate how imperfectly this fact is understood by certain general practitioners, however, and especially by some contemplating an onslaught on the citadel

of gynæcological surgery, I may say that in almost numberless instances I have known men to follow so strictly the printed directions that, with a tape, they have measured off the area on the vaginal wall to be denuded, so that there could be no possibility of error!

In every case operative surgical work on the cadaver should occupy a large share in the instruction course of the would-be gynæcologist, and, as a preliminary, the anatomy of the pelvis should be thoroughly studied by means of a carefully performed dissection. It is of immense advantage to the student if the cadaver is well injected with a thin mixture containing colored plaster of Paris previously to the beginning of the dissection.

Operative surgery on the cadaver is necessarily very different from like work on the living subject. Lesions for the relief of which one would operate are not present; in other words, the imagination of the operator must be active to supply the defect. Therefore, speaking broadly, cadaveric work of this character, aside from acquainting the student with the use of instruments, if properly conducted, is chiefly valuable for what it teaches one to avoid on the living subject. And here, again, system is of the greatest importance. In the first place, the work should be carried on by small classes under the guidance of a competent teacher, and effort be made that the operations resemble as nearly as possible those on the living patient. Uncorrected errors in technique on the dead are very liable to develop into grave mistakes on the living.

The plan of teaching I have pursued with my operative classes during a number of years is, briefly, as follows: The operative technique is carried out on two formalin-injected cadavers. In addition, a carefully injected section of a normal female cadaver, including the pelvis and lower vertebræ up to the tenth dorsal, is used for illustration. This specimen, which is preserved in a one-and-a-half-per-cent. formalin solution when not in use, serves to demonstrate the normal position of the pelvic organs and blood vessels, the kidneys and ureters, the distribution of the pelvic peritonæum, and the external genitalia. The value of such specimens in work of this kind cannot be overestimated. I also have a large number of charts depicting regional anatomy, steps in different operations, normal and pathological conditions, etc., which are freely made use of at all times during the progress of the work. Students are encouraged to ask as many questions germane to the subject in hand as may occur to them, as a teacher in this way may almost invariably get to know the weak points in the knowledge of his listeners and may elaborate particular portions of his subject accordingly. At the initial meeting of a class every portion of the wet specimen is very

carefully studied in detail. The relations of the various parts to each other, the blood supply, the origin, insertion, and function of the uterine ligaments, the course of the ureters, the relative planes of the vaginal and rectal canals—in fact, every essential feature which will assist in an understanding of what is to follow. Although hardly to be considered as coming under the head of “operative gynæcology,” I am in the habit of then demonstrating fully the best method of making a digital examination of the pelvic contents by way of the vagina. This part of the instruction, I have found, is always greatly appreciated by the students. Surely, with students looking for themselves into an open pelvis, a demonstration of the manner in which rigid uterosacral ligaments may limit the area of motion of an examining finger in the vagina helps more in two minutes to a correct knowledge of the anatomy of the parts than any amount of text-book study!

Next, the use of specula, sounds, curettes, and the several kinds of pessaries is demonstrated, and each student, in turn, applies them under the direction of the teacher. The greater portion of the second lesson is taken up by an exposition of the anatomy of the floor of the pelvis, the function of the perineal body, and the ætiological factors entering into prolapsus of the vaginal walls. On the subject of ætiology I lay particular stress. Indeed, I consider it vastly more important that a student should possess a thorough understanding of the *cause* of a morbid condition, and so know just *why* he is to operate, and just *what* he may expect to accomplish by operation, than that he should be unusually expert in the handling of instruments or succeed in bringing about a “picture-book” result, as far as the eye is concerned. Then the proper method of handling and caring for instruments; the use of curved needles (which, by the way, not one beginner in ten can properly handle); suture- and ligature-materials; methods of denudation; dressing of the operation wound; removal of the sutures—in fact, all that is necessary to a complete understanding of an ordinary operative case—are explained in detail. The aseptic precautions to be observed during an operation and the preparatory and after-treatment of the patient are not touched upon to any extent, as these details may be learned elsewhere.

My experience has shown me that if the mechanical steps of each operation are demonstrated twice, first, by means of drawings on a blackboard, and then by actual work on the cadaver, the details will be more accurately remembered by students than if the first demonstration is omitted. Frequently, a point that is not made perfectly clear in the first explanation will be understood when the actual operative work is begun, and so becomes more fixed in

the mind of the student. As one member of the class operates, one or more others assist, under the constant supervision of the teacher, and in this way an effort is made to instruct the men in all that constitutes effective assistance at an operation. The axiom that one is never competent to operate until he has learned to be a good assistant is nowhere more aptly illustrated than in this kind of work.

The most practical plastic operations on the posterior and anterior wall are performed in turn, and then follow the several operations on the cervix. Next, the posterior cul-de-sac is opened and an examination made of the pelvic contents and the method of operating on the annexa by this route illustrated. Symphysiotomy, Alexander's operation for shortening the round ligaments, ventrofixation and ventrosuspension, excision of the breasts, appendectomy, ovariectomy, and suprapubic panhysterectomy follow in turn. On the second cadaver many of the more important operations are repeated, in order to fix the details in the minds of the students, and several additional methods demonstrated, and the course ends with the performance of vaginal hysterectomy. From ten to twelve sessions, averaging three hours in length, are required for the work. The taking of full notes by the students at each meeting of a class is always encouraged. They are also expected to visit the different hospitals whenever an opportunity occurs, in order to witness the methods of well known operators. One result of this step is that their freely expressed comments on operators and operations serve to bring out clearly what they themselves have failed to grasp in the way of technique in a given case.

As a matter of course the personal equation counts for much in a teacher and in his methods, and the favorable or other impression that he makes on his students will determine the value of his work. Slipshod, unsystematic methods, carelessness of detail, and, above all, lack of patience and consideration will nullify the best intentioned efforts of any would-be teacher, no matter what his fitness may be considered to be.

381 WEST END AVENUE.

THE ADMINISTRATION OF CHLOROFORM AND ETHER.

By HELEN HUGHES, M. D.

MANKATO, MINN.

The practical point in the use of chloroform and ether turns on the comparative power of resistance of two vital centres, that of circulation and that of respiration, and the duty of the anæsthetist is to hold the patient delicately poised on that shadowy border line that divides surgical anæsthesia from death.

The Commission of Hyderabad concluded from animal experiment that respiration failed first in chloroform anæsthesia, but the consensus of opinion in the medical world at present is that, however correct they may have been in regard to the lower animals, in man the seat of greatest danger is, with chloroform, in the heart, and with ether, in the respiration. Dumont, an accepted authority in medico-legal matters, held that in fatal cases the physician in charge was guilty if ether had been given in cases of severe pulmonary lesion, or chloroform where there were serious cardiac complications.

In all cases where there is no contraindication the bulk of testimony is in favor of ether, but there are occasions where the life of the patient depends on the proper selection of the anæsthetic. A patient may have a heart that indicates chloroform, but the respiratory organs may be in such a condition that it becomes a matter of choice between two evils, or a weak heart may be accompanied by diseased kidney, making ether nephritis to be feared. Atheromatous vessels may preclude the use of ether where other conditions call for it. This latter condition is one in which chloroform can be used in the first stage and the narcosis continued with ether. In operations about the mouth or nose chloroform is preferable, as it can be remitted for longer periods without symptoms of returning consciousness; it also produces less salivation. Chloroform gives better results in confinement cases, especially where continued narcosis is not desired, but a dulling of the sensibilities during uterine contractions—it acts more quickly and produces greater relaxation. If deep narcosis is desired, a choice should be made as in any other case.

Another important factor in determining the choice is the relative freedom of the two drugs from impurities. In this matter ether has the advantage: it is dispensed in the original package, protected from light, and is not apt to contain poisonous products from its manufacture. With chloroform there is the possibility of contamination from highly poisonous compounds of methyl. It is broken up by sunlight into chlorine, hydrochloric acid, formic acid, and other deleterious compounds. Notwith-

A Home for Inebriate Women.—The Canadian government has been petitioned to establish cottage homes in Ottawa for inebriate women. It states that in the city of Ottawa intemperance among women and girl prisoners has increased to the alarming extent of 75 per cent., and that women in many cases of about the age of 20 have been incarcerated for drunkenness or for crimes committed while under the influence of drink. Imprisonment to check this evil has proved an utter failure, as there are women in a brief life of 40 years who have spent twenty years in jail.

standing this, it is dispensed carelessly, often in plain glass bottles, and allowed to stand on shelves or in instrument cases for days before use. More deaths have occurred from the use of impure chloroform than the profession is aware of. It will break up in the same manner, only more readily, when exposed to naked artificial light, but does not burn easily; in this it has the advantage over ether, which ignites readily and has been the cause of serious accidents. A simple test is to wet a piece of pure Swedish filter paper with chloroform and allow it to evaporate; an acrid odor remaining indicates some impurity. This is a simple and useful test.

The choice of drugs is sometimes controlled by the ability of the doctor to give one better than the other. Such a physician should realize that a very important part of his medical education has been neglected, and apply himself to the study of that branch of his profession as soon as possible. A doctor does not practise long, especially in small towns or country places, before he is called upon for this duty, and circumstances will not always indicate the drug that he knows best how to give. Let us hope that the day has arrived when no respectable medical school will graduate students who are not competent to administer either anæsthetic.

The examination of the patient should be the duty of the physician undertaking the responsibility of producing anesthesia, rather than of the surgeon, that he may work from personal knowledge of the conditions. The examiner should obtain a knowledge of the general health and as accurate information as possible on the condition of the lungs, heart, and kidneys. He should be aware of the existence of phthisis, bronchitis, old pleuritic adhesions, obstructions in the larynx, adenoid growths, enlarged tonsils, collapsible nostrils and bony or tumid obstruction in the nose, aneurysm, atheromatous vessels, valvular murmurs, hypertrophy of the heart, enlargement of the liver, or albuminous urine. The conditions that preclude the use of an anæsthetic are more of degree than of kind. Narcosis has been produced without accident in cases of tuberculosis of the lungs, marked valvular lesion, and advanced nephritis, but, broadly speaking, every departure from health increases the risk in direct ratio to its extent, and the safety of the patient depends on the thorough knowledge of his condition.

Some patients show an unstable condition of the centres governing the vasomotor system; they flush and pale readily and make poor subjects for an operation, as there may be sudden dilatation of the large vessels of the abdomen, causing anæmia of the brain, with collapse, upon the handling of some sensitive organ or an unlooked for rise of blood pressure following the contraction of these same vessels. Others suffer from embarrassment of the respiration on

excitement; these peculiarities should be known to the anæsthetizer.

A patient about to take an anæsthetic should have the stomach and bowels emptied as thoroughly as possible. As the terror of the approaching operation usually interferes with digestion, he should be allowed only light, easily assimilated food the day before. To a patient who does not come to the operating room before ten or eleven o'clock a bowl of clear soup will do no harm, but will prevent that depression that comes from fasting. The clothing should be comfortable without any constricting bands, false teeth removed, fears quieted more by the manner of the doctor than by words. No time should be lost in the preliminaries, yet all appearance of haste avoided.

There should be in readiness:

Hypodermics of strychnine, 1/30 of a grain for an adult; saline infusion apparatus; sponge holder and gauze, towels, tongue forceps, rubber tubing, oxygen apparatus.

Any complicated apparatus should be tested beforehand to see that it is in working order, lest at a critical moment valuable time be lost in finding out that it is not available.

The most desirable method of applying either anæsthetic is by an Esmarch mask. For ether several piles of gauze may be laid over the original cover as occasion demands. The anæsthetic is given very slowly, drop by drop at first, as it takes the system some time to regulate itself to the new order of things, but slowness should never degenerate into dilatoriness; the narcosis should be progressive from the beginning. The struggling of the patient should not be encouraged by attempts to subdue it by physical force, but the mask should be kept as steadily as possible over the face until the stage of excitement is past.

At first both pulse and respiration are accelerated, but as narcosis deepens the pulse becomes slower, though still retaining a good volume; respiration becomes shallower as the auxiliary muscles go out of use, and the temperature falls. The pupils, at first dilated partly through excitement and partly through stimulation of the sympathetic, regain their normal size. There is sometimes snoring from paralysis of the pharyngeal muscles, also the cheeks may go in and out with a flapping sound; this is a sign of deep narcosis. Our guide to the existence of surgical anæsthesia is the disappearance of the corneal reflex. The patient may now be held in a state of narcosis by a very small amount of anæsthetic, especially after the skin incision has been made. The anæsthetist should have a sufficient knowledge of the various steps of the operation to prevent his patient being surprised in a light sleep by some painful procedure, such as the division of a nerve trunk

or the stretching of a sphincter, or being held in deep narcosis unnecessarily. The surgeon will give the word when the anæsthetic can be suspended, and the duty of the anæsthetizer is fulfilled when the patient has awakened and shown signs of returned reason. As to the amount of anæsthetic given, the rule common to all drugs has full force here—just enough to produce the desired result, and not one drop more.

The accidents that are apt to occur during narcosis are very numerous. From the moment the first drop is applied to the recovery of consciousness, the patient is balanced on the threshold of death, with mistake and chance waiting to decide the odds against him. If any doctor has a false confidence that his patient will pull through because the last one did, let him remember that few have given an anæsthetic to any great number without meeting their Waterloo, and every case brings him that much nearer his fatal one. He may, like Nussbaum, have 15,000 cases without a single death or, like Billroth, meet with his first fatal case after an experience of 12,500, or death may meet him with his first patient, and it will be well for him in that hour if his own conscience clears him of blame, for it is the only tribunal on the wide earth where he can hope for acquittal. There are few accidents that rouse such unreasonable wrath against a doctor as death under these circumstances. As a general rule, prophylaxis here, as in the other departments of medicine, is the great consideration, and to this end the doctor must watch with untiring zeal the trinity of signals that warn him of approaching danger—the pupils, the pulse, and the respiration—also the color of the face, ears, and nose and the general expression.

Death may occur at any period—after the first few whiffs, in the middle of deep narcosis, at the end of the operation; it has occurred from fright before any anæsthetic was administered, as in the case of Desault's, who was about to perform a lithotomy before a number of spectators. He drew his finger along the perinæum in the course of the intended incision, when the patient uttered a loud cry and expired. Simpson lost his first patient to whom he intended to administer chloroform in practically the same manner. If the anæsthetic is administered with special care as to its admixture with air, the earlier accidents of narcosis will in great part be avoided. Patients should not be urged to breathe deeply, but an effort should rather be made to draw their attention away from the act, that it may be performed in a natural manner. If there is holding of the breath, either from reflex or intention, the mask should be taken away from the face until regular breathing is again established. Accidents may occur when after prolonged expiration, the patient takes a deep breath,

flooding the system with the anæsthetic before any degree of tolerance is acquired.

Other respiratory accidents are spasm of the jaw when the nose is occluded, œdema of the glottis, closure of the epiglottis, falling back of the tongue, and obstruction from vomitus. The symptoms are those of asphyxia. Heart failure is denoted by change in the pulse and in the color of the face, which becomes bluish or waxy white, and by the sudden dilatation of the pupil; the symptoms are those of syncope.

In all cases of accident the inhalation should be at once suspended and the cause quickly sought for. It is just here that a thorough knowledge of the patient is so essential. It is related that anæsthetizers who never saw their patient before have assiduously watched the pupil in an artificial eye or tested the relaxation in a paralyzed arm that had not contracted for ten years. If the jaws are closed rigid, in a patient who has complete nasal obstruction, prying them open will relieve the symptoms, or if the nostrils have collapsed, they should be opened with the handle of a scalpel and a piece of rubber tubing inserted to keep them open. If the epiglottis has closed, it can be hooked back with the forefinger; in the same way vomitus can be removed in most cases, but if this is impossible or if there is œdema of the glottis, tracheotomy may be indicated. The relaxed tongue can be replaced by lowering the head and pushing upward and forward on the angle of the jaw.

Failure of the respiration from paralysis of its vital centre calls for artificial respiration; oxygen and strychnine are also very useful, as well as a saline solution in any form, but by choice infused under the breast, on the first indication of heart failure. Dilatation of the sphincter ani has given good results. In desperate cases massage of the heart may be tried. The patient should be placed in a semi-inverted position to prevent fatal anæmia of the vital centres. It is best not to dissipate our energies in a number of expedients. Artificial respiration, saline infusion, oxygen inhalations, and strychnine hypodermically, lowering the head, and stretching the sphincter ani are all well tried and useful means of resuscitation. Whatever is done must be done quickly—moments mean life or death. To conclude, the mortality is lowest where the anæsthetic is pure, and well diluted with air, where the doctor in charge is careful and competent, and where the proper selection of anæsthetic has been made.

Chlorine Vapors from Chloroform Administration in Gas-lighted Rooms may be avoided, according to the *Clinical Review* for August, by moistening a cloth or sponge with aqua ammoniac and hanging it to or near the gas fixture.

AMNESIA, WITH REPORT OF A CASE.*

By S. D. HOPKINS, M. D.,
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PROFESSOR OF NERVOUS AND MENTAL DISEASES IN GROSS
MEDICAL COLLEGE; NEUROLOGIST TO ARAPAHOE COUNTY,
AND ST. ANTHONY'S HOSPITALS AND MERCY
SANITARIUM.

P. C. M., age thirty-four years, undertaker. Born in New York. Unable to tell how long he has been in Colorado.

Family History: Mother died of cancer of the uterus. Uncle died of consumption. Rest of family history is negative.

Personal History: When four years of age he had croup. Since this time he has enjoyed good health, excepting that he has suffered from indigestion for the past seven years.

For the past six months he has been drinking, on an average, from ten to twelve drinks of whiskey or bitters a day, and during this time has noticed that his memory for recent events was poor, although he can recall the main occurrences up to some time in July, 1900.

He can remember everything that transpired on July 4th, also the visiting of a club house which is two and one half hours' ride up the Hudson River from the city of New York. Two visits to the club were made, but the exact interval between the visits and exact dates of the same are not remembered, although what occurred on the first visit is distinctly recalled. He remembers going to the club house on the second occasion, meeting his brother and having dinner. From this time until September 21, 1900, when he awoke in Denver, Colorado, his memory is an absolute blank.

On that date, while in the amnesic state, he was walking down Larimer Street, when he experienced a peculiar sensation as though some one was drawing a cap over his head and face. When he awoke everything appeared so strange to him that he inquired of a passer-by "What street am I on?" and when informed that he was on Larimer Street, the patient replied: "I do not know any such street in New York city." Then for the first time he learned that he was in the city of Denver, and also discovered that he was dressed in a jumper and overalls, but was unable to recollect what had become of his business suit, which he wore to the club house in July, 1900, or the time he disappeared.

Examination of the patient was negative, except that he had total loss of memory from July, 1900, to September 21, 1900. In the amnesic interval he performed hard manual labor, judging from the callous condition of the palmar surface of his hands. The store marks on his shoes indicated that they were bought in Philadelphia, while his clothing was bought in Chicago.

The patient's brother arrived in Denver a few days after the patient came out of the amnesic state, and made the following statement: "My brother was at the club house on August 6, 1900, and the last time that he was seen he was walking on a raft which is near the bath house. He failed to put in an appearance at home that night and the next day; the supposition was that he was drowned and divers

were employed to search the river for him."

On November 15, 1900, I received a letter from Mr. M., in which he states that he is unable to recall any event which transpired, excepting a few details in July and the two visits to the club house in August, 1900.

From the history, the brother's statement, and the patient's letter, Mr. M. was partially amnesic during July and totally forgetful from August 6, 1900, to September 21, 1900, a period of forty-five days.

Amnesia is frequently seen in the various insanities, organic diseases, and concussion of the brain, in epilepsy, in somnambulism, in the hypnotic state, and following fright. Amnesia may be partial or complete. While, in the former case, memory is only lost to certain objects or a group of objects without involving other portions of memory, in the latter the memory may be lost completely for present and past events, as is seen in organic diseases of the brain and spinal cord, although, in epilepsy and alcoholism, memory may be a complete blank for hours, days, weeks, or months, and on regaining consciousness the last important act, especially relating to the ego, performed previously to the amnesic state will be recalled.

Healthy consciousness is that condition in which the individual, while registering the impressions of the outer world to which his attention is directed at the time, correlates these with the summarized observation of the past (Spitzka). One must not only be able to remember past recollections and to register impressions to which his attention is directed at the present time, but must also correlate the present with the past. The inability to do this will produce a form of amnesia known as double consciousness. Any individual who has a defect in memory for a certain length of time will have consciousness impaired during this interval, and, unless complete restoration of memory for this period takes place, the person will never have a total healthy consciousness. Memory differs in each individual, and this is due to the fact that it is developed in certain directions, although the memory for various objects may be fully developed while the individual is paying particular attention to developing the memory in other directions; for some people have no trouble in recognizing persons by the sound of their voices, others by the footsteps or by facial expression. If these facts are borne in mind we shall have little difficulty in understanding partial amnesia.

One of the most interesting points in psychological study is the manner in which memory is lost and regained. We know that, in progressive amnesia, probably due to organic disease, the memory for recent events is the first to disappear, and that gradually, as the deterioration of the cerebral centres increases, memory for past events is destroyed and the individual becomes a hopeless dement. If memory

* Read before the Colorado State Medical Society, June 25, 1902.

returns, the important event relating to self that was last forgotten is the first to return, and the first one forgotten is the last to be recalled. It is true in every form of amnesia, that memory is regained in an inverse manner to that in which it is lost.

It is evident that the amnesic state in the case reported was produced by the excessive use of alcohol.

NUTRITIVE INFUSIONS.*

By SOUTHGATE LEIGH, M. D.,
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VISITING SURGEON TO ST. VINCENT'S HOSPITAL.

In recent years the work of our profession has been directed more and more toward the treatment of desperate cases, both medical and surgical, and as a result the lives in many such are saved. In cases formerly considered absolutely hopeless the patients are now kept going for hours and days, and some of them recover.

We are realizing more and more that death, as well as life, is uncertain, and that human knowledge of such matters is often more so. We try to believe that all our patients are going to recover, and that very belief stimulates us to extreme efforts.

In the treatment of desperate cases, where the stomach is too weak to absorb medicine or too irritated to retain it, we feel safe in injecting the most powerful drugs into the circulation, where we know they will act thoroughly and promptly.

The next important life saver is *rectal alimentation*. With good nursing a patient may be kept alive for weeks without the introduction of anything into the stomach, all food and stimulants being given, the former through the bowels, and the latter hypodermically. We all meet with such experiences and we all feel that without such "artificial" treatment, some of our most important cases would be lost. In my own practice I can recall five successful cases in the last two years, in each one of which the patient was sustained for four weeks without any feeding by the mouth. Besides these, I recall a large number which were treated in this way for shorter periods of time. Such work requires the most skillful nursing as well as most cautious medical treatment. At times, however, we meet with cases in which hypodermic stimulation and rectal feeding are carried on with the utmost care and patience, and yet the bowel, after a few feedings, becomes rebellious and rejects its contents. Especially is this apt to be the case when the patient is delirious. What are we to do in these extreme cases? Can we not tide the patient over a few days, until the rectum

has become quieted down? It is for such cases as these that we need some other way of nourishing the system.

In the last few years much has been accomplished by the injection of salt water under the skin; but so far as I can discover, no *practical* method has been devised for infusing nutritive materials. The transfusion of blood from one person to another was resorted to as early as the fifteenth century, and we read in the *Life and Times of Savonarola* that, in 1492, blood was transfused from a youthful subject to the veins of the old pontiff, Innocent VIII, though without good effect. In the seventeenth century many experiments were made with transfusion, both on the lower animals and on human subjects, and some results were fatal. And in the last century the injection of blood was advocated by Nussbaum, Panum, Roussel, and Macewen. In all of these experiments blood, either pure or defibrinated, was injected directly into the veins of the patient. But the use of these infusions, on account of such attendant dangers as sepsis and the formation of thrombi, has never proved of practical value and has for years past been altogether abandoned.

In 1848, Sir Spencer Wells injected salt solution, with temporary benefit, into the veins of some cholera patients. And in the eighties saline infusions came into practical use and were strongly advocated by both Jennings and Hunter. Since that time this procedure has been more and more prominent in the treatment of various conditions of collapse and disease, while, in the past two years, the tendency has been to abandon the old method of injection into the veins and to substitute the safer means of injection into the loose tissues under the skin.

After a thorough search through medical records and literature, we find that a number of experimenters have used various substances besides blood for nutritive infusions, but none with practical result. Sugar in various forms has been experimented with extensively, but the drawback here is that sugar produces violent polyuria, and if it were used to any great extent, permanent diabetes would probably result.

During the past twelve months I have devoted much thought and labor to devising a practical plan of injecting nutriment into the circulation. Notwithstanding the many difficulties in the way, I have been surprised that, in the past, so little has been done along this line by able investigators. The trouble lies in the fact that the men who do this kind of experimental work are not, as a rule, practising physicians, and do not, therefore, realize the general pressing needs of the profession.

To be injected under the skin, a food must be sterile, nutritious, easily absorbed, and liquefied; easily obtained and readily prepared. In seeking

* Read before the Tri State Medical Association at Asheville, N. C., February, 1902.

such a food I soon thought of egg albumen, a substance to-day largely used both by the mouth and by the rectum with invariable good results. I had particularly noticed how, with the addition of a little salt in the water of the nutrient enema and without any peptonizing process, it was readily absorbed by the bowel. If egg albumen is so easily absorbed by the rectum, why not, then, by the tissues under the skin? It is one of the most concentrated and powerful nourishments, and, if the egg is fresh, the contents of the shell *must be sterile*. To be doubly sure, I have tested it bacteriologically, in fresh laid eggs and in eggs that have been kept for some time but "look fresh," and the results have invariably been negative. To sterilize the outside of the shell chemically is a simple matter. Finally, fresh eggs can *always* be obtained, and the method of preparing the white for injection is simple, as will be shown later on. Hence the egg albumen fills all the requirements.

To test thoroughly the safety and practicability of my method, I conducted a series of experiments on rabbits, making injections of the egg albumen dissolved in normal saline solution. All the instruments and appliances used were sterilized, as was also the site of puncture in each case, a small area of skin having been shaved and washed with antiseptic solutions. After the injection the area was covered with sterilized cotton and collodion. At various intervals, with different rabbits, I opened up under chloroform the site of puncture, and found in every case that the albumen was entirely absorbed and that no local inflammation had been produced. Moreover, there were no appreciable signs of systematic irritation of any kind.

Since the experiments on the rabbits I have used the albumen solution on a number of patients in various states of health, and in no case has there been any bad effect either general or local. Locally, the solution is absorbed as quickly as the normal salt solution, and the resulting tenderness of the injected part is about the same. Neither have I found that the albumen is excreted in the urine unchanged, as has been stated by some authorities.

The required implements are a simple infusion apparatus (such as is furnished by Powers & Anderson, of Richmond, Va.), consisting of a glass funnel with rubber tubing attached, a large aspirating needle at the end of the tubing, and a bottle of saline tablets. These tablets contain:

Sodium chloride	9-4/5 grains;
Sodium sulphate.....	2/5 grain;
Sodium carbonate.....	1/5 grain;
Sodium phosphate.....	1/8 grain;
Magnesium phosphate.....	4/11 grain.

The proper solution is made by dissolving two tablets in a pint of water, and this should be boiled for

at least ten minutes. The infusion apparatus, together with a stirring rod, two large glasses or beakers, a funnel and a bottle of sufficient size, should all be boiled. Cover a table with towels previously steamed or soaked in bichloride solution, on which to place the sterile instruments when taken from the boiler. Take fresh eggs, scrub them thoroughly with a brush and soap and warm water, then wash them in 1-1,000 bichloride and place them in sterilized water. Then break the eggs and place the whites, separated from the yolks, in the glasses; add the saline solution (cold or slightly warm), in quantity about twelve ounces to each egg, and stir gently until dissolved, then filter the solution through sterile cotton. For this purpose I cover the inside of a funnel with a piece of sterile gauze. Lay on another piece folded twice (i. e., of four thicknesses), and over that a thin layer of sterile cotton; by this means none of the cotton threads will be present in the solution. The mouth of the bottle should be closed with sterile cotton and the whole bottle wrapped in a sterilized towel. This solution may be kept thirty-six hours if necessary; a further preservation of it might prove harmful, as the solution becomes cloudy after standing for a few days. Before using, the bottle is gently warmed by immersion in water at about 105° F. *The albumen coagulates at 140° F.*

The sterilization of the infusion apparatus should be done when it is needed for use. The site of the puncture should be washed 1st, with soap and water; 2nd, with alcohol; 3rd, with bichloride, 1-1,000. If the patient is sensitive, the insertion of the needle may be rendered practically painless by the application of ice.

The injection may be made at any point where the skin is loose, as in the back, on the side of the chest, or under the breast. Allow the solution to run in slowly, regulating the force of the current by the height at which the funnel is held. The puncture should be covered with sterilized cotton and collodion.

The infusion may be given as often as appears necessary. An infusion once in four hours should give sufficient nourishment, each infusion containing the white of one egg and twelve ounces of salt solution. I find, however, that sixteen ounces of the solution are readily absorbed, especially if the site of the injection is massaged, and I should not hesitate to inject twenty or twenty-four ounces at one time.

I do not profess to have discovered an "elixir of life," or that I can keep people alive indefinitely by nutritive infusions. I have, however, proved that this simple food, if injected with the necessary precautions, is *harmless*, and that it will at least nourish the system to a certain extent at the critical period

when all other methods fail. I believe that by its aid we can at least prolong life in desperate cases during a time wherein the organs may be rested and prepared to do their own work. I wish also to make mention here of some experiments with *stimulating infusions*. After operation, and at other times, when our patients need both saline injection and cardiac stimulation, we can most readily add whiskey or brandy to the normal salt solution in any quantity we may desire. Such an infusion injected under the skin is quickly absorbed without irritating effects. This I have proved both by experiments on rabbits and by practical use in the operating room. In searching medical records and in conducting the necessary experiments, I have received valuable aid from my associate in this work, Dr. James W. Hunter.

THE X-RAYS IN THE TREATMENT OF MALIGNANT GROWTHS.*

By J. RUDIS-JICINSKY, A. M., M. D., M. E.,
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To the surgeon who has been also a close observer of, and participant to some extent in, the advances that have been made in radiotherapy during the last two years there has come much to gratify and encourage the efforts put forth for complete cure in some cases of lupus vulgaris, lupus erythematosus, etc., and even some internal malignant growths with the x ray. In superficial, cutaneous carcinoma of the breast, head, and neck, and in sarcoma, granuloma of uncertain character keloid, etc., the x ray has, without doubt, in some cases a curative effect.

In the beginning of our x-ray work we have found that the x ray acts as an irritant, not only on the skin, but on the underlying tissues. The irritation of the peripheral extremities of the sensory nerves causes a paralysis of the vasomotors of the vascular area affected, the spasmodic contraction of the arterioles and capillaries follows, and the proper nutrition of the cells is impaired. There might be relaxation, but all the inflammatory phenomena are manifested, not only at the focus of irritation, but perhaps over a large continuous surface, a wider vascular area. With these changes, which are directly dependent upon disturbances of the circulation, there are changes in the parenchyma cells and connective tissue cells of the affected region. The death of tissue follows, being caused by permanent stasis in the blood vessels. I refer to my previous publications, *Lupus Treated by X Rays*, *American X-Ray Journal*, September 6, 1898; *The So-Called X-Ray Burn*, *New York Medical Journal*, March 17, 1900, and *The Electrochemical Action of the X Rays in Tuberculosis*, in the same journal, March 2, 1901.

Now, if the excess of x-ray irritation, differing with each exposure and each case, may produce dermatitis, or even necrobiosis, in normal tissue, is it not self-evident that the same irritation to an abnormal growth may establish a higher degree of anæmia in the growth itself, and that, from this and from the status of the affected nerves and cells, an acute mortification with sloughing has to result, especially if we take into consideration that the x ray seems to have a selective power in attacking first diseased parts before the healthy tissues. Strange as it may seem, injured or diseased parts are more susceptible, especially when there is something in the system which enfeebls the tissues, the cells, and the nerves. Various explanations have been offered of this curious fact, but none of the alleged reasons are satisfactory, and the question remains another *x* for speculation. But one thing is now sure, that the establishment of repair or cure, up to date, of a certain number of malignant growths, as reported by many workers in this country and abroad, has been due to x-ray irritation and exposure only, the relief from excruciating pain and constant suffering often following the first exposure to the rays. Later during the treatment, on cessation of the unpleasant odor with the discharge, nodules previously invisible have become soft and visible, and have anally fallen off, and infiltrated lymphatic glands have been diminished in number. Then the unhealthy ulceration, under the systematic employment of the rays, producing a general inflammatory reaction, is changed to an open and healthy granulation, the growth diminishes in size, and lymphatic enlargements not directly submitted to the treatment, and often even at some distance, disappear with the cachexia, and these results are followed by general improvement of the patient.

In very difficult cases of the severer forms of cancer it might be well, prior to any operation, to clear the field of infection with the ray and then to excise the growth, applying the rays afterward, and again to preclude recurrence and get a better scar. These precautions are always timely, because the patient may seem to have improved from the cancer under the ray treatment, but may die from the sepsis produced by the rapidly disintegrating tumor. In that way we remove all the infiltrated lymphatic areas, which otherwise might be missed and form isolated foci of infection in the future. The x ray must be used cautiously and close observation kept of its effect upon the tissues and the general condition of the patient while under treatment. But I should not like to be understood to say that we have in the x ray the only panacea in all malignant growths, and will only state positively that in some cases we have in radiotherapy, if properly applied, a very promising adjunct of modern surgery, and in "inoperable" or recurring cases, a decided means of relief.

* Read at the Seminarian Meeting of the Iowa Union Medical Society, Cedar Rapids, July 8, 1902.

The excellent cosmetic results obtained in x-ray therapy in lupus with white and smooth scars, the danger of recurrence lessened in malignant growths, when radiotherapy is combined with excision, the painless treatment, and the remarkable curative effect of the chemical rays in some superficial affections, are facts which will bring us to a rational development of x-ray therapy, when placed on a sound basis with further experimentation. So far there is still a lack of knowledge of the nature of the x rays, but how much more can we legitimately expect, when the science of this treatment under skilful hands has been fully demonstrated, and the technics itself perfected?

But there is one obstacle, namely, that, even when good results are obtained, considerable time is necessary, and time in operative cases is of great moment. While no extravagant claims are made for radiotherapy in malignant growths, it being too early to assert positive value in every case, we are satisfied of the efficiency of the x ray, alone or combined with operation, according to each individual case, as shown by the following cases:

CASE I.—Mrs. M. L., forty-six years of age, married. No children. Carcinoma of the right breast for two years. Microscopical examination made and diagnosis confirmed. Slender, rather anæmic, tuberculous family history. Glandular swellings in axilla. When referred to me for x-ray treatment, there was a hard and very painful ulcer, of the size of a silver dollar, above the nipple, with an inflamed area around, and three sinus openings with epithelial outgrowths around and below the nipple. To get better results, the field of infection was treated with the x ray for four weeks; then the whole breast with lymphatic tissues in the axilla was removed, and the x-ray treatment continued for eight weeks. The tumor under the first application of the rays diminished in size, the ulceration diminished also before the radical operation, and pain was wonderfully decreased. The glands of the axilla became smaller, but were still hard, after a lapse of four weeks. The rays were employed five days a week for ten minutes at a time, and at the distance of six inches. After the radical operation the scar under the second application became very smooth. At the end of nine weeks the patient's general condition was markedly improved, though she received no medication. She was discharged, December 8, 1900. No signs of recurrence.

CASE II.—A. S., forty-five years of age. Family history, good. Epithelioma of the lower lip, recurring after extensive operation, in eight months. X-ray treatment was advised, and the patient made a steady improvement under the same. After a lapse of twenty weeks the patient was in comparatively good condition, the growth having disappeared entirely. The patient moved to Nebraska, and was not under constant supervision or repetition of the treatment, as suggested, to prevent the disease from regaining its hold. In one year the growth reappeared near the old scars, finally involving the whole side of the face, and the patient was operated on again at

the hospital, in Lincoln, Neb. The patient died four weeks after the operation, in excruciating pain, it is said.

CASE III.—Mrs. A. K., aged fifty years. Her mother died of carcinoma of the breast, when fifty-two years old. Condition two years ago: Hemorrhages after the menopause. Offensive discharge from ulceration at the cervix uteri. The cervix seemed to be alone involved. There was pain occasionally, with cachexia. A rough, ulcerated area at the vaginal portion of the cervix. Uterus not enlarged. When the patient was in the dorsal position, with elevated pelvis, the seat of ulceration was first thoroughly cleaned and curetted, and iodized phenol was applied. Then the uterus was drawn down into a funnel-shaped speculum, covered with tin foil, and the cervix drawn forward and exposed to the x ray. The Crookes's tube of small size was placed in a cardboard box, and so arranged that the raying was done under a dark covering laid over the patient, the connecting wires being insulated with rubber tubing, and held in position under the Yale chair. Contact was impossible, the whole procedure being not inconvenient to the patient. The working of the tube was constantly observed with a fluoroscope through the covering, and the thighs and external genitals were oiled with olive oil and protected with a few layers of tin foil. The tube was a medium soft, placed just above the part of the cervix exposed, which was treated at a distance of six inches. Sittings for ten minutes with a radiance of medium intensity, twice a week, until reaction manifested itself in three weeks. Treatment was stopped then, for two weeks, just for observation, and renewed with four sittings a week. (The work had to be done with great caution, to administer enough of the x rays without injuring the patient, and yet enough to cause retrogression of the new growth. Definite measure of the "dosage" has to be found in every individual case, and the choice of a "soft," "medium soft," or "high vacuum" tube differs accordingly. In regard to the exciting apparatus, it makes no difference whether it is a coil or a static machine of good make. After the proper source of electricity, we need to have our tube at its best, and nothing more. But to return to our case.) The pain ceased in the third week of our treatment completely, the discharge was not profuse, and the diseased area showed marked improvement. There was a little redness of the skin on the right thigh, due to the radiation in the beginning, which subsided, however, in a few days. In four months the growth disappeared, the cervix was soft, and seems to be in good condition so far yet. No recurrence reported.

CASE IV.—A. L., forty-four years of age. Farmer by occupation. Family history, good. Carcinoma of the stomach for one year. Condition very bad. His physician advised x-ray treatment as the last resort. No promises were made, but the patient gave consent for the experiment. The case, though marked by a fatal termination, showed remarkable features deserving of consideration. My coil was placed in the apartment of the patient, and a high vacuum tube employed. The rays were applied over the whole area of the stomach. Superficial growths, with no intervening sound skin, may be treated by a soft, or soft medium tube, while internal growths are attacked better with a high vacuum tube from the first.

Exposures in this case were made for fifteen minutes at the start, the disk of the tube being directed against the tumor at a slight angle. Tumor six and a half inches in length by three inches in width, at the pyloric end of the stomach. Ten exposures were made without reaction, beginning July 19, 1900.

July 20th. First sign of reaction. Vomiting ceased, but the fever was higher, the temperature rising from 100° to 104° F. Pain somewhat lessened. No hemorrhage. Some beef soup was retained for the first time in many days. Feeding *per rectum* stopped. Examination of the blood showed great increase of erythrocytes and great diminution of leucocytes.

July 30th. Second raying since the reaction. No vomiting or dyspnea. Milk and liquid nourishment. No change in the tumor. Temperature 100° F.

July 31st. Third raying. Exposure twenty minutes. Vomiting with blood, ejecta not so offensive, as usually. Dyspnea, nausea, and hiccough. Nourishment promptly ejected. Temperature 100° F., pulse 90.

August 1st. Fourth raying. Patient distinctly improved. Tumor seemed to be softer. Vomited once, no odor present. Dyspnea not marked. Temperature 99.8° F., pulse 80.

August 2nd. Fifth raying. Tumor softened over the whole extent. Same condition. No vomiting.

August 3rd. Sixth raying. Same condition.

August 4th. Seventh raying. Treatment in the morning. Pulse 120. Temperature 103° F. Collapse in the evening and the patient died; whether from exhaustion or self-infection it is hard to tell, but the case seems to be very suggestive, and shows that the employment of raying in internal malignant growths may be worthy of extended trial.

As to the technics, and the danger accompanying the use of the x rays, I have to state, and can prove it from my experimental and practical work since 1896, that there is absolutely no danger, when proper care is taken. During the actual daily applications of these rays to my patients for diagnostic and therapeutic purposes, I have not had one case of dermatitis or necrobiosis of my own, and if certain precautions are taken, proper apparatus is used, and exposures are not unnecessarily prolonged, the danger of too intense action of the rays will be avoided. We have to remember the susceptibility of some patients, the dryness or dampness of the skin exposed, the electrical resistance of each individual case, the anæmic or plethoric condition, the vaso-motor irritability, the irritability of the tissues altogether, the acidity or alkalinity of the sweat of the patient, and a multiplicity of conditions which make a living organism react differently under the x ray. At the first trace of slight burning sensation or itching, or of brownish coloration of the healthy skin, the treatment must be stopped at once. It must certainly be employed systematically to secure some results, with an intimate acquaintance with the physics, physiology, and pathology, and with all the laws which govern the action of the varied manifestations of the rays on living tissues. Further, we have to

recognize the fact that the unknown electrical phenomena in a vacuum tube producing the x ray, although a term only, are not, for the purpose of radiotherapy, a simple, single manifestation of force, irritation or stimulation, but are susceptible of so many modifications of their units of measurement of the electrical energy, that we get various rays from one and the same Crookes's tube at different, or even the same, times of exposure, differing so widely in their effects that these rays may be almost said to differ in kind as well in degree. We have to remember, in this new branch of therapy, all about Ohm's law in regard to our apparatus, and to understand clearly that one volt passed through a resistance of one ohm yields one ampère of current, which has to have, for the radiotherapy, an electromotive force or pressure behind our tube regulated according to each individual case, and, through the electro-chemical changes produced, and the irritative influence over tissues, the rays may be capable of very important therapeutic effects, with most encouraging results.

A SUCCESSFUL LATE LAPAROTOMY FOR GUNSHOT WOUND OF THE INTESTINE; REMARKS ON SUTURING.*

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In operations for gunshot wounds of the intestines or for perforations from any cause, the surgeon sometimes finds the injury so extensive that doubt may arise as to whether the damage can be repaired by suturing, or whether a resection will be necessary. When we remember that it may require twenty or thirty minutes to do a resection, while Lembert sutures can be applied in five minutes, one can readily see how much better a prognosis there will be in cases where the shorter operation can be done.

From the writer's experience in the following case, he concludes that there are but few perforations of the intestines that can not be safely closed by Lembert sutures, properly used.

CASE.—M. J., aged twenty-six years, was admitted to the U. S. Marine-Hospital at Cleveland, Ohio, at 9.30, on the morning of January 14, 1902. He had been wounded, an hour and a half before, by a thirty-two calibre bullet from a revolver, which struck him exactly in the median line, half an inch above the root of the penis. After a thorough cleansing of the field of operation, the wound was enlarged down to the pelvic bone, which was found slightly fractured. No opening into the peritoneal cavity could be found. A catheter introduced into the bladder brought out clear urine. His pulse was

* Read before the Cleveland Academy of Medicine, June 26, 1902.

20 a minute, good and strong. The abdomen was not distended, and he complained of no pain or nausea. The patient walked about the boat after he was shot, and did not fall when the bullet struck him.

From the exploration of the wound, together with his excellent condition, it was concluded that the ball was imbedded in the pelvic bone at the point of fracture, so the incision was sewed up. He did well until next day about noon, when he complained of severe pain in the abdomen. His condition grew rapidly worse; the abdomen became distended, and the pulse ran up to 120 a minute, with a very weak impulse. As quickly as possible he was prepared for a laparotomy, and at 3 p. m., under chloroform anaesthesia, the abdomen was opened; the opening was immediately followed by a gush of bloody flocculent serum and faecal matter. The intestines were found adherent in several places. The adhesions were separated, and seven ragged perforations of the small intestines were found and closed with fine silk Lembert sutures. A piece of the patient's trousers was found adherent to the intestines, near one of the perforations. During the operation the patient's condition became very desperate; the pulse ran up to 145, weak and thready, with shallow respirations. The abdominal cavity was repeatedly washed out with normal salt solution, until clean. The small intestines were lifted out of the pelvis, thoroughly cleaned, and all adhesions separated, before putting them back. The existence of a general peritonitis was considered to be reason for drainage, so a glass tube was left in the lower part of the incision, and, after filling the abdominal cavity with the salt solution, the rest of the opening was sewed up. The patient gradually rallied and recovery was uneventful. On account of patient's condition, no search was made for the bullet. The entire operation lasted fifty minutes.

The interesting points about this case were the length of time that elapsed between the receipt of the wound and the operation, thirty-one hours; also the almost entire absence of shock after such a serious injury. The wounds in the intestines were large and very much lacerated, which fact was due probably to the deformed shape of the bullet from its impact against the pelvic bone.

It had struck near the top of the pubic bone and glanced up into the peritoneal cavity. The writer acknowledges that it would have been much wiser to open the abdominal cavity at once, when the patient was first seen, but he was deceived by the absence of symptoms of abdominal injury. Modern writers state that operations for penetrating wounds of the intestines are almost hopeless if performed twelve hours after injury is received. Fenner, of New Orleans, in an interesting article on this subject in the *Annals of Surgery*, says, from the experience of the staff of Charity Hospital in this class of injuries, that operations performed for such wounds, even twelve hours after they are received, offer so small a prospect of recovery as to render an operation a doubtful procedure; when done twenty-four hours afterward, he thinks they are hopeless.

Sir William MacCormac says "operation is practically useless after twenty-four hours have elapsed, or when general peritonitis has set in."

The perforations in the intestines were so large and ragged that their closure by suturing the edges parallel to the longitudinal direction of the gut would have seriously impaired the calibre, so they were sutured transversely, as recommended by Mikulicz and Heineke. In one place the bullet cut across the intestine, severing about half of its diameter, so it was a question as to whether a resection was necessary.

Therapeutical Notes.

The Care of the Teeth.—Palmer, in the *Ohio Dental Journal*, recommends the application of iodine to the green stained surfaces of the teeth, to be followed by the application of a weak ammonia solution. These measures must be repeated until the stain disappears. To prevent tartar, Pierce, in the *International Dental Journal*, recommends rinsing the mouth every day with water in which a pinch of alum is dissolved. This is said to be uninjurious to the teeth, and to keep the gums in good condition, as well as to prevent the formation of tartar.

A Local Application for Facial Neuralgia.—The *Maryland Medical Journal* for August gives the following:

- R Tincture of aconite root.....
 Chloroform..... of each 4 drachms.
 Alcohol.....
 Oil of peppermint..... 1 ounce
 M. To be applied with a camel-hair brush.

Iodine Compounds in Syphilis.—According to the *Maryland Medical Journal* for August, Lang (*Bulletin général de thérapeutique*) states that when potassium iodide is not well tolerated by the stomach it may be given hypodermically, as follows:

- R Potassium iodide..... 75 grains;
 Codeine hydrochloride..... from $\frac{3}{4}$ to $1\frac{1}{2}$ grain;
 Distilled water..... $1\frac{1}{2}$ drachm.

M.

From sixteen to forty-eight minims of this solution may be used for each injection.

Or the following may be used instead of the foregoing:

- R Iodoform..... 75 grains;
 Liquid petrolatum..... $1\frac{1}{2}$ drachm.

M.

From eight to sixteen minims may be injected daily or every two days.

The iodoform is said to give excellent results in certain syphilitic infiltrations, especially in ganglionic enlargements, which disappear rapidly when the injections are made near them.

A Prescription for Hypochondriasis.—The *Indian Medical Record* for July 23rd cites from the *British Medical Journal* the following prescription given by "a famous French physician of the second Empire" to a hypochondriac patient who worried him:

R Aqua fontis	100:
Illa repetita	40:
Eadem stillata	12:
Hydrogeni protoxyd	0.32;
Nil aliud	1.25.

One drop thrice daily. This elixir, it is said, cured a large number of neurotics about the court and in Parisian society. But it got the doctor into trouble at last through the indiscretion of a pharmacist.

[We can sympathize with the doctor over the "indiscretion of a pharmacist"; if it had only been a schoolmaster, now, who made the trouble, we should have been satisfied.]

For Eczema of the Genitals.—Lutaud (*Gazette des hôpitaux; Bulletin commercial*, July) recommends lotions and fomentations of the following:

R Potassium chlorate....	1.50 gramme (22½ grains);
Wine of opium.....	3.00 grammes (45 minims);
Water.....	250.00 grammes 8 ounces).
M.	

The Treatment of Diabetics.—M. Albert Robin (*Journal des praticiens*, July 12th) recommends the following treatment:

(1.) For three days, an hour before meals, take in a little seltzer water one of the following powders:

R Antipyrine.....	
Sodium bicarbonate.) of each, 1 gramme (15 grains)	
M. Ft. pulv. i, mitte vi.	

The effect of this preliminary treatment is lessened by fifty per cent. the proportion of sugar.

(2.) The antipyrine prescription is to be followed by the use of 60 centigrammes (9 grains) of quinine hydrochloride, morning and evening, for the six following days.

(3.) Then give sodium arsenate as follows:

R Sodium arsenate.....	0.05 gramme (¾ grain);
Distilled water.....	300.00 grammes (9½ ounces).
M.	A tablespoonful before meals.

Lithium arsenate may be taken at the same time; 20 centigrammes (3 grains), a quarter of an hour before breakfast, in a claret glass of Vichy.

Arrhenal [disodic methyl arsenate] and sodium cacodylate do not succeed so well as sodium arsenate; they are, however, useful in the case of cachectic diabetics. The duration of the arsenical treatment should be a fortnight.

(4.) By this time a good third of diabetics (from 30 to 40 per cent.) will be cured. For the rest, the following treatment can be pursued. As a means of alkalization, sodium citrate or potassium tartrate is recommended:

R Sodium citrate	5 grammes (75 grains).
Ft. pulv. i, mitte xx.	To be taken a quarter of an hour before dinner.

(5.) Or

R Potassium tartrate	4 grammes (60 grains).
Ft. pulv. i, mitte x.	One powder before breakfast in a little water. To be continued for ten days.

In case of failure have recourse to nervine sedatives:

R Extract of belladonna.	0.50 gramme (7½ grains);
Extract of opium.....	0.01 gramme (½ grain);
Extract of valerian.....	0.15 gramme (2½ grains).
M.	Ft. pil. i, mitte xxx. These to be taken daily.

This dose may be increased by one pill daily for ten days. This treatment is useful in pancreatic diabetes.

(5.) M. Robin uses, in addition, a series of accessory medicaments. Quinine, in the form of a good wine or pills of the extract containing 0.20 gramme (3 grains). The quinine is to be continued all the time. The leaves of *Geranium Robertianum* are a popular remedy; they should be given as a cup of infusion every four hours.

Mineral water treatment will complete the course. Florid and fat diabetics should be put on Vichy; exhausted diabetics, pale and emaciated, on Carlsbad. Those who are affected with a more advanced wasting and are inclined to tuberculosis will do best on Bourboule waters.

If tuberculosis appears, the diabetes takes a second place; the tuberculosis is now the primary consideration. As a bronchial desiccant, creosote in "lavements" (spray?) is advised, to put the stomach in order [presumably by checking the production of purulent secretions which may be swallowed]:

R Beechwood creosote.....	10 grammes (150 grains);
Decoction of Panama wood (2 per cent.);	
	90 grammes (3 ounces).

M. A tablespoonful in four ounces and a half of water for a spray (lavement).

[*Bois de Panama*: (French Codex). A wood supposed to be derived from the *Quillaia saponaria*, capable of forming a lather with water; used in the preparation of emulsions. Foster's *Encyclopaedic Medical Dictionary*, sub verb., *Bois*.]

If there is fever, antipyrine will be used (7½ grains of antipyrine twice daily). This is at the same time antifebrile and antidiabetic.

Or

Solution of arrhenal..... (5 per cent.).

Twenty drops before breakfast for four days in succession; then an interruption of four days.

In place of arrhenal, subcutaneous injections of sodium cacodylate may be given.

Tannin preparations should be prescribed during the interruption of the arrhenal; they have but little depressing action on the stomach.

R Tannic acid	1 gramme (15 grains).
Ft. pulv. i, mitte xx.	One before lunch and dinner.

Or again, extract of leaves of juglans, which contain tannin in organic combination:

R Extract of leaves of juglans.	30 grammes (4½ grains);
Distilled water.....	150 grammes (5 ounces).
M.	A tablespoonful before meals.

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THE HARVARD PREPARATORY MEDICAL COURSE.

There has just been issued by Harvard University the announcement for the year 1902-'03 of the programme in anatomy and physiology of the Lawrence Scientific School, a course in science preparatory to the study of medicine. The "programme" represents one of the regular departments of the school, on a plane with that of civil engineering, mechanical engineering, etc. The course is of four years' duration, but the fourth year may be spent in the Harvard Medical School and yet count as the final year of the course. The successful pursuit of the four years' courses entitles the student to the degree of bachelor of science *cum laude*, *magna cum laude*, or *summa cum laude*, as the case may be, the degree being that of all graduates of the Lawrence Scientific School, the grade of the degree and the "programme" in which it is conferred being specified in the diploma. The course is not intended exclusively for young men who are about to study medicine, and we can see that it may prove an excellent foundation for a career in certain other callings more or less closely connected with that of medicine; but doubtless most of those who take it will do so as a preliminary to more advanced medical study.

The entrance examinations of applicants for admission to regular standing (entitling them to candidacy for the degree) are in English, German, French, history, algebra, plane and solid geometry, "and other elective studies." We judge that the requirements are not severe, for the continued study of the languages mentioned is provided for in the course itself and does not appear calculated to lead one into very deep water. The first year's work is

in elementary zoology, elementary botany, experimental physics, descriptive inorganic chemistry, rhetoric and English composition, German or French, and an elective study. The second year's branches include the morphology of animals, the morphology of plants, experimental physics or general descriptive physics, qualitative analysis, English composition, German or French, and an elective study. In the third year the student takes elementary physiology and hygiene, the comparative anatomy of vertebrates, meteorology, logic and psychology, and an elective study. In the fourth year (in the Harvard Medical School) he studies anatomy, physiology, histology, and physiological chemistry.

It will be seen that the studies pursued in this course are admirably adapted to constitute the first steps in a substantial medical education. While we should not advise any person who intends entering upon the study of medicine to ignore that of the classics, we must admit that the Harvard preliminary course must prove an excellent supplement to the classical foundation.

PINKUS'S HAIR DISCS.

Seldom is it nowadays that anything wholly new is brought to light in gross anatomy, yet it seems to have been done recently by Felix Pinkus in the announcement of his discovery of certain dislike cuticular prominences of minute but not microscopic size which appear to be in some way associated with the downy hairs of some parts of the body. (*Dermatologische Zeitschrift*, August). They are described as roundish glistening prominences, from a quarter to half a millimetre in diameter. They are pronounced on both the anterior and posterior aspects of the entire trunk, especially on the abdomen and in the region of the shoulder blade. As a rule they are to be seen also at the bend of the elbow, on the volar side of the arm and forearm, and particularly on the anterior and inner aspect of the thigh. All these situations, it is pointed out, are not among those in which there is the heaviest growth of hair; furthermore, it is remarked that the discs are most readily observed in persons who are only moderately hairy and especially in those who are between eighteen and thirty years of age, in whom the lanugo is short and decidedly pigmented and has not yet assumed the grossness of the later years of life. Those

parts of the body that are normally hairy, such as the back of the arm, the back of the thigh, the leg, the region of the breast bone, and the pubes, generally appear destitute of the discs. They are quite as constant in women as in men, but less numerous and for the most part smaller. They are to be seen in children also, but, on account of the difficulty of detecting such small objects in little children, the author has not satisfied himself that they are regularly present in the new-born.

The topographical relation of these discs to the hairs seems to vary. According to a schematic drawing given by the author, a disc is generally situated close to a hair follicle and on that side of it toward which the hair inclines in its growth. Occasionally a hair has two discs situated on opposite sides of the follicle, and in that case the inclination of the hair is between the two. In the regions where they are found, many of the hairs are destitute of them. The discs are rendered more prominent by gently stretching the skin between two fingers. It is rare to find one of these discs except in the immediate vicinity of a hair. The discs are less sensitive than the surrounding skin to the prick of a pin. Several hundred observations have convinced Pinkus that the discs are in no wise pathological; as to their function, if they have any, he thinks enlightenment must be sought for in the investigation of similar structures in the lower animals.

BOLO WOUNDS.

The bolo is one of the weapons to which the gentle Filipino resorts. Apparently it is a far less formidable thing than the Cuban machete. Dr. Carl de Wolf Brownell, a passed assistant surgeon in the navy, who contributes an article on bolo wounds to the August number of the *Journal of the Association of Military Surgeons of the United States*, says that the bolos that he saw among the Tagalogs in 1898 were long, straight, pointed, heavy knives of various sizes, "not to be compared with the truly formidable barong, or parang, of the Moros." Despite its length and its straightness, the bolo seems to be used more for slashing than for thrusting, for in the eleven cases seen by Dr. Brownell in Aguinaldo's hospital at Cavite, all in Spanish soldiers or sailors, there was only one of punctured wound, and that was superficial. One of the slashes had severed a hand by a clean cut through

the carpus, but all the other wounds, save the one puncture, were of the incised variety. They were rather long and deep, but they would not have been at all serious if they had been properly dressed at first, says the author.

The bolo appears to be employed by the Filipino in much the same way as that in which the American negro is reputed to use the razor, to slash his antagonist's head and face, for all the wounds mentioned by Dr. Brownell, except the punctured wound of the side, were situated on the head or the upper limb, that limb which is instinctively or automatically raised to ward off a blow aimed at the head. A sword, a cutlass, a sabre, or a bayonet fixed on an unloaded musket, one would think, might prove a far superior weapon to the bolo.

Only two of the cases observed by Dr. Brownell required operative intervention. In the case of the severed hand the lower extremities of the radius and ulna had to be sacrificed in order that flaps might be obtained, and in a wound of the middle third of the anterior aspect of the forearm there was secondary hæmorrhage from the radial artery, due to erosion, which rendered ligation above and below the opening necessary.

KING EDWARD'S INTEREST IN THE MEDICAL PROFESSION.

King Edward VII has always shown a remarkable interest in the progress of medical science and in the well-being of the medical profession. He has now a greater reason than ever to be interested in the Æsculapian calling; and the fullness with which he appreciates that fact is clearly shown by a small, but significant, incident recorded in the *British Medical Journal* for August 16th, which states that His Majesty's first unofficial visit since his recovery was paid to the Royal College of Surgeons, of which he is an honorary fellow, in company with Sir Frederick Treves. To the medical profession all over the world, anything which tends to show an increasing appreciation of our science and art at the hands of the powers that be, cannot fail to be a source of satisfaction, as foreshadowing the gradual but certain advent of that time when the appreciation of the world shall pass, in due evolutionary progression, from the makers of the State, the soldiers, and the builders-up of the body politic, the lawyers, to the ameliorators of its physical and moral well-being, the scientists; among whom the physician, not only as a healer of individuals, but still more as the sanitary guardian of the race, must perforce hold a high place.

ONE REASON WHY APPENDICITIS IS PRE-EMINENTLY AN "AMERICAN DISEASE."

During the controversy that has recently raged, among both those who knew whereof they spoke, and those who did not, one fact was insisted on with antiphonal repetition: Appendicitis is essentially an American disease. Among the reasons why that is so, the following words on its aetiology from the now famous lecture of Sir Frederick Treves may possibly indicate a not unimportant one:

"If there is one solitary factor in the production of appendicitis which is overwhelming, it is a loaded cæcum. I really think it is a little exaggeration, but not a gross one, to say that if loading or overloading of the cæcum could be avoided there would be exceedingly little appendicitis. That is so almost uniform a feature of this trouble that one need hardly go into the history of some of the cases. You know what these histories are—a child with teeth overlapping, a man with no masticating teeth to eat meat, the commercial traveler who has his meals all over the country, and eats and drinks and smokes too much, and a man who habitually bolts his food. Nothing plays, I think, so important a part in the prophylactic treatment of appendicitis as the recognition of the fact that if the cæcum can be kept free from indigestible food and undigested food the risk of attack is very much minimized."

Leaving to Great Britain and other countries those cases arising out of a less universal and on the average inferior dental service, the remaining causes are sufficient in number and sufficiently in excess in this country to account for the peculiar prevalence of the disease in America.

PERSISTENT INTERPARIETAL BONES AND MENTAL DEFECTS.

Among the numerous structural anomalies that have been thought to indicate defective mental development is persistence of the interparietal bone as a separate bone. E. Rossi (*Annali di freniatria*, June; *Gazette hebdomadaire de médecine et de chirurgie*, August 17th) looks upon it as a sign of retrogression, and remarks that it is observed with special frequency in the skulls of epileptics, idiots and imbeciles.

THE DETERMINATION OF SEX AT WILL.

To many people this subject seems particularly alluring at all times, and doubtless their renewed attention to it will follow the announcement of the recent death of Dr. Schenck, whose theory on the matter met with much popular appreciation a few years ago. It is to be hoped, however, that attempts at the predetermination of sex will not often lure sane minds away from the pursuit of more practical investigations.

ANOTHER ORGANIZED ATTEMPT AT PROSTITUTION OF THE MEDICAL PROFESSION.

According to press dispatches, this country is now to be the hunting-ground of a medical company scheme for the degradation of medical practice. The Medical Alliance of America is the name of this new professional foe, and it is said to be of Canadian origin and to have got itself registered in Richmond, Ind. We have said all we have to say on the first principles underlying such commercializing corruptions, in an editorial entitled the True Inwardness of Medical Philanthropy, published in our issue for May 31st, concerning the ignominious failure of a similar abomination in England, the Birmingham Consultative Institution. We sincerely trust that the same length of rope, or less, as served for its self-execution, will prove sufficient in this case also.

THE LATE PROFESSOR PORRO.

Porro's operation—that of section of the abdominal wall followed by withdrawal of the gravid uterus through the incision, the opening of the uterus, the extraction of the ovum, and finally removal of the body of the uterus, together with its annexa—which attained considerable vogue a few years ago, has been almost wholly superseded by the regular Cæsarean operation, owing to improved technics; but the Porro operation was a distinct advance at the time, and the memory of Professor Eduardo Porro, who died recently in his sixtieth year, will be perpetuated by the record of it.

CONGENITAL ELEVATION OF THE SCAPULA.

Many causes have been assigned for this defect, such as malformation of the bone itself and acute intrauterine poliomyelitis. W. Kausch, however, as the result of careful examination of three cases (*Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie*, ix, 3; *Centralblatt für innere Medizin*, August 16th), thinks that in a certain number of instances it is due to a congenital defect of the lower segment of the cucullaris muscle.

A POSSIBLE REMEDY FOR OBESITY.

At a recent meeting of the French Academy of Sciences (*Presse médicale*, August 6th) Gustave Loizel, though he is not reported to have suggested the use of the internal secretion of the testicle as a remedy for obesity, made statements from which, if they prove to be well founded, one may infer its usefulness for that purpose—namely, that it was a powerful destroyer of fat, which fact would explain the deficiency of the male in fat as compared with the female, also the tendency of castrated males to grow fat.

News Items.

Society Meetings for the Coming Week:

MONDAY, September 1st.—New York Academy of Sciences (Section in Biology); Morrisania Medical Society of the City of New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, September 2d.—Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, September 3rd.—New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (New Brighton); Bridgeport, Connecticut, Medical Association.

THURSDAY, September 4th.—New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Obstetrical Society of Philadelphia; Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, September 5th.—Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, September 6th.—Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Meetings of National and State Medical Societies for the Month of September, 1902.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS, Washington, D. C., September 16th, 17th and 18th.

AMERICAN DERMATOLOGICAL ASSOCIATION, Boston, Mass., September 18th, 19th and 20th.

AMERICAN ELECTROTHERAPEUTICAL ASSOCIATION, Catskill Mountains, N. Y., September 2d, 3rd and 4th.

MEDICAL SOCIETY OF THE MISSOURI VALLEY, Sioux City, Ia., September 18th.

CANADIAN MEDICAL ASSOCIATION, Montreal, September 16th, 17th and 18th.

OREGON STATE MEDICAL SOCIETY, Portland, September.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, Allentown, September 16th, 17th and 18th.

WYOMING STATE MEDICAL SOCIETY, Cheyenne, September 9th and 10th.

The Estate of the Late Dr. Levi Cooper Lane, of San Francisco, has been appraised at \$301,108.56. It consists chiefly of cash.

A New Ordinance Concerning Contagious Diseases in Cincinnati has been enacted by the board of health of that city. The ordinance has to do particularly with notification and segregation and is much more stringent than the laws heretofore in force in that city.

Improvements to Bellevue Medical College. Plans have been filed with the Building Bureau for the reconstruction of the old Bellevue Medical

College building in the Bellevue Hospital grounds on Twenty-sixth street, east of First avenue. New fireproof floors and partitions are to be built and the building changed into a dormitory and dispensary for the hospital. The improvements are to cost \$35,000.

The Chicago Eye, Ear, Nose and Throat College.—Dr. Harold N. Moyer has been elected to the chair of neurology. His work in the college will be on the lines of the clinical aspect of neurology in ophthalmology.

To Register Nurses.—It is stated that at the quarterly meeting of the New York State Nurses' Association to be held in Rochester on October 21st, a bill will be endorsed for presentation at the next session of the legislature providing for the examination and registration of nurses.

The Plague in India does not attract so much attention as formerly on account of the decrease in the mortality. According to the *Lancet* the minimum mortality for the year was reached during the week ending July 5, when only 1,036 deaths from plague were reported from the whole of India. The number rose in the following week to 1,158.

The Rate Charges for Services of a Trained Nurse.—A bill was rendered by a nurse against the estate of J. J. Lawless, of St. Paul, Minn., for services rendered as a trained nurse at the rate of ten dollars per day. Dr. Charles Smith, the executor, said that the charge was excessive, and, the matter being taken into court, the bill was cut down to six dollars per day.

St. Louis Medical Society of Missouri.—Professor Wm. Osler, of Johns Hopkins University Baltimore, will deliver a memorial address on Wm. Beaumont, the First and Greatest American Physiologist, under the auspices of the St. Louis Medical Society of Missouri, at the Odeon, on Saturday, October 4th, at 8 o'clock p. m. The members of the medical profession generally are invited to attend.

The Lane Medical Lectures.—The Lane Lectures at Cooper Medical College, San Francisco, will be delivered by Charles B. Ball, A.B., M.D., M.Ch., F.R.C.S.I., Regius Professor of Surgery in the University of Dublin. The following is the programme:

September 1st, Monday, 11 a. m., Introductory on Surgical Anatomy; 8 p. m., Methods of Examination; Sepsis; Abscess and Fistula.

September 2nd, Tuesday, 11 a. m., Tuberculosis; Syphilis; Dysentery; Ulceration, and Painful Fissure; 8 p. m., Non-Malignant Stricture; Prolapse.

September 3rd, Wednesday, 11 a. m., Piles; 8 p. m., Benign Tumors.

September 4th, Thursday, 11 a. m., Malignant Disease; Carcinoma; Sarcoma; Pathology and Symptoms; 8 p. m., Surgical Treatment of Cancer of the Rectum.

September 5th, Friday, 11 a. m., Colotomy; Pruritus Ani; Incontinence of Fæces; Injuries; 8 p. m., Congenital Malformation.

Formaldehyde in Milk.—It is reported that formaldehyde has been found in the milk supply of San Francisco. Dr. W. B. Lewitt, chairman of the pure food committee of the San Francisco Board of Health, was quoted as having said that the presence of small quantities of this preservative was not harmful. In a newspaper interview on the subject he denies having made any such statement, as he considers formaldehyde very dangerous and has immediately arrested those dairymen who were found to be using it.

The Canadian Medical Association will meet in Montreal on September 16th, 17th and 18th, Dr. Francis J. Shepherd, of that city, presiding as president. The convention will meet in the Medical buildings of McGill University on the morning of the 16th. In the evening the President will deliver the annual Presidential address. On the afternoon of the 17th the address in surgery will be delivered by Dr. John Stewart, of Halifax, N. S., while in the evening Dr. William Osler, of Baltimore, will deliver the address in medicine, as has previously been noted in these columns. Amongst others who will contribute either by reading papers or joining in discussions are:—Dr. Alexander Hugh Ferguson and Dr. Casey A. Wood, of Chicago; Dr. William Corlett, of Cleveland, Ohio; Dr. A. R. Robinson, of New York; Dr. McPhedran, Dr. Peters, Dr. Primrose, Dr. G. Stirling, Dr. Ryerson, Dr. F. N. G. Starr, Dr. J. J. McKenzie, Dr. Campbell Meyers, Dr. G. Herbert Burnham, Dr. John Hunter, Dr. J. F. W. Ross, Dr. C. R. Dickson and Dr. J. Orlando Orr, of Toronto; Dr. James Stewart, Dr. James Bell, Dr. A. D. Blackader, Dr. George E. Armstrong, Dr. H. D. Hamilton, Dr. Laphorn Smith, Dr. F. A. L. Lockhart, Dr. David A. Shirres, Dr. A. E. Garrow, Dr. W. F. Hamilton, of Montreal; Dr. O. M. Jones, of Victoria, B. C.; Dr. J. T. Lamont, Treherne Man.; Dr. R. Preston Robinson, Ottawa; Dr. J. F. Macdonald, Hopewell, N. S.; Dr. P. Coote, Quebec; Dr. J. R. Clouston, Huntingdon, Quebec; Dr. Ingersoll, Dr. Olmsted and Dr. A. B. Osborne, Hamilton, Ont., and Dr. Perry G. Goldsmith, Belleville, Ont.

Medical Fees in Russia.—According to the *British Medical Journal* a movement has recently been set on foot in Russia for the establishment of a regular tariff for medical services. At present the doctor is almost entirely at the mercy of his patient, and if the latter offers an inadequate fee he has no means of enforcing payment on a proper scale. In the matter of fees as well as of travel Russia would seem to be a country of magnificent distances. At one end of the scale one hears of the late Professor Botkin receiving \$5,000 for a simple diagnosis, and \$8,000 for three days' attendance on a millionaire, while the late Professor Zakharin received \$15,000 in addition to expenses for two days' attendance on the Czar Alexander the Third. At the other end of the scale, where a large proportion of Russian practitioners are found, the average fee is a few kopeks.

Cholera Spread Through Eating Raw Shell Fish.—In reports to the War Department the

health authorities of Manila, attribute the spread of cholera largely to the eating of raw shell fish by the natives. Tondo Beach, one of the foulest spots in the city, is where the fish flourish. The board of health has abolished the practice, and a strong guard patrols the spot day and night. Although the disease is still on the increase, the authorities feel highly gratified over the co-operation of the natives in efforts to eradicate the germs. Chloride of lime by the barrel is being spread about the city, and the health department offices are crowded daily by natives with their baskets, in which to carry home the disinfectant. A record of fifteen deaths in one block is thought to have finally aroused them from their formerly indifferent attitude. The Tondo region is the hotbed of the epidemic. This has been because of the great number of creeks, by means of which the "river rats" had heretofore been smuggling in victims or carrying out the dead to prevent quicklime burial. The total number of deaths reported throughout the province has now reached 10,000.

Osteopaths Registered in Iowa.—The Iowa Board of Medical Examiners has admitted to practice 278 osteopaths. Certificates have been granted to all applicants under the new law of the Twenty-ninth General Assembly. This law permits the registration of all osteopaths graduated from legally incorporated schools of osteopathy recognized by the Iowa Osteopathic Association, and in practice before July 4, the date the measure went into effect. Two legal points were involved in dealing with the osteopaths and on these the Board of Medical Examiners obtained the opinion of Attorney General Mullan. The first question was whether the words, "passage of this act," found in the new law, meant April 8, when the measure was approved by the governor, or July 4, when the new law went into effect. As persons in practice before the passage of the act were entitled to certificates without examination, this matter was important for the osteopaths. Attorney General Mullan held that it meant July 4. Consequently the graduates of this year at Still College and other institutions were entitled to certificates without examination. The other question was whether the Board of Examiners had the right to disregard the recognition of the Iowa Osteopathic Association and determine whether a school of osteopathy was living up to the requirements of the statute as to course of study. Attorney General Mullan held that whether a school complied with the provisions of the statute in maintaining the course of study demanded by the law was to be determined by the Board of Medical Examiners, and if a school did not the fact that it was recognized by the Iowa Osteopathic Association did not make it a school to the graduates of which the Board could give certificates. This ruling was not made use of by the Board of Medical Examiners, but it is likely to have an important bearing when the examination for admission of osteopaths to practice is held on October 14 and 15. An examination of medical students also will be conducted by the Board then.

The Health of Havana Under the Republic.—

The second monthly report issued under the civil government of the new republic by the chief sanitary officer of Havana, Dr. Charles J. Finlay, shows that the excellent sanitary conditions established by the military government are being maintained and that the health of the city continues to be at least fairly satisfactory. This report covers the month of June, during which the death rate was 23.56 per thousand, as against a rate of 23.28 in June, 1901; 24.90 in June, 1900; 31.56 in June, 1899, and 64.32 in June, 1898, when the highest death rate for this month was reached.

The report states that "there has been however a slight increase in the deaths from diarrhea and enteritis in children under two years old (68 instead of 66) and the deaths from typhoid have increased from 4 to 9 in the present month. As pointed out in our previous report, a tendency in this direction and to intestinal infections in general, had already been noticed in Havana for some time past, and had led to an investigation of the objectionable methods adopted by the Chinese truck gardeners in the raising of vegetables which are usually eaten raw. The report of the Municipal Laboratory of Bacteriology in connection with this investigation was received in this department on the 15th of June, and clearly shows that the washings of those vegetables in distilled water contain a virulent variety of the *Colon Bacillus* (not Eberth's) which kills guinea pigs in less than 48 hours. These facts taken in conjunction with the breakage which occurred on the 10th of June, in the main pipe of the Vento Aqueduct, and the consequent dearth of pure drinking water in the poorest and most populous quarters of the city during a whole week, appear quite adequate to account for the present increase. We must therefore insist in warning the public that they should, for the present, abstain from eating uncooked vegetables or fruit not previously submitted to a careful washing in pure water, and also from using for drinking purposes, water drawn from wells or from other doubtful sources unless previously filtered or, better still, sterilized by boiling. The milk, specially that which is to be used for the feeding of infants, will require the greatest care. Physicians and families must at the same time be reminded that it is their duty to have the stools, as well as the bed-clothes and garments of the patients, carefully disinfected, and that the attendants of the sick must keep their hands clean by frequently washing them with creoline, without waiting for a precise diagnosis of the disease.

Concerning yellow fever Dr. Finlay says: "The city of Havana and, so far as we are informed, the rest of the Island have continued free from any case of yellow fever originated within its boundaries. Two cases, both of them mild, have however been imported from Vera Cruz during the first week of the month. The first occurred in a steerage passenger who came on the steamship *Leon XIII*, having sailed from Vera Cruz on the 24th of May, touching at Progreso, and

arriving at Havana on the 27th. On the day of arrival this passenger was attacked with malaria fever, which lasted three days, and on the 31st of May his attack of yellow fever set in. The commission of experts confirmed the diagnosis, and attributed the source of infection to Vera Cruz, being of opinion that it was a case of eight days incubation, perhaps prolonged in consequence of the malarial manifestations. The other case occurred likewise in a steerage passenger who came on the steamship *Esperanza*, having sailed from Vera Cruz on the 31st of May, and arriving at Havana on the 4th day of June. This patient was attacked with yellow fever on the first day of his arrival. Attention must be called to the fact that both of these vessels had shipped a cargo of cattle at Vera Cruz. Under such circumstances if any contaminated yellow fever mosquitoes happen to be introduced with the cattle, it is quite conceivable that those insects may draw their subsistence during the trip from the blood of the animals, only biting the non-immune passengers at the time when the cattle are being landed at the port of arrival. Hence the necessity of exacting five days' detention at the Immigration Camp for the non-immunes arriving on such vessels from infected ports.

"Lest the city should again be reinfected through yellow fever patients brought over from the neighboring municipality of Santiago de las Vegas, as happened last year, our Department has taken the necessary steps to avoid such an occurrence. Through the good will and efficient co-operation of the mayor of that municipality, we have been able to improve, to some extent, the sanitary conditions of the locality; particularly in reference to the propagation of tuberculosis and of yellow fever, in certain factories where non-immunes to the latter disease are employed, some of them going to work there directly after leaving the Immigration Camp at Tricornia. Measures have been taken to secure the isolation of the yellow fever non-immunes in mosquito proof dormitories in those establishments; and arrangements have been made so that this Department may be quickly informed of the occurrence of any suspicious case in the locality, in order to guard this city against any danger of infection in the event of patients being brought to Havana for treatment. With those precautions and the unremitting vigilance hitherto displayed by the Quarantine and Immigration Departments, there is every reason to hope that, notwithstanding the repeated importations to which we are exposed, it will be possible to prevent the yellow fever infection from obtaining again a foothold in this city, which has now enjoyed nine consecutive months of immunity without the occurrence of a single case, whose source could be located within the limits of its jurisdiction."

Havana has been equally fortunate with regard to small-pox; not a single case having been reported, either in that city or in any other part of the island during the month of June. This report is all the more interesting as it contradicts a report which has been published in the daily paper to the effect that the health of Cuba was deteriorating.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending August 23, 1902:

DISEASES.	Week end'g Aug. 16		Week end'g Aug. 23	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.	104	16	119	20
Scarlet fever.	65	6	76	7
Cerebro-spinal meningitis.	9	3	0	3
Measles.	87	4	63	2
Diphtheria and Croup.	134	20	158	25
Small-pox.	2	1	5	1
Tuberculosis.	220	115	209	134

Public Health and Marine-Hospital Service:

Official List of Changes of Station and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service, for the Seven Days ending August 21, 1902:

BERRY, T. D., Assistant Surgeon. Granted fifteen days' extension of leave of absence, on account of sickness.

BROOKS, S. D., Surgeon. To assume command of the Portland, Maine, Quarantine Station, during the absence on leave of P. C. KALLOCH, Surgeon.

FRICK, L. D., Assistant Surgeon. Relieved from duty at Boston, and directed to proceed to Savannah Quarantine Station and assume temporary command during the absence on sick leave of W. J. LINLEY, Acting Assistant Surgeon.

GAHN, H., Pharmacist. Granted leave of absence for twelve days, from August 18th.

GLENNAN, A. H., Surgeon. To report at Washington, for special temporary duty.

GRUBBS, S. B., Passed Assistant Surgeon. Granted leave of absence for fourteen days from August 19th.

HEISER, V. S., Assistant Surgeon. To proceed to the Immigration Depot, New York, for special temporary duty.

IRWIN, F., Surgeon. Granted leave of absence for one month from September 1st.

KALLOCH, P. C., Surgeon. Granted leave of absence for three days from August 27th.

KIMMET, W. A., Acting Assistant Surgeon. Granted leave of absence for thirty days from August 10th.

LA GRANGE, J. V., Senior Pharmacist. Granted leave of absence for thirty days from September 2nd.

MILLER, C., Senior Pharmacist. Granted leave of absence for thirty days from September 9th.

O'REILLY, W. J., Acting Assistant Surgeon. Granted leave of absence for eight days from August 18th.

TRASK, J. W., Assistant Surgeon. Relieved from duty at Detroit, and directed to proceed to Fort Stanton, N. M., and report to the medical officer in command for duty and assignment to quarters.

WATERS, M. H., Junior Pharmacist. Granted leave of absence for thirty days from August 18th.

Appointment.

JOHN WILLIAM TRASK, of Michigan, commissioned (recess) as assistant surgeon.

Boards Convened.

Board convened to meet at Southport, N. C., August 21, 1902, for the physical examination of an officer of the

Revenue Cutter Service. Detail for the board: Surgeon JOHN GODFREY, chairman; Assistant Surgeon T. B. MCCLINTIC, recorder.

Board convened to meet at the United States Marine-Hospital, Stapleton, N. Y., August 25, 1902, for the physical examination of officers of the Revenue Cutter Service. Detail for the board: Surgeon PRESTON H. BAILLACHE, chairman; Passed Assistant Surgeon A. C. SMITH, recorder.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending August 23, 1902:

Smallpox—United States.

California.	San Francisco.	Aug. 3-19.	2 cases.	
Florida.	Pensacola.	Aug. 8-16.	4 cases.	
Massachusetts.	Boston.	Aug. 8-16.	8 cases.	1 death.
"	Brockton.	Aug. 8-16.	1 case.	
"	Cambridge.	Aug. 2-16.	5 cases.	3 deaths.
"	Everett.	Aug. 8-16.	1 case.	
"	Fitchburg.	Aug. 8-16.	1 case.	
"	Somerville.	Aug. 8-16.	1 case.	
Michigan.	Detroit.	Aug. 8-16.	2 cases.	
Missouri.	St. Joseph.	Aug. 2-16.	36 cases.	
"	St. Louis.	Aug. 10-17.	2 cases.	
Montana.	Butte.	Aug. 8-16.	1 case.	
Nebraska.	Omaha.	Aug. 8-16.	4 cases.	
New Jersey.	Camden.	Aug. 8-16.	1 case.	
"	Newark.	Aug. 8-16.	3 cases.	3 deaths.
New York.	New York.	Aug. 8-16.	1 case.	1 death.
Ohio.	Cincinnati.	Aug. 8-15.	1 case.	
"	Cleveland.	Aug. 8-16.	58 cases.	8 deaths.
Pennsylvania.	Harrisburg.	Aug. 2-9.	1 case.	
"	Johnstown.	Aug. 8-16.	3 cases.	1 death.
"	McKeesport.	Aug. 8-16.	1 case.	3 deaths.
"	Philadelphia.	Aug. 8-16.	1 case.	1 death.
Rhode Island.	Providence.	Aug. 8-16.	1 case.	1 death.
S. Carolina.	Charleston.	Aug. 8-16.	2 cases.	
Utah.	Salt Lake City.	Aug. 8-16.	2 cases.	
Wisconsin.	Milwaukee.	Aug. 8-16.	3 cases.	

Smallpox—Foreign.

Austria.	Prague.	July 26-Aug. 2.	2 cases.	
Barbadoes. ....	.....	July 29.	15 cases.	
Belgium.	Antwerp.	July 18-25.	1 case.	
Gr. Britain.	Liverpool.	Aug. 2-9.	11 cases.	1 death.
"	London.	July 15-22.	44 cases.	7 deaths.
India.	Bombay.	July 15-22.	3 cases.	3 deaths.
"	Karachi.	July 6-20.	1 case.	2 deaths.
"	Madras.	July 12-18.	1 case.	
Italy.	Palermo.	July 26-Aug. 2.	8 cases.	
Japan.	Formosa.	May 1-31.	22 cases.	4 deaths.
Russia.	Moscow.	July 12-26.	5 cases.	3 deaths.
"	Odessa.	July 26-Aug. 2.	1 case.	
"	St. Petersburg.	July 17-26.	1 case.	
Straits Settlements.	Singapore.	June 14-July 12.	2 deaths.	

Yellow Fever.

Colombia.	Panama.	Aug. 1-11.	1 case.	1 death.
Mexico.	Coatzacoalcas.	Aug. 2-9.	0 cases.	1 death.
"	Progreso.	July 15-Aug. 9.	4 cases.	3 deaths.

Cholera.

China.	Niuechwang.	July 12-19.	8 cases.	66 deaths.
Egypt.	Aboukonkas.	Aug. 10.	1 case.	38 deaths.
"	Ascout Province.	Aug. 10.	1 case.	
"	Cairo.	Aug. 10.	1 case.	
"	Charkich.	Aug. 10.	10 cases.	
"	Minteh.	Aug. 10.	47 cases.	
"	Alexandria.	Aug. 10.	2 cases.	
India.	Calcutta.	July 12-19.	1 case.	73 deaths.
"	Karachi.	July 6-20.	191 cases.	130 deaths.
Japan.	Formosa.	May 1-31.	2 cases.	4 deaths.
"	Fukuoka Ken.	To July 10.	10 cases.	56 deaths.
"	Kobe.	July 15.	Present.	
"	Nagasaki.	July 1-10.	5 cases.	2 deaths.
"	Mogi.	To July 20.	12 cases.	16 deaths.
"	Okavama.	Aug. 9.	Present.	
"	Tokyo.	July 9.	1 case.	1 death.

Straits Settlements.	Singapore.	June 14-July 12.	170 deaths.	
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Plague.

Australia.	Brisbane.	April-May 31.	45 cases.	17 deaths.
India.	Bombay.	July 15-22.	37 cases.	32 deaths.
"	Calcutta.	July 12-19.	10 cases.	10 deaths.
"	Karachi.	July 6-20.	74 cases.	60 deaths.
Japan.	Formosa.	May 1-31.	700 cases.	555 deaths.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending August 23, 1902:

BEAL, HOWARD W., First Lieutenant and Assistant Surgeon. Upon his arrival at Fort Columbus he will proceed to

Fort Hamilton and join the Eleventh Battery, Field Artillery, for duty with it during its practice march to Montauk Point, Long Island, and return to Fort Hamilton. Upon completion of this duty Lieutenant Beal will return to Fort Columbus.

COLLINS, CHRISTOPHER C., First Lieutenant and Assistant Surgeon. The extension of the leave of absence granted him is further extended seven days.

DEAN, ELMER A., First Lieutenant and Assistant Surgeon, will proceed to Fort Strong, Massachusetts.

EDMONDSON, JAMES J., Captain and Assistant Surgeon, United States Volunteers, having tendered his resignation, is honorably discharged, to take effect on September 18, 1902.

FORD, CLYDE S., First Lieutenant and Assistant Surgeon, will join the Eleventh Battery, Field Artillery, at Fort Hamilton, for duty with it during its practice march to Montauk Point, Long Island, and return to Fort Hamilton. Upon completion of this duty Lieutenant Ford will return to Fort Hancock, N. J.

GIRARD, ALFRED C., Colonel and Assistant Surgeon General in addition to his present duties is detailed as a member of the board of medical officers appointed by paragraph 2, S. O. 28, February 2, 1901, H. Q. A., for the examination of candidates for admission to the Medical Corps of the Army.

HOWELL, PARK, First Lieutenant and Assistant Surgeon, will proceed to Camp Eagle Pass, Texas, for duty.

ORDWAY, GODWIN, First Lieutenant and Assistant Surgeon, is granted leave of absence for nine days.

PINQUARD, JOSEPH, Contract Surgeon, is detailed as a member of the examining board at Fort Leavenworth, Kansas, vice **DAVID BAKER**, First Lieutenant and Assistant Surgeon.

SKINNER, GEORGE A., Captain and Assistant Surgeon, will proceed to Fort Snelling, Minnesota for duty.

THOMPSON, LOUIS A., Contract Surgeon, is granted leave of absence for one month, to take effect on or about September 8, 1902, with permission to apply for an extension of one month.

VOSE, WILLIAM E., First Lieutenant and Assistant Surgeon, will proceed to Columbia, Tennessee, for duty.

WHITTINGTON, WILLIAM L., Major and Surgeon. The leave of absence granted him is extended one month.

WILSON, JAMES S., Captain and Assistant Surgeon, United States Volunteers, is honorably discharged as major and surgeon, to take effect on August 15, 1902.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending August 23, 1902:

HUNTINGTON, E. O., Passed Assistant Surgeon. Granted leave of absence for three months on account of sickness.

LUNG, GEORGE A., Surgeon. Ordered to the Bureau of Medicine and Surgery, Navy Department.

Births, Marriages, and Deaths

Married.

BROWN-SLACK.—In Independence, Missouri, on Tuesday, August 12th, Dr. Columbus Brown, of Creal Springs, Illinois, and Miss Lulu Slack.

DALE-SWEETSER.—In Marion, Indiana, on Tuesday, August 5th, Dr. Burnham C. Dale and Miss Edith Sweetser.

FORD-SMITH.—In Fitchburg, Massachusetts, on Wednesday, August 20th, Dr. Joseph H. Ford, United States Army, and Miss Ida Smith.

MANLY-SIMPSON.—In Palermo, N. Y., on Wednesday, August 13th, Dr. Frederick Manly, of Rensselaer, N. Y., and Miss Mabel L. Simpson.

PESCHAN-HOLINGER.—In Chicago, on Monday, August 11th, Dr. Rudolph Peschan, of Milwaukee, and Miss Alma Holinger.

SHELDON-PERRY.—In Worcester, Massachusetts, on Wednesday, August 20th, Dr. Henry Davidson Sheldon, of Eugene, Oregon, and Miss Florence Vivian Perry.

SQUIER-BRADT.—In New York, on Thursday, August 21st, Dr. J. Bentley Squier, and Miss Leach Ursula Bradt.

ZELINSKY-REASONER.—In Leroy, Michigan, on Wednesday, August 13th, Dr. Thomas Zelinsky, of Battle Creek, Michigan, and Miss Jessie Fremont Reasoner.

Died.

ALLEN.—In Milwaukee, on Monday, August 11th, Dr. James M. Allen, in the seventy-first year of his age.

ARMSTRONG.—In Bryantsville, Kentucky, on Thursday, August 14th, Dr. Thomas C. Armstrong, in the eighty-second year of his age.

BODAMER.—In Philadelphia, on Wednesday, August 20th, Dr. George A. Bodamer, in the forty-third year of his age.

BRYANT.—In Independence, Missouri, on Saturday, August 16th, Dr. John Bryant, Sr., in the eighty-sixth year of his age.

CAMPBELL.—In Atchison, Kansas, on Tuesday, August 12th, Dr. William W. Campbell, in the fifty-fifth year of his age.

COSSITT.—In Greenville, Ohio, on Tuesday, August 12th, Dr. Frederick S. Cossitt, in the thirty-eighth year of his age.

KASTEN.—In St. Paul, on Monday, August 11th, Dr. Julius G. E. Kasten, of Milwaukee, in the seventy-second year of his age.

LONGENECKER.—In Islip, Long Island, on Tuesday, August 19th, Dr. John H. Longenecker, in the eightieth year of his age.

SAPP.—In Kernersville, N. C., on Wednesday, August 13th, Dr. B. J. Sapp, in the sixty-sixth year of his age.

WALSH.—In Boston, on Sunday, August 10th, Dr. Peter D. Walsh, in the eightieth year of his age.

OBITUARY NOTES.

DR. NICHOLAS WILLIAMSON, Mayor of New Brunswick, N. J., from 1895 to January 1st last, died at his home in that city on August 15th. He had been ill with typhoid fever for three weeks. He was born in New York City in March, 1845. His family moved to New Brunswick in 1860. In 1871 he graduated from the College of Physicians and Surgeons of New York. He began practice in New Brunswick in partnership with Dr. Henry R. Baldwin, who died in February last. He served two terms as an Alderman, and in 1895 he was elected Mayor on the Republican ticket, although the city is Democratic. Last year he was defeated by 188 majority by George A. Viehmann. He had protested against the nomination. A wife, three daughters and one son survive the doctor.

DR. JAMES M. ALLEN, one of the oldest physicians of Milwaukee, died in that city on August 10th at the age of 71. Dr. Allen served as a surgeon both in the army and in the navy during the civil war.

DR. JOHN HENRY LONGENECKER died at his home in Islip, Long Island, on August 19th, at the age of eighty. He was born in Lancaster, Pa., and took his degree at the Jefferson Medical College, Philadelphia. He served as a surgeon during the civil war and was wounded in action.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Ætiology and Prophylaxis of Tuberculosis.—M. Clado (*Progrès médical*, August 2nd) summarizes his conclusions as to the prevention of tuberculosis as follows: Tuberculous animals are to be excluded from use, or suspicious animals are to be subjected to the use of tuberculin. General knowledge as to tuberculosis is to be spread among the people, and severe hygienic measures are to be enforced against those afflicted with tuberculosis. Death from tuberculosis is to be followed by municipal disinfection of all clothing, linen, rooms, etc., or occupied by the deceased. There should be an amelioration of hygienic conditions among the poor, separation of the members of tuberculous families, especially as to sleeping quarters. Isolation, particularly in sanatoria, is recommended. The author insists that tuberculosis is curable, and urges the strict hygienic enforcement of well-known formulæ and the extensive use of sanatoria.

Pernicious Anæmia.—Dr. P. Reckzeh (*Berliner klinische Wochenschrift*, July 28th) speaks of the usefulness, in five cases which he reports in detail, of alternating treatment by iron and arsenic. Dietetic and hygienic measures were also instituted. Blood-transfusion was not performed, and only a temporary improvement followed an infusion of saline solution, which was tried in a single case.

Ventroscopy.—Dr. von Ott (*Centralblatt für Gynäkologie*, August 2nd) describes this method of visual examination of the abdominal cavity during or after the performance of a vaginal celiotomy. The patient is placed in the Trendelenburg position, the incised walls of the vagina are separated as far as possible by suitable specula. Light is obtained, either from a large electric head mirror, or from an electric light carried on an arm which fits over the anterior speculum. In this way, not only the field of operation can be distinctly seen, but also the entire pelvic cavity, the linea innominata, the sacral promontory, the infundibulo-pelvic ligament, the appendix, the cæcum, the transverse colon, the stomach, a part of the liver, the gall-bladder, the spleen, and the posterior wall of the bladder. Before inverting the patient, a tampon of sterile gauze and cotton is placed over the wound to prevent the respiration of dust and air.

Perforation Peritonitis in Typhoid Fever in Children.—M. H. Méry (*Presse médicale*, August 9th) reports a fatal case after the performance of a median laparotomy. He reviews the symptoms of an intestinal perforation during the course of a typhoid fever and gives the points of diagnosis between that condition and other lesions on the right side of the abdomen. He lays especial stress upon the increased rapidity of the pulse, the sudden and almost complete diminution in the amount of urine passed, and hypothermia. In cases of recognized typhoid fever the diagnosis is much easier than in cases in which the disease is not known to exist. In doubtful cases, a sudden increase in the number of leucocytes indicates a phlegmasiac complication, while an increase in the multinuclear cells points to

a suppurative process. As soon as the diagnosis is made, a laparotomy with repair of the ruptured intestine is the proper treatment. Promptly performed, it will save many lives.

Doubtful Questions in Tuberculosis.—Dr. J. Orth (*Berliner klinische Wochenschrift*, July 28th) points out, after an historical review of the subject, that the most important work in the teaching of the anatomy and histology of tuberculosis preceded the publication of Koch's discovery of the tubercle bacillus. He does not regard the finding of the tubercle bacillus in suspected tissues as alone trustworthy for the diagnosis of tuberculosis, as the examination must include the histological examination and must show the anatomical changes of the disease. Even with this demonstration, the difficulties of diagnosis are considerable.

A Case of Chorea Minor Due to Intestinal Intoxication. By Dr. Mario de Maldè (*Riforma Medica*, May 19th).—In a case of chorea in a girl aged nine years, a search for the cause of the trouble revealed obstinate constipation lasting eight or ten days at a time without any movement. Large hard masses of feces were felt along the descending colon and sigmoid flexure, and the urine contained an increased amount of indican. A thorough evacuation and disinfection of the intestines was promptly secured, and the symptoms of chorea gradually disappeared. The treatment with arsenic, bromides, etc., was completely suspended during this period, and the intestinal disinfection by means of calomel was continued until no more excess of indican was found in the urine and no symptoms of St. Vitus's dance could be seen.

The Modern Treatment of Pulmonary Consumption. By Dr. H. Latham (*Lancet*, August 16th).—The modern treatment of pulmonary consumption is the open-air or sanatorium treatment. Its one principle is to try and increase the resistance of the body, so as to render the tubercle bacilli innocuous.

A continuous supply of fresh air with no unnatural changes of temperature, and the avoidance of all sources of irritation from dust and the like, are the first essentials. All the usual regulations for the avoidance of bacillary infection, such as disinfection and the use of sputum cups, must be carried out. The patient must practically live in the fresh air, and so avoid sudden changes of temperature. In this way the body is hardened and colds avoided; there are no exacerbations of the disease, and consequently the damaged tissue has time to heal. The patient, when in his room, should be alone, and the windows should be widely open.

The food should be good, nourishing, and in sufficient quantity to establish and maintain the normal body-weight of the patient. Over-feeding is often injurious; the amount to be given should be a little more than that taken by a healthy person, but this amount should be taken whatever the condition, however debilitated the patient may be, however high the temperature, and even if a couple of hours have to be spent over a meal. The readiest way of reducing the fever of advanced phthisis is to increase the amount of solid nourishment. Alcohol is often of great service in enabling a person to take food. Three meals a day are taken at intervals of

five hours; the food should be the best of its kind, and it should consist largely of fatty forms. It is essential that it be well cooked and attractively served, fat-containing sauces being an important adjunct. No food or drink is to be allowed between meals, with the exception at first of milk, which should be taken until the normal body-weight is reached. The patient must lead an absolutely regular life, so arranged that neither the lungs nor any other portion of the body is allowed to be put to any strain. Every form of fatigue must be avoided, especially anything which may tend to raise the body-temperature. The exercise should consist of very slow walking up hill for a short distance, varying from a few yards to a mile, or in the more healthy cases to four or five miles, a prolonged rest, and then a gradual return down hill by another path. Such exercise is easily regulated and acts as a heart tonic. Fast walking or running must be forbidden, as they hasten respiration and elevate the temperature. No excitement is to be allowed, so that few patients should play the piano, or cards, or chess. Any patient confined to bed should not be allowed to see any one but the medical attendant. The necessity of avoiding excitement is a vital part of the treatment in all but the very earliest cases.

Graduated exercise without strain is prescribed when the condition of the patient permits, the personal factor of the patient having to be carefully considered in each case. In the majority of cases exercise may be permitted when the rectal temperature, taken before rising in the morning, has been below 98° F. for a week. If after the week, the temperature is higher than 100° F., or if it fails to sink to normal within twenty minutes, or if there is any symptom of exhaustion, the amount of exercise has been too great. One of the few conditions for which a patient is kept in bed is when the temperature is habitually above 98° F. in the morning before rising. Smoking may be allowed in the open air as long as it does not produce coughing and is not indulged in to excess; it should be strictly prohibited in the patient's room.

Patients should be persuaded to avoid attempts at coughing; every cough avoided is something spared to the lung. The patient should be seen by the medical attendant three times a day, weighed once a week, have his lungs examined once a fortnight, and his sputum examined once a month.

Any climate will do for the sanatorium treatment of consumption provided that the air is pure and bracing. Patients should remain in the sanatorium until all physical signs of active disease have gone, until no tubercle bacilli are found in the sputum, and until the inoculation test leads to no result. This happens on the average in from five to six months, but it may in some cases take two years or longer. In selected cases, patients may so train themselves in two months as to be able to carry on the treatment at home. After leaving the sanatorium the patient should continue the treatment as far as possible for two years, during that time avoiding all severe strain upon the respiratory or other organs, such as bicycling, etc., and shunning all large gatherings of people (theatres, churches, etc.). In most cases where the amount of disease in both lungs is extensive no great or permanent benefit is obtained by sanatorium treatment. No drugs should be used

in the routine treatment of the disease, but complications or symptoms, such as hæmoptysis, diarrhoea, and constipation, are to be treated on the usual lines. Never give drugs until all other measures have failed, and then never without considering the question whether in treating any particular symptom, the disease as a whole is aggravated thereby, by either digestive or other disturbance.

On Certain Modifications of Schenck's Method (Artificial Hyperæmia) in the Treatment of Pulmonary Tuberculosis. By Dr. Torino Silvestri (*Riforma Medica*, May 17th).—Schenck, of Vienna, made use in the treatment of pulmonary tuberculosis of the principles established by Bier, to the effect that hyperæmia produced by stasis has the property of destroying, or at least attenuating the virulence of germs, of favoring the formation of new connective tissue, and of exercising an absorptive function upon certain inflammatory products. According to Schenck the patients should always be so placed that the head and trunk are considerably lower than the feet. He found that the more inclined the position, the more rapidly would a cure be effected. The patients are also especially cautioned against exposure to humidity, and, in order to facilitate stasis in the lungs, warm applications are made to the chest by means of a current of water at 45° C. (113° F.) circulating in a coil of tubes contained in a corset which the patient wears. This heat, in virtue of its vasodilator property, is said to increase the volume of the vessels, and therefore the quantity of blood in the lungs. The rest of the body is kept uncovered as much as possible, and even cold applications to the limbs are sometimes resorted to. The present author, having observed the tendency to healing in tuberculous lesions in the lungs of persons affected with mitral insufficiency, determined to try Schenck's method on two patients, a woman thirty years of age, and a young man aged seventeen years. In both, the affection was quite markedly developed, with fever and cough, and hæmoptysis. He found that the treatment could not be borne by the patients for longer than five days, on account of the inconvenience of the position, but in two other cases with unilateral lesions he obtained very good results after from forty to forty-five days' treatment by Schenck's method. The author found, however, that hot and cold applications were useless. The heat only serves to dilate peripheral vessels and reflexly to contract the pulmonary vessels.

SURGERY AND ANATOMY.

Exploratory Puncture for Foreign Bodies.—Dr. G. Perthes (*Centralblatt für Chirurgie*, August 9th) has found the Röntgen rays not sufficient for the exact localization of foreign bodies which require extraction. He has devised a method by which a needle of the thickness of a hypodermic needle is introduced by means of a holder with wooden handles. The needle being visible to the observer with the fluoroscope, is brought into contact with the foreign body, and after demonstration that it remains so by turning the body, is released from the holder. It then acts as a guide and much time is saved in reaching the offending substance. The introduction of the needle is no more painful than the administration of a hypodermic injection.

Indications for Cholecystectomy in Biliary Lithiasis.—M. Henri Milhiet (*Gazette hebdomadaire de médecine et de chirurgie*, August 3rd) says that, while the indications are at present somewhat difficult to establish, they may be safely set down as being warranted in 1. Lithiasis of the gall-bladder and of the cystic duct; 2. lithiasis of the biliary canals, especially of the choledochus; 3. spontaneous fistulae or those following cholecystotomy. Complete occlusion of the ductus choledochus is a contra-indication to the operation, as are extensive adhesions. Other contra-indications are advanced age, cachexia, and extensive disease of the kidneys and liver. The author regards the operation as in every way superior to cholecystotomy and says that the results so far have been very encouraging. He gives the symptoms present in cases in which the operation should be undertaken, and points out the reasons for its performance in each instance. Empyema of the gall-bladder without adhesions offers the ideal indication for cholecystectomy.

Bloody Reposition of the Femoral Head.—M. G. Gayet (*Revue de chirurgie*, August 10th) concludes that bloody reposition of the head of the femur has been proved to have merit and should supplant the classical treatment of old and irreducible luxations. It is a procedure of little gravity and its performance sometimes gives ideal functional results and almost always permits a gait approaching the normal. It is possible of accomplishment in the majority of cases if the proper technics is employed. An external incision over the trochanter will usually suffice. The same rules apply to the treatment of dislocations following acute diseases, the lesions being remarkably similar to those of traumatic luxations. In coxalgic dislocation, on the contrary, the method is useless, because of the poor general condition, the osseous changes, and the dangers of awakening the old disease.

Treatment of Suppuration of the Antrum.—Dr. Sturm (*Berliner klinische Wochenschrift*, July 21st) classifies these processes into three groups—the catarrhal, the hyperplastic and the destructive. Caries is rare and is found mainly along the thin nasal wall of the antrum and at its base. Neither the character of the secretion nor the length of the disease is a determining factor in the treatment, as some cases with a fetid discharge or with a non-fetid mucous secretion, with healthy or diseased teeth and with considerable disease of the nasal mucous membrane, can be cured with simple irrigation. Other more favorable appearing cases, however, demand an opening of the antrum. In simple catarrh, operation is not indicated, but in cases of neoplastic formation, ulceration, or caries, operative procedure is demanded. While irrigation should be practised first in every case, continuous disturbance and the gravity of the case lead to a consideration of surgical aid. If no progress is made in from four to six weeks, operative measures must be considered. In opening the antrum, as much of the mucous membrane as possible must be retained, as the poorest results are obtained when the antrum is entirely cleaned out. The opening in the antrum must be large, and drainage is secured by tampons at first, which are to be replaced as soon as possible by

an obturator. The irrigations are to be accomplished by indifferent solutions, as sepsis of the antrum is impossible of achievement.

Nineteen Cases of Femoral Hernia Operated upon by Roux's Method. By Dr. V. I. Hedroitz (*Roussky Vrach*, July 6th and 20th).—In 1896, Roux published a method of operating upon hernias which was characterized by simplicity, rapidity of execution, and security of results. The chief feature of this operation is the employment of a steel staple, which has the shape of an inverted U with sharpened ends and flattened crosspiece. The region of the hernial sac is exposed by an incision about seven centimetres in length, according to Lucas-Championnière's method, the sac exposed, and the position of the femoral vessels and nerves clearly defined. These structures are next protected by means of a hook, and the Poupart's ligament is slightly pulled upwards from the pubis at its inner third. The staple is now inserted into the os pubis in such a manner that Poupart's and Gimbernat's ligaments are both fixed firmly to the bone at this point. The skin and fasciae are then sutured, and a light bandage applied. The staple is inserted obliquely, taking care that its sharpened ends do not protrude beyond the os pubis on either side, as such protrusions may be painful later on. A small hammer is used for nailing this staple to the bone, and the appliance is easily borne, easily sterilized, and constitutes, in the author's opinion, the best means of closing a femoral ring. He reports nineteen cases in which the operation was employed, and recommends it in the majority of cases of femoral hernias where a radical operation is indicated. In hernias protruding above the femoral vessels, instead of alongside their sheath, this operation, like all others, is useless.

On Some Phases of Appendicular Inflammation.—Professor Riedel (*Berliner klinische Wochenschrift*, August 4th) discusses in particular detail the presence or absence of typical dullness in the right iliac fossa in cases of appendicular inflammation. The paper, being largely statistical, does not lend itself easily to being abstracted. Riedel insists, however, upon early operation on inflamed appendices, in from twelve to twenty-four hours after the first attack, as the surest method of curing the disease. He condemns utterly the so-called conservative treatment and lends the weight of his authority to a statement of the number of lives which will be saved by timely operation in the next thirty years—basing his figures on the mortality of operations for the relief of strangulated hernia—as 40,000, the number of soldiers lost in the Franco-Prussian war.

The Formation of an Artificial Urethra in a Patient Suffering from Epispadias Complicated with Non-union of the Symphysis. By Professor A. A. Mouratoff. (*Roussky Vrach*, July 20th).—The patient was a young woman, aged nineteen years, who entered complaining of incontinence of urine from which she had been suffering since infancy. On examination her mons veneris was found to be covered with hair except at its central portion, where there was a fissure which was continuous with that of the labia majora. The urethra and the labia

minora were found similarly split in the median line. The urethra was represented by a funnel-shaped depression, which led immediately through a ring admitting the little finger into the bladder. Palpation and the x rays showed that there was an absence of union between the pubic bones, and that the symphysis was a relaxed membranous barrier. A plastic operation for the restoration of the urethra was resorted to. The upper wall of the canal was formed from flaps derived from the region of the symphysis, the lateral walls from flaps derived from the tissues of the labia minora and the sides of the ununited urethra, while the lower wall was formed from a flap derived from the hymen. Finally, in order to secure rest for the vesical sphincter, which had been for years subjected to strain, the labia majora were denuded of skin at their contiguous sides in the upper part of the vulvar cleft, and united by sutures, seven days after the original operation. The results were excellent; the patient was able to hold her urine without any trouble for five hours at a time, and was relieved of incontinence, dribbling and constant soiling of clothes.

Pfannenstiel's Suprapubic Method of Laparotomy.—Dr. Oscar Beuttner (*Centralblatt für Gynäkologie*, July 26th) has operated five times by this method of entering the peritonæum—by incising the fascia horizontally—and has removed tubes and ovaries, performed a ventrofixation, has fixed ovarian pedicles between the layers of the broad ligament and has sutured an ovary to the parietal peritonæum. The suprafascial tissues must not be dislocated in performing the operation, which gives a splendid view of the operative field, especially of the sides of the pelvis. The peritonæum is closed with a continuous catgut suture, the recti muscles and fascia with silk, and the skin with a continuous silk suture. Healing was uneventful, but in three cases subsequent distention of the skin scar was noted.

OBSTETRICS AND DISEASES OF WOMEN.

Dystocia Due to Carcinoma of the Cervix.—Dr. Bamberger (*Müchener medicinische Wochenschrift*, August 5th) reports the case of a thirty-six-year-old multipara who had a normal pregnancy, but in whom, after thirty-six hours of labor, with a premature rupture of the membranes, the cervix would not dilate. Examination showed a hard, nodular cervix, tightly compressed about the foetal buttocks. As the patient was exhausted, it was decided to extract, but, as a preliminary, the cervix was incised on both sides. Considerable hæmorrhage followed the birth of the head, which was controlled by tamponing. The patient died two days later of septic peritonitis. The author says that carcinoma of the cervix offers a very bad prognosis during pregnancy, but suggests that if Dührssen's vaginal method of Cæsarcan section is followed in operable cases, the outlook for a more favorable result for mother and child may be enhanced.

Cervico-vaginal Laqueatic Fistulæ.—Professor Franz Neugebauer (*Centralblatt für Gynäkologie*, August 2nd) reports a number of these cases and reviews the literature. They are formed most fre-

quently from a longitudinal tear in the cervix during parturition, with subsequent partial repair only; or the laceration may arise from instrumental perforation (usually from attempted abortions), or even from a lateral tear of the cervix, especially in an especially rigid cervix, such as is found in syphilitic parturients and elderly primiparæ. Pressure necrosis, followed by loss of substance and possibly tuberculosis, diphtheria, or carcinoma cervicis may lead to a perforation. The treatment is self-suggesting and easy.

Hæmorrhage into the Spinal Cord during Pregnancy.—Dr. Alexander Bruce (*Scottish Medical and Surgical Journal*, August) records a case that is a striking example of the need for a careful and exhaustive examination of the hæmorrhagic area in any given case, before the opinion is expressed that a hæmorrhage is, or is not, primary; for it well illustrates the ease with which one may overlook a grave organic lesion, the true source of the hæmorrhage, and which has given rise to no indication whatever of its presence during life. It is also of interest as showing that the criterion usually given as diagnostic of the primary character of a hæmorrhage, namely, the absolute suddenness of the onset of symptoms, is one which can not altogether be relied upon, even when fulminating hæmorrhagic myelitis and hæmorrhage into the membranes of the cord are excluded. It is also of interest, because of the effect the hæmorrhage had in inducing premature labor, and in modifying the character of that labor, and because of the light which it throws upon the nervous mechanism of parturition.

Cæsaean Section Made Necessary by a Ventrofixation.—Dr. William M. Findley (*Journal of the American Medical Association*, August 23rd), points out that, in these days, when so many abdominal operations are being done for the relief of suffering women, it is very necessary for the physician, when called to a new case, to inquire carefully as to whether anything of such a character has been done. Ventrofixation, according to the author, should not be done on any woman during the child-bearing period without the removal of the ovaries and tubes, or, at least, their obliteration. No physician who is suddenly called to such a case should be censured for the unfortunate results.

A Plea for the Early and Correct Diagnosis of Ectopic Pregnancy.—Dr. Henry D. Ingraham (*Journal of the American Medical Association*, August 23rd) mentions briefly some cases to show that many do not have the history, the symptoms, or even all the physical signs which we have been taught to believe are classical and always present. There is, however, less excuse for a mistaken diagnosis in ectopic pregnancy than in almost any other abnormal condition within the pelvic cavity, if a history of the case is obtained and the patient carefully examined. Usually, it is not difficult to make the diagnosis, even before rupture occurs. In these cases the enlargement has a soft elastic feeling, unlike almost anything else. When rupture does occur, if the attending physician can not make a diagnosis, he should call on some one who can and should not allow the patient to suffer for a long time

or lose her life through hæmorrhage or septic infection.

Conservative Surgery of the Uterus and Its Appendages in the Treatment of Fibroids.—M. Dartigues (*Gazette hebdomadaire de médecine et de chirurgie*, August 3rd) says that the ideal aim of surgery is to reconcile the ablation of neoplasms with conservation of the organs. In operating for uterine fibroids, the age of the patient must be considered. If she is young, the possibility, or even desirability, of future pregnancy must be remembered. The removal of the growth while leaving the uterus permits pregnancy while it may relieve possible dystocia, anæmia, albuminuria, etc. Recurrence is rare, and if it occurs, castration may then be performed. Conservative surgery in these cases is radical surgery. The author divides the methods of conservative surgery into five groups: 1. Atrophying or indirect methods; 2. direct abdominal methods; 3. direct vaginal methods; 4. direct perineal methods; 5. interventions during pregnancy. The author describes carefully each of these operations and their especial indications. For interstitial or submucous fibroids, Dartigues recommends Segond's method, as it is less dangerous than the abdominal method. There is no risk of primary or secondary hæmorrhage, or of injury to the intestines, the bladder, or the ureter. The peritonæum is not opened, infection is rare, and drainage is always possible. It is an easy operation, no abdominal scar or hernia is possible, and it can be performed safely upon women who are much run down in a bad general condition.

The Treatment of Extra-Uterine Pregnancy.—Dr. A. Rieck (*Münchener medizinische Wochenschrift*, August 5th) is in favor of vaginal extirpation of the diseased tube. He believes the operation safer and freer from danger than that of the abdominal route, and not more difficult. After opening the vesico-uterine fold and carefully guiding the uterus out of its bed, the affected tube is at once brought forward with a sponge-holder, aided by the index finger of the other hand. The salpingotomy is therefore performed directly under the eye of the operator. The writer believes that, as more and more men adapt themselves to the vaginal method of operating, abdominal operations for pelvic disease will become a rarity.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Sodium Glycocholate in Diseases of the Liver.—Dr. T. W. Keown (*Journal of the American Medical Association*, August 16th) concludes that the indiscriminate use of sodium glycocholate is to be avoided. It is not suited to all cases, and although there are no contra-indications for its use, yet good results are only to be expected in those cases of gall-stone formation of so-called torpid liver, as found in certain diseases, such as alcoholism, drug habits, melancholia and its congeners, constipation, chronic malaria, etc. It also materially aids the digestion of fats and may prove a useful adjunct in wasting diseases of all kinds.

OPHTHALMOLOGY.

Prophylaxis of Septic Infection of the Eye.—Dr. T. Axenfeld (*Münchener medizinische Wochenschrift*, August 5th) calls attention to the manifold infections of the eye, especially of the tear sac, which can be traced to the use of dirty fingers and towels among working people. He urges careful watching of chronic disease of the tear sac and of the cornea, in order that irritation may not induce a chronic septic condition. The author believes that this condition may be avoided in the laboring class by extirpation of the sac, when it shows a catarrhal or inflammatory condition. By this conservative operation, he believes that many eyes will be saved from further infection and loss. Axenfeld gives a résumé of 270 cases in which he believes ocular infection was prevented.

CUTANEOUS MEDICINE AND SURGERY.

Ætiology of Eczema.—Dr. Heubel (*Münchener medizinische Wochenschrift*, August 5th) records the cases of a father and child who suffered from eczema and whose eruption promptly disappeared when they ceased drinking the milk of a cow that was fed mainly on salts. There was no external irritation to account for the eczema, so the author believes that milk of the character described can be regarded as an ætiological factor of the disease.

An Uncommon Form of Scleroderma. By Dr. Ettore Tedeschi (*Gazzetta degli ospedali e delle cliniche*, June 29th).—The patient was a man aged seventy-five years, who five years before admission noticed the lesions of scleroderma on his legs and feet. A bandage was used, and as a result (?) the legs become œdematous, and began to desquamate. At the same time the patient began to feel intense pain in the limbs, aggravated by motion. This state of affairs continued for two years, when the feet assumed the equinus position. There was also a tremor in the limbs, aggravated by motion, and at times he was subject to attacks of syncope, and convulsions. On examination passive motions of the upper extremities were accompanied by a tremor with ample oscillations, especially on the left side. The arms, forearms, and hands were the seats of pinkish-red patches which desquamated and were hard and dense to the touch. The skin was hard, inelastic and thickened, and the muscles of the upper extremities were atrophic. The lower extremities were found to be contracted in an odd position. The legs were flexed upon the thighs, the feet were in a position of equino-varus. The thighs showed patches similar to those found on the upper extremities, and the skin of the lower limbs was found thickened, tense, adherent. Electric examination showed the reaction of degeneration to be present in the region of muscles presided over by the external popliteal nerve, on both sides, and partly present in the regions of the left median, crural, and internal popliteal nerves. The case was one, therefore, of scleroderma with a neuritis involving the nerves of the regions affected with the skin lesions. The skin lesions and the neuritis were both intense on the lower extremities, a fact which shows the interdependence of both.

Anorectal Actinomycosis.—M. L. Thevenot (*Revue de chirurgie*, August 10th) says that the anorectal region, on account of its great quantity of cellular tissue, offers a particularly suitable nidus for the development of actinomycosis. The infection may take place directly by ascension of the parasite; it may gain entrance through an abrasion of the mucous membrane; it may come from above without being arrested in its favorite points of election, such as the cæcum or the buccal cavity; or the lesions may have their origin in the neighboring tissues and proceed by continuity. In the first instance, the skin may be most affected, but in the other modes of infection, the fatty cellular tissue may be invaded; but in all instances, both classes of tissue are affected. The process assumes a typical aspect with its diarrhœas, abscess and fistula, and signs of stricture. The skin presents numerous fistulæ; there is a dense infiltration of the perineum and frequently the yellowish eggs can be observed. In the early stages, the affection is rarely recognized. Later, the involvement of the peritonæum, the bladder, and the intestines, with internal fistulæ opening into the rectum, modify the clinical picture. The prognosis is very grave, death following from prolonged suppuration or from a special form of intoxication due to the ray fungus. As far as treatment is concerned, Poncet's formula must be borne in mind: in actinomycosis of deep cavities, where the lesions can not be reached or limited, a single incision of the abscess cavity alone must suffice and one must abstain from prolonged surgical manoeuvres, curetting, etc., for these procedures may hasten a fatal denouement in a process naturally slow.

A Case of General Hyperidrosis.—By Dr. G. Amenita. (*Gazzetta degli ospedali e delle cliniche*, June 29th).—A young man twenty years of age, who was in the secondary stage of syphilis and who had taken but a brief course of mercurial treatment, was affected by a general pruritus with vague pains in the legs, which became worse at night. After a time these symptoms were succeeded by a tendency to continuous and profuse perspiration, which increased perceptibly as time went on. The sweat exuded from all portions of the body surface, had no special odor or color, and was extremely abundant. A great variety of remedies were tried without success.

The patient received hypodermic injections of mercuric bichloride, of quinine, of strychnine, atropine and agaricine; friction of the skin with alcohol and tannic acid, large doses of iodide, inunctions of mercurial ointment, ergotine, gallic acid, arsenic, morphine, lotions with a decoction of salvia (?), starch and naphthol, inunctions of tanniform ointment, mercuric protoiodide by the mouth, electricity, atropine in solution in chloroform externally, agaricine in pills, cold baths and hypnotic suggestions. The patient had an idiosyncrasy against agaricine, and strychnine, and the smallest doses of these drugs would produce grave toxic effects. Finally, inunctions of oil of almonds were ordered and after a few days the sweating ceased. The author thinks that this cessation of the hyperidrosis was a mere coincidence. The probable cause of the hyperidrosis in this case was syphilis, i. e., there were syphilitic lesions near the centre of perspiration in

the spinal cord, which injured that centre by compression or by irritation, or possibly the centre was affected by the toxines of syphilis.

PHYSIOLOGY AND PATHOLOGY.

Myeloid Degeneration of the Spleen and Lymphatic Glands.—Dr. H. Hirschfeld (*Berliner klinische Wochenschrift*, July 28th) says that in this condition, the organs mentioned contain cells which are normally found only in bone marrow. Judging from his observations and studies, the author concludes that an isogenous, as well as a heteroplastic, regeneration of the myelocytes takes place, especially in the bone marrow of adult human beings. Hirschfeld has also noted that granular leucocytes sometimes develop from the lymphocytes of the spleen and lymph glands, such as are otherwise found only in the marrow. In many cases of hyperleucocytosis accompanying acute infectious diseases, the author has observed myeloid changes in the spleen and lymph glands. This view is in contrast to that of Ehrlich, as to the part taken in the various blood-forming organs in the formation of leucocytes.

Bacteriological Researches Upon Perlèche.*—M. Gustave Bureau and M. Fortineau (*Presse médicale*, August 6th) have made sixteen cultures from the lips, saliva, and drinking-glasses of children affected with this disease, which is characterized by special changes in the epithelium of the commissures, which becomes white and macerated. The lesion extends upon the lips and gradually they become fissured. They have invariably found a streptococcus, and while they cannot assert positively that it is the causal element of the disease or that it is a special form of streptococcus, they are nevertheless convinced that it can well be considered as an important element.

A Family of Ruminants.—Dr. L. R. Müller (*Münchener medicinische Wochenschrift*, August 5th) reports the cases of a father and two sons who were ruminants. In from fifteen to thirty minutes after a meal, the ingested food reappeared, in equally large portions, in the mouth. This was rechewed and reswallowed, and in from three to four minutes another portion came back into the mouth to go through a similar process. This continued anywhere from one-half an hour to an hour after a meal, and was accompanied by a renewal of pleasant taste and by a certain desire to continue chewing the regurgitated food. If the rumination was interrupted, an uncomfortable feeling in the stomach developed. The three men were in perfect health, had no complaints of any kind, and there was abundant evidence that the intestinal digestion was perfect. The father died of carcinoma of the stomach. The autopsy disclosed an hour-glass contraction, the cardia and the œsophagus were so dilated that they admitted three fingers easily. Müller describes as the possible causes of this anomaly digestive peculiarities and atavism. The act, however, was in all three patients an involuntary, automatic one.

* Perlèche, an infectious disease of the lips of school-children. (Lester's *Encyclopædic Medical Dictionary*.)

A Rare Form of Cystic Adenocarcinoma of the Liver. By Dr. Cesare Mannini (*Gazzetta degli ospedali e delle cliniche*, June 29th).—The author's case had been for a long time considered as one of hydatid cyst. The patient was a man, aged fifty-two years, who some months before admission noticed a swelling in the upper portion of the right hypochondrium. This swelling was found to contain a serosanguineous fluid which contained some epithelial cells, but no elements characteristic of echinococcus cyst. The patient died of cachexia and the autopsy showed a liver adherent to the surrounding organs, whose right lobe was the seat of a fluctuating tumor about the size of an adult's head. On incision this tumor was found to contain a cystic cavity. Microscopically this tumor was defined as an adenocarcinoma with a cystic degeneration, and nodules of the same character were found scattered through the organ. The author found that the cyst in question was formed by the degeneration of a series of tumor cells in the centre of the growth, and that the capsule of the liver became part of the wall of the cyst through the destruction of the liver tissue around the tumor.

Effects of Rhythmic Galvano-faradaization Upon Human Muscles.—M. H. Bordier (*Lyon médical*, August 3rd) has made a number of experiments in this direction. His subjects were submitted to the electric action three or four times weekly, for from six to ten minutes at a time. The strength of the galvanic current varied from ten to fifteen millampères. The measurements of the muscles before and after the treatment showed a great increase in their diameters. The author concludes that an examination of the figures he presents shows conclusively the valuable therapeutic effects which may be obtained by this mode of electrical action, when applied to atrophied muscles. It is essential, however, to avoid fatigue of the muscles when carrying out this treatment.

A Case of Neoplastic Metamorphosis. By Dr. A. Consentino (*Gazzetta degli ospedali e delle cliniche*, June 29th).—A man, aged forty-four years, who had had a lipoma removed three years before admission, presented himself with a new growth, which was situated at the site of the first, *i. e.*, near Scarpa's triangle. The new tumor was of the size of an ostrich's egg, and consisted of two masses, of unequal size. The surface was slightly bosselated, the consistence pasty in one part, fibroelastic in another. The tumor was not movable but oscillated as a whole. The neighboring glands were not enlarged. After this tumor was removed, it was found to be a mixed neoplasm—a fibro-lipo-myxoma. The first removal probably had been incomplete, and some nuclei of fatty tissue must have remained, from which the last tumor developed. Then the lipoma became transformed into a myxoma, probably under the influence of the irritation and the abnormal conditions created by the first operation. Lipomatous and myxomatous tissues are in fact closely related, and, according to Virchow, proceed from one another. It is not rare to find, therefore, tumors in which myxomatous tissue is mixed with lipomatous. The new tumor developed within two years to a size corresponding to that of the first

tumor, which had taken many years to attain that size. A lipoma is a benign tumor of slow growth, but in a myxoma we find the tendency to recurrence and to rapid growth which characterizes malignant growth.

The Present Status of the Question as to the Relation of Human and Animal Tuberculosis. By Dr. N. N. Mary, of Warsaw (*Roussky Vrach*, July 13th—*Concluded*).—The conclusion that the author reaches as a result of an analysis of Koch's theory and the work of his antagonists, is that there are no grounds at present to deny the infectiousness of bovine tuberculosis for man. This infectiousness is very weak, it is true, but it certainly exists. Koch evidently repeated in 1901 the mistake that he made in 1890, when he said that the tuberculosis of mammalia was different from that of birds, in that it was produced by a different species of tubercle bacillus. What we know now of tuberculosis tells us that there is but one tubercle bacillus, and that its modifications in different species of animals are due to the influence of the surroundings in which the germ must live. Thus, for example, a tubercle bacillus passing from one animal to another must grow at a different temperature, the temperature of the body of the last animal, which is 37° C. in man, 38-39.5° C. in cattle and 40° C. in birds. In order to adapt itself to the altered conditions the germ certainly needs time and favorable opportunities. That such an adaptation may occur, we know, but the conditions thereof we do not as yet know.

The Pathogeny of Musical Murmurs.—M. E. Clément (*Lyon médical*, August 3rd) concludes that the vibratory rapidity of liquid molecules is the immediate cause of murmurs of musical character, while the vibratory rapidity is governed by the rapidity of the circulation. Two conditions may modify the rapidity of the circulation and in turn the rapidity of vibration of the molecules: 1. Excessive tension beneath the valve involved; 2. the presence of rugosities in the vascular walls, sufficiently thick to extend beyond the immovable coat of Poisenille, and thus to break the parallel direction of the liquid molecules and to cause them also to vibrate. These two conditions are frequently present simultaneously, but in certain cases they can act independently of each other.

The Influence of Diphtheria and Tetanus Toxins Upon the Morphology, the Hæmoglobin, and the Specific Gravity of the Blood. By Dr. G. G. Koukhargewsky (*Roussky Vrach*, July 13th).—The action of the diphtheria toxine upon the blood was found to be as follows: (1) In small quantities it does not affect the number of red cells or the percentage of hæmoglobin. In large and moderate quantities, however, it diminishes both these factors. (2) Large quantities of diphtheria toxine raise the specific gravity of the blood, while small and moderate amounts have no such effect. (3) Diphtheria toxine always induces a hyperleucocytosis, but the degree thereof does not always depend upon the amount of toxine introduced. The leucocytosis increases until the animal dies, except that, if small amounts of toxine are introduced, there is at first a leucocytosis, and later a lowering of the percent-

age of leucocytes, which does not reach the normal. (4) This leucocytosis takes place chiefly by virtue of an increased number of pseudoeosinophiles. The increase in the percentage of pseudoeosinophiles takes place soon after the injection of the toxine, and continues until death, or ceases if convalescence sets in. The number of lymphocytes, relative as well as absolute, is diminished by the injection of the toxine, the decrease going on until death sets in. The number of eosinophiles is also diminished, and they often disappear completely from the blood. (5) The temperature of the body is raised by the toxins, but it becomes subnormal before death.

The toxine of tetanus produces a diminution in the number of red blood cells and hæmoglobin, in proportion to the amount of poison introduced. Large amounts of it lower the specific gravity of the blood, while small and moderate amounts do not give constant results.

Tetanus toxine also produces leucocytosis, but not so pronounced as diphtheria toxine. This leucocytosis is not proportionate to the amount of poison introduced, and is preceded in some cases by hypoleucocytosis, and after small amounts of toxine, the leucocytosis becomes normal. The number of pseudoeosinophiles is increased, that of the lymphocytes and eosinophiles is diminished. The animals steadily lose weight, but the temperature is not affected.

On the Acetone Series of Products in Connection with Diabetic Coma. By Dr. F. W. Pavy (*Lancet*, July 12th, 19th, 26th, and August 9th).—There are two types of diabetes, the "alimentary" and the "composite." In the alimentary type the error consists purely and simply of the malassimilation of the food carbohydrate, and, as a consequence, the elimination of dextrose in the urine. In the composite type, an additional faulty condition of urine exists. Besides the presence of dextrose, there is met with also a group of products derived from a retrograde tissue metamorphosis. The ill-effects of alimentary diabetes fall under two heads: There is, first, the effect due to the loss of food material in an unused state (unutilized energy), and in the next, there is the injury inflicted by the pernicious action of the sugar in transit through the system. Besides the productions of such troubles as boils, carbuncles, gangrene, phthisis, neuritis, nephritis, and cataract, the toxic influence of the sugar tells obnoxiously upon nutrition. Faulty metabolism is at the bottom of the whole matter. In alimentary diabetes the fault lies with the upward line of metabolism, or that which is concerned in placing food carbohydrate in a right position for passing to utilization. This is normally done by the synthesis of the carbohydrate into proteid.

In the composite form of diabetes defect of descending metabolism occurs, in addition to the defect of the other, and this is attended with the associated production of sugar and of the acetone series of products. This series consists of β -oxybutyric acid, diacetic, or aceto-acetic acid, and acetone. These products form a chain of principles representing successive steps of degradation by oxidation. With the exception of acetone, of which a slight amount may be present, they are foreign to normal urine. Their order of appearance in the urine

is from the lowest to the highest form; if diacetic acid is present acetone is also, but not necessarily oxybutyric acid. When oxybutyric acid, however, is present, the presence of the other two may be looked for as a consecutive event. Acetone is best recognized by Legal's nitroprusside test, and diacetic acid by its reaction with ferric chloride. The presence of oxybutyric acid is determined by the use of the polarimeter and by comparison with the result of cupric oxide reduction, oxybutyric acid being lævo-rotatory.

None of these substances, as shown by experiment, is capable *per se* of exerting any pronounced or immediate toxic effect, and to none of them can diabetic coma be considered directly attributable. There are two views of the pathogeny of diabetic coma; one refers it to β -amidobutyric acid, the other to an acidosis, or excessive production of acid. The author favors the acidosis theory, but differs with other authorities as to the way acidosis produces coma. They consider that when the acids developed (oxybutyric and diacetic) begin to fail to meet with bases to neutralize them, a condition is reached productive of coma. The effect of the administration of carbonated alkali agrees with that observed in experimentally induced acidosis, and soda has been frequently employed as a mode of treatment. In some cases temporary restoration from coma has resulted, but the final outcome has nearly always been disappointing. Now, the author holds that the acidosis state produces coma by interfering with an indispensable functional operation of the tissues—namely the removal of the carbonic acid from the system. With the loss of its alkalinity the blood loses the power of carrying off carbonic acid from the tissues, and choked with this product of their activity, the tissues yield to its toxic influence. The carrying power of the blood for oxygen is rendered deficient by the tenacious combination of the carbonic acid with the hæmoglobin tissues of the red corpuscles. In this way the tissues fail to get their needed supply of oxygen. The characteristic breathing in diabetic coma, to which the term of "air-hunger" has been applied, testifies to the defect existing in connection with the function of gaseous exchange. The source of the acetone series of products has not been as yet definitely determined. Formerly, they were thought to be of proteid origin, but, of late, there has been a tendency to the view that fat is the source from which they are derived.

Diabetes is not the only abnormal state with which the acetone products are associated. They have been observed in various febrile affections, especially in children. Deranged metabolism from faulty nutrient supply seems to be the great factor concerned in their production. Restriction to a proteid and fat diet leads to their appearance. In diabetes the tendency is for the condition to advance to a stage attended with the elimination of these products. The younger the patient and the more sensitive the nerve organization, the greater the proneness for the disease to run on speedily into the second, or composite, stage, and when this stage is reached, for coma to intervene. When the acetone series of products is discoverable to a large extent in a case it may safely be concluded that life will not last long.

Book Notices.

A Manual of Medicine. Edited by W. H. ALLCHIN, M. D., Lond., F. R. C. P., F. R. S., Ed., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital, London, etc. Volume III. Diseases of the Nervous System. New York: The Macmillan Company, 1901. Pp. x-417.

The third volume of this attractive system of medicine is devoted to diseases of the nervous system. Although the scope of the work is such that exhaustiveness is not to be expected, nevertheless the ground is covered with a very considerable approach to completeness. It is perhaps a mistake to attempt to discuss such a vast field as nervous diseases represent in a work of this kind, but when one reflects that systems of medicine ordinarily find their greatest use in the hands of men by whom extensive and complete libraries of monographs are not obtainable, it would appear that inclusions such as this are unavoidable.

Recognizing, then, the necessity for the consideration of nervous diseases in this work, we are not inclined to be carping in our criticism of the method in which the subjects are handled. Indeed, when we consider the space to which the treatment of the subjects must necessarily be restricted, we only wonder that it has been so successful.

The volume begins with a discussion of the neurone in its relation to diseases of the nervous system, and contains generalizations upon symptomatology and ætiology. The organic diseases of the brain follow, and then diseases of the spinal cord and its membranes. To this succeed miscellaneous diseases, and finally the functional diseases and the tropho-neuroses are discussed, together with medical ophthalmology and the medical application of electricity.

It is not our purpose to enter into a detail of criticism or to make comparisons, but among the articles which have attracted us particularly, and which have appeared to us especially deserving of comment, is the introductory chapter on the Anatomy and Physiology of the Nervous System.

In one respect the volume is deserving of much praise, and that is in the excellence of the illustrations, especially those of a diagrammatic nature, which accompany it.

The Pocket Gray, or Anatomist's Vade Mecum. By the late EDWARD COTTERELL, F. R. C. E. Fifth Edition, Revised and Edited by C. H. FAGGE, M. B., M. S. Lond., F. R. C. S., Senior Demonstrator of Anatomy, Guy's Hospital. New York: William Wood & Co., 1902. Pp. 269.

Gray's *Anatomy* has indeed been condensed into pocket size, in this admirable *vade mecum*. The condensation, too, has been accomplished largely by the omission of illustrations, the use of small type, and the employment of typographical devices and incomplete sentences (omitting verbs, articles, etc., wherever possible without injuring the sense). With the exception to be mentioned, there is very little, therefore, in Gray's *Anatomy* that one preparing for an examination cannot find in quite sufficient detail here.

The relations of structures, actions of muscles, and nerve and blood supplies of various tissues are all incorporated. It is incomprehensible to the reviewer, however, why there should be in such an otherwise complete work, no chapter on osteology. The ossicles of the ear are the only bones described.

A Reference Handbook of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medical and Allied Science. By Various Writers. A New Edition, completely revised and rewritten. Edited by ALBERT H. BUCK, M. D. Volume III. Illustrated by Chromolithographs and Six Hundred and Seventy-six Half-tone and Wood Engravings. New York: William Wood & Co., 1901. Pp. vi-860.

Our readers are already familiar with the plan and scope of this work as outlined in reviews of preceding volumes, and detailed notice of this volume is therefore unnecessary, even were it possible. All that we can do is to call attention to its general features, and to emphasize those particular elements which we think deserving of praise.

The work is one of the most complete and exhaustive encyclopædic publications in the field of medicine, and its contributors and editors have shown a mastery of their subjects which is much to be admired. Indeed, the smoothness of the work throughout is one of its special characteristics. In no volume do we see articles which fall short of a high standard, and in many cases we find articles which are of unusual ability and as monographs could scarcely be excelled.

In Volume III, which is now before us, the series of articles on diseases of the ear is so meritorious and so exhaustive that it almost constitutes a textbook in itself.

The medical public is much to be congratulated on a work of this kind, and if the succeeding volumes show the ability and completeness of the first three, we shall continue to rate it as one of the most valuable of the modern reference books of medicine, a worthy successor of the first edition.

BOOKS, ETC., RECEIVED.

A Text-book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Ninth Edition, Enlarged, thoroughly Revised, and largely Rewritten. Illustrated with 105 Engravings and 4 Colored Plates. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 7 to 857. (Price, \$4.)

The Medical Student's Manual of Chemistry. By R. A. Witthaus, A. M., M. D., Professor of Chemistry, Physics, and Toxicology in Cornell University Medical College, etc. Fifth Edition. New York: William Wood & Company, 1902. Pp. xi-678. (Price, \$3.25.)

International Clinics: A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose, and Throat, and other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession throughout the World. Edited by Henry W. Cattell, A. M., M. D., Philadelphia. Volume II. Twelfth Series. J. B. Lippincott Company, 1902. Pp. viii-295.

Clinical Essays and Lectures. By Howard Marsh, F. R. C. S., Surgeon to and Late Lecturer on Surgery at St. Bartholomew's Hospital, London, etc. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xii-303. (Price, \$3.)

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VII. *Materia Medica and Therapeutics; Preventive Medicine; Climatology; Forensic Medicine.* June, 1902. Chicago: The Year Book Publishers, 1902. Pp. 7 to 270. (Price, \$1.50.)

Diagnostic gynécologique. Organes génitaux et mamelle. Par le Docteur Clado, Chef des travaux de gynécologie à l'Hôtel-Dieu, etc. Avec 109 figures dans le texte. Paris: A. Maloine, 1902. Pp. ix-7 to 821.

La guérison de la morphinomanie sans souffrance. Par le Dr. Oscar Jennings. Traduit de l'anglais par M. Albert Ball. Paris: A. Maloine, 1902. Pp. xv-231.

Les aveugles à travers les âges. La clinique nationale ophtalmologique des Quinze-vingts. Avec une statistique sur les causes de la cécité, basée sur 2,000 observations. Par le Docteur Constantin Goleseano. Préface de M. le Docteur J. V. Laborde, Membre de l'Académie de Médecine. Paris: A. Maloine, 1902. Pp. vi-270.

The Causes of Death Among the Assured in the Scottish Widows' Fund and Life Assurance Society. From 1874 to 1894 inclusive. Reported by Claud Muirhead, M. D., F. R. C. P., E. M., Medical Officer of the Society. Edinburgh: R. Clark, 1902. Pp. viii-103.

Miscellany.

Horace on the Relation of Insanity to Crime.—Horace, in the third Satire of the second Book (vv. 131-141), discourses admirably on the elusiveness of the boundary line between sanity and insanity. In one passage he seems to realize that criminal acts and propensities may be rather the indications of a preexistent insanity than, as was commonly supposed by the ancients, the cause of the diseased condition as subsequently evidenced. The lines referred to may, with more or less accuracy, be rendered into English verse as follows:

When with the strangler's cord you kill your wife
Or with vile poison take your mother's life,
Are you right in the head? Why not? 'Tis very true

You're not in Argos, nor your mother slew
With steel, like mad Orestes. Do you think
Not till the deed was done he crossed the brink
Of madness? That he was not mad before
(Impelled by cruel Fates) he warmed with gore
The keen steel in his mother's throat? In fact,
You cannot call insane a single act
Done by Orestes, once he was proclaimed
Of unsound mind. At Pylades he aimed
No reckless blow; no fratricidal stroke
He dealt Electra; merely cursing, spoke—
Called her a Fury (prompted by his bile),
And hurled at him some other name as vile.

K. W. M.

The Effect of Lyddite Shells.—Dr. Johann Reinecke, says the *British Medical Journal* for August 9th, who acted as field surgeon to the Boers during the war, recently presented a thesis for the M. D. degree at Berlin, entitled *Some Critical Notes on the Treatment of Sick and Wounded.* Dr.

Reinecke says that the effect of the lyddite bombs was very small. When lyddite did take effect, however, the results were most curious. On January 17, 1900, a foggy day, two Free Staters were killed near the Tugela by the explosion of such a bomb without showing the slightest injury. At other times Boers were thrown down unconscious, remaining for a longer or shorter period in a deathlike condition. They gradually regained consciousness, and were extremely excitable on their recovery, suffering from terrible headache, as well as from pains in the spine and the extremities, lacking appetite and sleep, and having a discolored tongue. The ears were especially liable to be affected.

The Diagnosis of Plague.—Professor C. Terni (*Journal of Tropical Medicine*, August 1st) of the Bacteriological Institute of Messina, Italy, summarizes his conclusions as to the diagnosis of plague by microscopical and bacteriological examination in the following points: (1) The plague bacillus has well-defined specific morphological characters. (2) There is no acute adenitis produced by germs which can be mistaken for bubonic plague. (3) Acute adenitis, when the clinical characters of plague are present, requires to be investigated bacteriologically. (4) The microscopical and bacteriological diagnoses of plague are founded on positive scientific data. (5) When it has been established by bacteriological examination that plague is present in a locality, the clinical symptoms are alone sufficient to establish a diagnosis. (6) The characteristic signs and symptoms of plague are: (a) Fever, ushered in by rigors with lancinating pains in a lymphatic gland or glands, and subsequent swelling of the painful gland or glands. (b) Increased frequency of the pulse independently of a rise in temperature. (c) The bubonic swelling is tense, movable under the skin, and on the deeper tissues, non-fluctuating and painful on palpation; by the third or fifth [day] the bubo attains its maximum size. (d) Symptoms of a general toxic state do not correspond with the changes and condition of the primary glandular lesion. Of all signs and symptoms to be noted in plague the nature of the pus from the bubo and the character of the pulse are of most consequence. The more sanious the pus the more virulent is the disease, and as long as there is a focus of suppuration, and consequently a liability to general blood poisoning by the plague bacillus, so long will the small and frequent pulse obtain; this marked feature in regard to the pulse continues even when the temperature is almost, or wholly, normal. In mild cases in which rapid suppuration occurs, the specific bacillus of plague disappears from the pus and even from the walls of the bubo after two or three days.

The Therapeutic Application of the X Rays.—Dr. Pusey (*Chicago Medical Recorder*, April 15th) concluding the report of a series of cases treated by x rays, says that it must be borne in mind that the cases he reports are of a character that will never allow of an unbroken series of successes. Excepting a few epitheliomata, the whole list represents cases which had baffled as skillful men as the country possesses, or had been passed upon as hopeless by very masters of the profession. A more unpromising group could hardly be imagined. That even some of these cases have been controlled or had their progress

stayed seems enough. Many, on coming under treatment, had attained a much more serious character than when first recognized as hopeless. When such cases are put under the influence of x rays sooner, is there not good reason to hope for a still better showing?

One important fact seems established, not only from these cases but from the work of others, *viz.*, that x rays have a destructive effect upon tissues of low vitality, and that this effect can be utilized under suitable conditions to cause the destruction of such tissues without destroying the involved healthy tissue.

The author's sections show that x rays cause a degeneration and disappearance of carcinomatous tissue presumably by absorption. This disappearance of carcinomatous tissue is followed by the formation of firm, healthy scar tissue. A similar process presumably occurs in the disappearance of the diseased tissue in tuberculosis, sarcoma, and pseudoleucæmia. However it occurs, the fact stands that growths of embryonic tissues and other tissues of low vitality are made to disappear under the influence of x rays without destruction of the involved healthy connective tissue; and such a fact is pregnant with possibilities.

The advantages of the method are: 1st. It is painless. 2nd. It destroys diseased tissue but leaves the healthy tissue in its place; therefore, 3rd. it leaves small scars, and 4th. it can be used in cases where the surrounding healthy tissue cannot be sacrificed; which means that 5th. it is available for cases in which ordinary methods involve extensive operations and serious subsequent disfigurement, as for example about the eye and nose; and that 6th. it is available in cases in which ordinary methods are impossible because of the amount of destruction of tissue which complete removal would require; in other words, it is applicable to many inoperable cases. 7th. It often relieves pain.

As a general proposition the use of x rays should, in the author's opinion, be limited to those cases which for any reason it is inadvisable or impossible to treat by ordinary methods, but he believes that with the present evidence of the effect of x rays upon malignant neoplasms we are justified in maintaining the following propositions: 1st. In all cases of malignant disease which have been operated upon there is reason to urge the subsequent use of x rays as a prophylactic measure. 2nd. In all inoperable cases of malignant disease the use of x rays should be tried. 3rd. In all such cases there is a probability of relieving pain and a possibility of inhibiting the progress of the disease.

Cocaine Anæsthesia.—Dr. B. Merrill Ricketts (*Interstate Medical Journal*, vol. ix, No. 4, 1902) pleads for a more general use of cocaine for local anæsthesia, especially for operations upon the head, neck and extremities. It should not only be more generally applied in these regions but, on occasions demanding it, to parts of the trunk as well. Its use has become better and more generally understood than any of the local or general anæsthetics, than which it is certainly more efficacious, more desirable, and less dangerous. Reference is made to its application to operations of any character on the extremities, and especially to its application in those involving the blood vessels. Cocaine anæsthesia will not

only permit of the ligaturing of the more important blood vessels, but also of celiotomy; the removal of the various neoplasms, malignant and benign; plastic operations upon nerves, cutaneous, muscular and bony structures in a healthy or pathological state; removal of foreign bodies, or amputation of any part of the upper or lower extremities.

Since the injection of a solution of cocaine into the nerve trunk or its sheath, or both, known as "blocking," was advocated by Matas and Crile, a greater scope of usefulness exists. The blocking method prevents afferent impulses from reaching the central nervous system, and in this way shock is prevented. Crile's theory has shown this to be the cause of shock, and that injury or operation may excite afferent impulses to produce it.

Cocaine should not be used in all surgical operations or kinds of operations; neither should ether, chloroform, nitrous oxide, nor any of their combinations. There are cases that will necessitate the use of an anæsthetic that will produce unconsciousness. Just so are there cases which demand nothing more than a local anæsthetic. The judgment of the operator must be relied upon in the selection of the anæsthetic to be employed.

Indications. The use of cocaine for operations is specially indicated in pulmonary, cardiac, and renal disease; also in case of exhaustion from any cause. During unconsciousness emergency work may be accomplished by "blocking" the nerve trunk. In this way further shock may be prevented and much time saved and subsequent excitement will be much less marked.

Head and Neck. The nerves supplying the head and neck being so very inaccessible, offer but little opportunity for "blocking." Subcutaneous injections must, therefore, be resorted to. The external soft tissues of these regions may be subjected to operations by such injections without pain. This is also true of operations upon the mucous membranes, when local applications or subcutaneous injections are made separately or combined. The constitutional effects of a given amount injected in the head, face and neck are more marked than when injected in other parts of the body or extremities. This is due to two causes: more rapid absorption, and proximity to the brain. For this reason less cocaine should be used and the blood vessels avoided. Laryngotomy and laryngectomy can and should be more frequently performed with the subcutaneous use of cocaine.

Thorax. Resection of one or more ribs can be accomplished with ease, and should be resorted to with cocaine in many conditions of the chest requiring surgical intervention. Amputation of the breast, the removal of blood, pus or serum from the pleural or pericardial cavity should be done in this way. Pulmonary abscesses, injuries to lung or heart, are made surgical by its use. It should not be applied to the heart muscle, itself, but to the pericardium and overlying tissues to be incised or sutured.

Upper Extremity. Any operation may be done upon the shoulder or arm by injecting the brachial plexus, which is best reached through an incision as for ligation of the subclavian artery. The artery may, if necessary, be ligated through the incision made for the subcutaneous injection of cocaine. The amount required for injecting the nerves need not exceed one drachm of a one-half or a one-per-cent. solution.

This was the method employed by Crile in amputating at the shoulder-joint, which was so successfully accomplished with recovery of the patient.

For operations about and below the elbow, a consideration of the musculocutaneous, median, ulnar and musculospiral nerves, one or all, must be given, the degree of anæsthesia being proportionate with the number of nerves injected and the thoroughness with which it is done. Only a few drops are required for each individual nerve.

Lower Extremity. The injection of the external cutaneous is done with ease, being superficial. The anterior crural should also be injected together with the great sciatic. Blocking of the anterior crural and sciatic nerves will produce sufficient anæsthesia to make any operation below the point of puncture painless. This nerve is best reached at the lower and middle border of Poupart's ligament. It is more easily approached than any of the greater nerve trunks of the extremities, and for that reason it is probably best to inject it in all important operations that are to be done upon any part of the leg with cocaine anæsthesia. The sciatic nerve is best injected through an incision in the gluteal fold.

Scrotum. The ilioinguinal and genitocrural nerves supply the scrotum and its contents. The former accompanies the spermatic cord through the inguinal ring to supply the integument of the upper thigh and scrotum in the male, and the labium in the female. It varies in size—is usually small—and connects with the iliohypogastric. When it does, a branch of the iliohypogastric takes the place of the ilioinguinal or the latter may be altogether absent. In the latter, the first branch passes through the internal abdominal ring to accompany the spermatic cord posteriorly to the cremaster muscle in the male and the round ligament in the female. Injection of these nerves may be made in the same incision necessary for doing any surgical operation upon the scrotum or its contents. In this way ninety per cent. of all operations upon the scrotum may be accomplished without pain or danger to life, so far as the anæsthetic is concerned.

Aneurysm. Subcutaneous injection alone, in and about the field of operation, is all that is necessary to make ligation of arteries of the extremities painless. However, blocking the nerve trunk is most practical, and should be done as a rule. There is more or less pain in tightening the ligature about the artery in subcutaneous injections unless the sheath of the artery is also injected. The use of local anæsthesia is especially desirable in aneurysm in the extremities.

Method. A one-half to one-and-a-half-per-cent. solution of the best cocaine should be secured and the operator should know how to use it. An amount of solution containing from half a grain to one grain and a half of cocaine need not be exceeded in performing any operation. Subcutaneous injections alone for operations will require more of the drug than where the injections are confined to the nerve trunks. The amount of cocaine necessary for the incision to reach the nerve trunk is but a trifle more than the amount necessary for injecting one or more nerves. If subcutaneous injections alone are resorted to in operations involving more than the cutaneous structures, besides making deep primary injections it will be necessary now and then to inject sensitive fasciæ or muscle, or both.

It is necessary in all cases where the bone is involved, necessitating attack, to inject the periosteum directly, that its sensibility may be overcome; in this way the periosteum may be divided and retracted without pain or discomfort.

Subcutaneous injections alone are not so desirable for operations upon bony structures as "blocking," especially in prolonged operations; such injections in the fingers and toes will make them anæsthetic and permit of the bone being divided without pain.

Celiotomy may be performed with the subcutaneous use of cocaine. In such cases it is well to inject the peritonæum also just before dividing it.

Advantages. The danger of the drug is nil if properly used, and it can be thus used. Nausea, vomiting, cephalalgia, nephritis, bronchitis, pneumonia and shock are absolutely avoided.

Crile says that injections into a nerve will not produce degeneration anywhere in its course, but that a needle puncture in the spinal cord will do so. This, together with a very high death-rate and uncertainty of anæsthesia should be sufficient to condemn spinal anæsthesia. It would be just as rational to inject it into the cerebral arachnoid cavity.

The Pathogenesis and Therapeutics of Puerperal Eclampsia.—Dr. GEORGE T. HARRISON read a paper thus entitled at a recent meeting of the New York Obstetrical Society. The writer declared that, while the question of pathogenesis was still unsettled, it was nevertheless true that all those theories which were based upon the disturbance of the kidneys, and regarded this as the primary cause of the entire disease, must be regarded as no longer tenable. Many cases could not be explained by the renal changes found, while, on the other hand, where the kidneys were the seat of grave pathological changes, eclampsia did not occur. Rivière regarded eclampsia as an affection not identical with uræmia, but nearly allied to it. In uræmia an insufficiency of the kidneys only was involved, while in puerperal eclampsia, on the contrary, a similar condition existed in the liver, the intestines, the lungs, and the skin, all of which were organs for the excretion of toxic substances. We found the blood of eclampsics more toxic when injected into rabbits than normal blood. As to the cause of death of the child, in eclampsia, one observer had found that the blood of the new-born was more toxic in many cases, though not constantly. Again, the urine of pregnant women was less poisonous than that of the non-pregnant, and the blood serum more poisonous. The pregnant organism was, therefore, overlaid with the final products of metabolism. The urine of the eclamptic at the time of a seizure was always less poisonous than normal urine. The nature of the toxic substances was still unknown and various theories had been advanced to account for them. The liver was unable for some reason to render the leucomaines circulating in the blood innocuous, while, on the other hand, the kidneys were impaired in their excretory power. The toxic products accumulated in the blood and generated such an irritation of the central nervous system that convulsions were evoked. If the kidneys were altered in their functions so that they were incapable of excreting the toxic matters, an accumulation of

these substances took place, which caused a worse lesion of the kidneys. Ahlfeld believed that the placenta was the place from which the poison attained to the circulation of the mother, and that the poison was an alkaloid which came from the foetal circulation or was formed in the placenta. Pressure upon the ureters had been thought to be a cause of eclampsia, while some believed that traction by the ureters on the kidneys led to circulatory disturbances, with resulting fatty degeneration of the kidney epithelium. Some held the view that the eclamptic attack was determined by brain anæmia, the latter being due to vascular spasm.

With reference to treatment, too much emphasis could not be laid upon the importance of prophylaxis. If prodromal symptoms were plain, the hot pack should be used, the patient put upon a milk diet, and cathartics given. Should the symptoms grow worse, the question of evacuating the uterus must be considered. Especially in the earlier months, if symptoms were present which indicated renal disease, interruption of the pregnancy was imperatively demanded, unless the morbid phenomena yielded promptly to general treatment. If pregnancy was allowed to continue, eclampsia was developed, or such extensive changes took place in the kidneys that after childbirth they did not return to their normal condition, and chronic nephritis might result. In eclampsia the indications were, first, to lower the excitability of the brain by narcotics; secondly, to cut off the effects of the centripetal irritations starting from the sexual organs by as speedy an ending of the birth as possible consistent with safety to the maternal organism; thirdly, to counteract the effects of the toxæmia by restoring the functions of the kidneys as quickly as possible and by producing elimination through other channels. Another indication was to lower arterial tension, and it was to meet this indication that Norwood's tincture of veratrum viride was so enthusiastically recommended as a rule. Its good effects were doubtless due to its power in calling forth profuse diaphoresis and diuresis. Personally, the author was not a very enthusiastic advocate of the drug. To meet the first indication, hypodermic injections of morphine should be exhibited and their effects carefully noticed. Chloral had been highly commended, but its use demanded great caution, especially if the heart was at all weak. Chloroform should not be used for any great length of time, as it readily led to fatty degeneration of the heart and other organs, and impaired the activity of the kidneys. Bloodletting he did not employ except when œdema of the lungs threatened in a strong woman, when perhaps a copious venesection was permissible. Salt infusions, with and without venesection, had been advocated also. To meet the second indication, we were all agreed that, if the birth could be ended without risk to the mother by forceps, version, or craniotomy if the fetus was dead, this should be done while the patient was under an anæsthetic.

This presupposed that the os was already dilated or readily dilatable; on the contrary, if the os was not yet sufficiently dilated, or if the cervix maintained its form and was unyielding, the question was still a mooted one as to the indication. On the one hand, there were those who insisted that we

should wait patiently until sufficient dilatation had taken place before actual intervention, keeping the patient meanwhile under the influence of narcotics; on the other hand stood Dührssen and his followers, who, in cases in which the cervix was dilated above but the os undilated, made deep incisions in the cervix, the vagina, and the perinæum, and then delivered by operative intervention. When the cervix still maintained its form, they introduced a colpeurynter or Barnes's dilator into the uterus; in the case of the colpeurynter, effecting dilatation by continuous contraction. If sufficient dilatation was not attained in this way, deep incisions might be necessary in addition. Dührssen, in a late contribution to this subject, had expressed the hope that the classical Cæsarean section in eclampsia would soon be completely replaced by the vaginal. The favorable effect of operative evacuation of the uterus in eclampsia was clear from the fact that, according to his statistics, the disease was relieved in 93.75 per cent. of the cases, while in spontaneous birth, this is the case in only 78.9 per cent. He recommended, therefore, the Cæsarean section *per vaginam* in case the cervix maintained its form; in dilatation of the supravaginal part of the cervix, on the contrary, the delivery with the aid of his deep cervical incisions.

An important point to bear in mind was that in the adoption of *accouchement forcé* the patient should be profoundly anæsthetized. To fulfill the third indication, profuse diaphoresis should be excited by the hot packs, as in this way toxic matters were eliminated. In convalescence the patient should be carefully watched, diaphoresis and diuresis promoted, and a milk diet enjoined.

Dr. Simon Marx said that in his opinion not enough stress had been laid upon the particular factor which existed in these cases, viz., the diminution in the amount of urea excreted. In those cases where there were no pathological evidences in the urine, such as albumin or casts, there was one of two conditions present: 1, A true toxæmia of pregnancy. 2, Mechanical pressure upon the ureters, a so-called urinæmia. This latter point had been referred to by Dr. Herzfeld in his analysis of one hundred thousand cases of labor, among which there were one hundred cases of eclampsia; among the fatal cases—eleven per cent.—not one was due to any organic trouble, but all were due to a mechanical cause, viz., pressure upon the ureter; there was a bilateral hydronephrosis due to pressure upon the ureters at that point where the ureters passed over the brim of the pelvis. These cases of uræmia, or true urinary toxæmia, occurred in primiparæ, with the early engagement of the head in the other cases of toxæmia, the urea, or one of the congeners of urea, probably nitrogen, was diminished. He had yet to see a case in which uræmic symptoms were present where the total amount of urea excreted was not diminished. On the other hand, he had repeatedly seen cases in which the urea had gone down to one half per cent. in twenty-four hours, and there had not been a single symptom of uræmia. The only way that we could account for this state of affairs was by bearing in mind that we did not know absolutely the normal amount of urea excreted under normal non-pregnant conditions by any particular woman; thus, there might be a very

small amount excreted as in one case then under observation at the hospital, the woman excreting but three quarters of one per cent. In private practice we should be very wary of the small amounts of urea excreted and watch the case; but in hospital practice we did not bother so much with it, since underfed patients passed less urea at all times than better-situated women.

Regarding the treatment of eclampsia, he was of the same opinion to-day as he had been several years ago; we should be heroic. He had yet to see a case, with the excretion of urea diminishing day by day, with the symptoms of intoxication present, that did not demand the induction of premature labor. Men abroad felt that Cæsarean section was justifiable in those conditions where the integrity of the maternal parts was threatened, due to the unpreparedness of the canal. He could readily imagine a primipara, especially an elderly one, with a long cervix, etc., in whom delivery from below would entail frightful lesions; there he thought we should be serving both mother and child best by doing a Cæsarean section. Regarding the administration of veratrum viride, he had never had any good results following its use. With regard to bleeding, he had seen excellent results follow in selected cases. He certainly would not venesect a woman who was in poor health, pale, anæmic; but he certainly would, if she was stout and plethoric and could afford the loss of blood. In any case where he emptied the uterus he allowed the woman to bleed from that organ, the so-called uterine phlebotomy.

Dr. George L. Brodhead said it seemed to him that, while unquestionably the intestines, the skin, the liver, and the lungs were all at fault, we must remember that the principal organ to which our treatment must be directed was the kidney. Treatment should be directed to the kidneys, just as if we had to deal with an acute nephritis without the coexistence of pregnancy. Therefore the great necessity of careful observation of the urine throughout pregnancy, noting the amount of albumin and urea excreted. Many patients were careless and negligent in sending specimens of urine to the physician for examination, and a number of weeks elapsed perhaps during which time no examination is made; then the patient might complain of severe headache, and an examination revealed the fact that the urine was loaded with albumin and the amount of urea was diminished. Unfortunately, eclampsia even at the present time was attended by a mortality rate which was very high, and the great value of prophylactic treatment was therefore apparent.

Regarding the cause of eclampsia, we had all seen women with thirty, forty, or even fifty per cent. of albumin, with but few symptoms of toxæmia. He could not agree with Dr. Marx that the chief cause of this condition was the diminution in the amount of urea excreted, because he had observed that many women during pregnancy excreted a comparatively small amount of urea without a single symptom of intoxication; we must note both the amount of urea excreted and, also the amount of albumin present. Whenever, in spite of treatment, the abdomen was steadily enlarging, the urea excretion decreasing, and general symptoms of toxæmia were present, labor should be induced.

With regard to the emptying of the uterus when

puerperal eclampsia had occurred, he believed that it should be done as quickly as possible, duly considering the soft parts of the mother and child. When the patient was in the second stage of labor, there should be no hesitation in completing the labor by forceps, version, or craniotomy; in the first stage, his experience had been that, if we allowed the patient to go on without treatment, the results were uniformly bad, and his experience had shown him that in these cases labor proceeded slowly. Therefore we should hasten dilatation by the use of bags, or the hand when the cervix was soft and readily dilatable.

Dr. Egbert H. Grandin said that the great difficulty now presenting itself was in deciding just when eclampsia was impending and when it was not. He did not fear albuminuric patients, for many frequently went to term without eclampsia. If, on the contrary, there was no albuminuria, and there were few if any casts, but the patient had urinary insufficiency, with an absolute diminution in the amount of urea excreted, in spite of recognized dietetic and medicinal treatment, then we should elect to empty the uterus; at the same time he was very much in confusion regarding uræmia. He had seen two patients only last year who, notwithstanding urinary insufficiency and diminution in the amount of urea, had gone to term and been delivered spontaneously without eclampsia. The condition was not the result of albuminuria or uræmia, but it was a toxæmia, partly from the liver, the kidney, and the intestinal canal, and partly from the fœtus. Veratrum viride in his hands had proved an absolute failure, convulsion following convulsion, although the pulse was kept at 40. To lower arterial tension venesection was the method *par excellence*, and he considered nitroglycerin far superior to veratrum viride, because it acted more quickly. It should be given in doses of one tenth or one fifth of a grain hypodermically; the effect was evanescent, and therefore it might be repeated frequently. He believed opium to be a drug which was also contraindicated, because it locked up the secretions. As a sedative for the nervous system he preferred chloral and bromides. He saw no objection to chloroform because of its effect on the kidneys, but of course ether was contraindicated. In using chloral he gave 60 grains *per rectum*, with 60 grains of sodium bromide. As for surgical treatment, under ordinary conditions he used elective accouchement, the muscle being caused to yield to pressure applied by the hand.

Dr. Ralph Waldo emphasized the necessity of inducing labor when the patient was threatened with eclampsia. He had seen five patients within three weeks, all during the serious stage of eclampsia. Four of the five had died, and all the children were born dead, showing the necessity of prophylaxis if possible.

Dr. R. A. Murray thought that nine out of ten pregnant women did not drink enough water, and that the condition was one of toxæmia. He believed in rapid delivery, but not in *accouchement forcé*, and he thought the danger from Cæsarean section was less than the danger of sepsis from incision in the cervix, and in using force after incising, the tear might extend into the bladder or even the peritoneal cavity, and the child be lost.

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A CONTRIBUTION TO THE DIFFERENTIAL DIAGNOSIS OF APPENDICITIS.*

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This paper is simply an enumeration or report of a few cases which have come under my observation in the last eighteen months, and in which the diagnosis was more or less involved. Some were diagnosed as appendicitis and proved such. Some were diagnosed as appendicitis and proved something else, and some were diagnosed either not at all, or as something other than appendicitis and proved to be appendicitis.

I was called late at night, during July, 1901, to see a woman who was to be operated upon early next morning for appendicitis. On my arriving at her home, one room was already prepared for operation, in so far as it was stripped of its furnishings, and the floor thoroughly scrubbed, and the doctor had appointed nine o'clock next morning as the time for operation. The patient was in a state of nervous excitement, presumably due to the proposition of an early operation. At first sight she made the impression of an hysterical woman. She was so thoroughly unstrung that I could get no coherent history from the patient herself. From her husband I learned that she had been confined to her bed for ten days, but had felt tired and languid for a long time, ever since she had had the grippe, some two months before; that her bowels were either constipated or very loose and never regular; that she had pain all over her abdomen, particularly on the right side; that she had a great deal of gas in her stomach; that she vomited occasionally, and had had a severe fever for a number of days and very severe pains in her heels and the calves of the legs. On examination, I found an ice cap over the region of the appendix; the abdomen was distended slightly and very sensitive all over to superficial touch, yet more forcible pressure was not so painful—a significant point, which I did not interpret on my first examination. There was no induration or exudation; temperature 101° per rectum; pulse 82; vaginal examination negative; liver dullness normal. I made no diagnosis, kept on with the ice cap, directed my treatment to clearing her intestinal tract, gave her bromides, and assured her that an operation was not indicated, at least not at present; and so I watched this patient for a week, seeing her daily,

before I grasped the situation. I had made up my mind that it was not appendicitis and that she was probably hysterical; yet why did she have a high temperature? As I entered the room on the morning of the seventh day of my attendance, I found my patient on the floor near her bed, and the attendants making ineffectual attempts to lift her up. She had fallen in an attempt to leave her bed for her couch near by. We succeeded in getting her back to bed, but she was a dead weight. She could not only not stand on her feet, but she could not coordinate properly. This accident prompted a search in a new direction, and it proved a revelation. There was muscular enfeeblement over the lower extremities, symmetrically developed in its distribution; tendon reflexes greatly diminished and subsequently abolished; foot-drop was pronounced and became complete; tactile sensations abnormally sensitive, which accounted for her superficial abdominal pain. This grew gradually worse until there was intense pain, as if tingling with extreme cold or heat, preventing sleep and followed later by delirium. The pupillary reaction was normal throughout; the mental symptoms developed progressively with the motor and sensory disturbances; her irritable and excited state was followed by apathy and indolence; her depressed mental condition was marked most prominently by forgetfulness, which pertained especially to immediately past experiences. Events and conditions prior to her illness she remembered well, but she forgot almost immediately what was said only a few moments previously, and repeated questions at intervals of a few minutes. Shortly she did not know the month or day or even the hour of the day in which she lived, and this in most striking contrast with her ability to remember the slightest details of her early life. This case was one of multiple neuritis, probably alcoholic. She continued in this way for three months, when her mental condition improved gradually and became perfectly clear long before there was any improvements in her motor and sensory disturbances. She eventually recovered.

A middle-aged woman, who is still menstruating regularly, and has always menstruated regularly, consulted me to see if she had a recurrent appendicitis in November, 1901. She had had a very severe attack of appendicitis two years prior to her consulting me. She gave the history of having been taken sick with severe pain in the right iliac region and fever, followed by a large exudation in that region, which gradually disappeared at the end of several weeks. She complained that her bowels had not been regular since and that of late she was having the same kind of pain in the same region as before.

She looked anxious; had a temperature of 100° per rectum; the typical spot, McBurney's point, was sensitive on deep pressure, with no sensitiveness elsewhere; there was no exudate (I long since have

* Read before the Physicians' and Surgeons' Society of Newark, N. J., May 15, 1902.

ceased to regard the absence of an exudation as an argument against appendicitis). I assured her that she had a recurrence of her old trouble, put her to bed, applied an ice cap, restricted her diet, and kept her bowels open. In a week's time she felt all right; she resumed her work; in a few days her pain and all symptoms returned; then she stayed in bed for two weeks; all symptoms again abated, only to return when she got up. I then told her that in all likelihood she was suffering from a chronic catarrhal appendicitis and ought to have her appendix removed. She finally consented to an operation. It promised to be an easy case—typical; localized tenderness, no rise of temperature, temperature never over 100°, and would always subside on her going to bed; no exudate; everything clear. On opening the abdomen, the colon looked normal. I found the head of the colon easily; there were no adhesions, but there was no appendix. There was a scar at the union of the lateral striz; but there was no appendix. I continued my search for a probable cause of the trouble, and found a small ovarian cyst on the right side. This was removed and the patient was discharged in two weeks. There has been no trouble since. It is my belief that during her attack of appendicitis there must have been an abscess which discharged through the gut and so led to a spontaneous cure.

Two summers ago I met a gentleman whose wife was formerly a patient of mine. I inquired about his family and learned that he and his family were living at the seashore permanently for the good of the children. They were all well, he said, except his wife, who had a chronic catarrhal appendicitis, but refused to be operated upon. She was afraid of the operation, and when the pain was very severe she would go to bed for a few days and get over it. This occurred every month or two. I heard nothing more until last December, when the husband telephoned to have me come to his home prepared to operate on his wife for appendicitis, stating that she had gradually lost in health, was practically an invalid, and had at last made up her mind to have her appendix removed, adding that I had better make haste, for she was subject to passing fancies and might change her mind. I could not arrange to see her, however, at that time, and a week passed before I had a chance to examine her. Four years ago she was the picture of health; two years ago she began having pain in her right side, which was repeatedly diagnosed as appendicitis. The trouble continued for two years, and at the time of her examination she looked the shadow of her former self. I examined her, and she had a floating kidney on the right side, easily recognizable.

Last April I saw a young woman who was suffering with excruciating pain in the epigastric region. The onset was abrupt and required opiates; the bowels were constipated; there were persistent but ineffectual attempts at vomiting; the pulse was small but very rapid; the temperature normal; the woman was very obese; there was localized tenderness over the epigastric region and nowhere else. I thought of biliary calculus, but finally excluded this, for her stools were normal in color; there was no icterus; the pain was directly in the centre of the epigastric region. The only thing in favor of biliary trouble

was her inability to digest fats. Milk acted like an irritant poison even when peptonized; so did starches in the way of toast; nothing but beef broth in small doses would do. It was at this time that I read Dr. Otto H. Schultze's article on pancreatic fat necrosis, which came out in April, 1901. The case answered precisely the requirements. There were slight elevation of temperature, rapid pulse, and persistent tachycardia; the patient was very obese, and the pain was of an excruciating character in the epigastric region; and so by exclusion I strongly favored the diagnosis of pancreatitis with probable fat necrosis. After some little experimenting in the selection of a proper diet, it was established that beef broth was the only thing that she could take and be comparatively free from pain, when supplemented with pepsin and hydrochloric acid; milk, starches, meat, and alkalies acted as irritants. This diet of beef broth was kept up for weeks at a time, practically from April to January of the next year, and if deviated from even to a slight degree would be immediately followed by severe pain and prostration. She naturally lost a great deal of weight. It was during one of these digressions during December, when a little toast and steak had been taken, that she complained for the first time of tenderness in her right side, together with pain in the epigastric region. This was the first symptom that suggested appendicular trouble. In two days there was a slight exudate, which disappeared in a week's time, due to rest in bed and ice applications. The temperature did not rise over 100°, although the pulse remained high, varying between 100 and 120. After the exudate and tenderness had disappeared entirely, she was operated upon for appendicitis and a diseased appendix was removed. She returned home in three weeks and has had no trouble since; she eats and drinks whatever she chooses.

A woman, aged about forty-two, while traveling abroad three years ago, was taken sick with what was diagnosed as appendicitis, at Zurich. An operation was proposed, but she refused, and recovered perfectly, so that she continued her journey. On reaching Berlin, several months later, she was taken sick again with what was diagnosed as hypertrophic cirrhosis of the liver, and the attending surgeon emphatically denied the likelihood of her having had appendicitis when sick at Zurich, and ordered her to go to Carlsbad to take a course of treatment there. She recovered and returned to this country. In February, 1901, she was taken sick with appendicitis. This was a typical case. It was mild in its course; she recovered in three weeks, and during her illness promised to have her appendix removed as soon as she had fully recovered from that attack. On recovering, however, she regretted her promise and refused an operation. She remained well until May, 1901, when she was suddenly taken severely sick with most excruciating pain in the epigastric region, radiating to the right over the liver region. The pain was so severe that she fainted; it was colicky in nature and accompanied by a marked prostration. Morphine was administered and the attack was regarded as biliary colic. After the effect of her morphine had worn off, the pain in the epigastric region returned, was constant in character, and was associated with

marked dyspnoea, a regular gasping for breath. She had only a slight elevation of temperature and a slightly accelerated pulse rate. I had appendicitis constantly in mind, having seen her pass through a typical attack. Had I not known this, I should have been positive that her present attack was one of gallstone colic, for up to that time there was absence of all local tenderness in the region of the appendix and there was no exudate. She continued in this way for two full days. During the night of the third day I was hurriedly called, and found my patient in collapse. Her pulse was 150 and thready in quality, temperature 105.5° per rectum, the skin was cold and clammy, and she could scarcely speak. Her abdomen was slightly tympanitic and tender only over the epigastric and liver regions. Was she suffering from a perforation of the gall bladder? As the day wore on she rallied; her temperature dropped to 103° and her pulse fell to 120 and became better in quality. Her pain disappeared to such an extent that she herself announced that she was better, but in the right iliac region an exudate appeared which was tender on deep pressure, and this pressure also imparted a sensation of pain to the epigastric region. I now advanced the diagnosis of appendicitis, and considered the advisability of an early operation. On operating, we found a large abscess cavity; the appendix was wholly embedded in fat, but free in the abdominal cavity, and was perforated close to the head of the colon. The appendix was removed, the cavity, which was very extensive, was drained and packed with sterile gauze, and the patient made a good recovery and has remained well since.

A young man of thirty-two was about to be operated on for gallstones. For two years he had suffered with colicky pains at irregular intervals and of varying degrees of severity. These pains were referred to the region of his stomach. They were accompanied with constipation, sometimes following indiscretion in diet, and again would come on without any assignable cause; they would vary in length from a day or two to a week, and then all would be well until the next attack made its appearance. There was never any icterus, nor were the stools ever clay-colored. I do not know whether there was elevation of temperature, nor do I know the condition of the pulse. During the two years that he suffered with these colicky attacks he lost weight gradually to the extent of twenty pounds, and latterly after an attack he would not tune up to his accustomed business pitch. It was for this reason that he had about yielded to the persuasion of his doctor to have his gall bladder opened, and it was after he recovered from one of these attacks that I was asked to see him. After a careful examination I was of the opinion that he did not have attacks of biliary colic, but simple attacks of indigestion, due probably to too rapid eating and insufficient exercise, for he admitted that he begrudged every moment he spent away from business and frequently bolted his food. We arranged for proper exercise, consisting of horseback riding, and a system of baths. He abstained from fried dishes and restricted himself to boiled and broiled foods. In the way of medicine, I prescribed a mixture containing rhubarb, soda, and nux vomica. During the following two months he did remarkably

well. His colicky attacks did not return at their accustomed time, his bowels moved regularly, and his buoyancy for business undertakings returned, but he became a little lax in the prescribed methods of exercise. He would substitute a drive in the place of a ride, and his weight remained stationary at 135, previously having averaged 150. It was while driving with his father on a blustering day that he became chilled. This was followed by the most violent attack of colic he had ever had, accompanied by vomiting and marked prostration. His pulse was 70, temperature 98.5° (right after the attack). This was in the morning. By night his temperature was 101°, pulse 80, and now he presented local signs of appendicitis, and I was prepared to operate should the pulse and temperature take an upward tendency. He recovered, however; in two days the temperature was normal and stayed so. His pulse dropped gradually to 70, 60, 50, and 46, and fluctuated between 46 and 54 until the time of the operation, eleven days after the onset of the attack. His temperature on this day was abnormally low, 97.5° per rectum. The operation was exceedingly tedious; the appendix was entirely enveloped in the exudate of lymph, was tightly bound down by old adhesions to the posterior surface of the colon, and followed an upward and inward direction. This position may account for the location of the pain in the liver and epigastric regions. He made an uneventful recovery. The singular feature in this case is the persistently slow pulse rate. I have on several occasions noticed a very slow pulse several days after a severe or protracted case of confinement, but never in connection with appendicitis.

Within four months I saw two patients who gave identical histories, differing only in the length of time they had respectively suffered from attacks of indigestion and in the number of attacks they had had. One was a young lady of sixteen, the other a young man of eighteen. The young lady had had six attacks of colicky abdominal pains during two years; the young man had had as many as seventeen attacks during three years. Each was regarded as suffering from dyspepsia, and each rallied from the severer attacks more and more tardily. I saw these patients during their last attacks and concurred in the diagnosis of appendicitis with Dr. James T. Wrightson. I operated, and all signs of indigestion and dyspepsia disappeared, and the general nutrition has been steadily improving in each ever since.

A girl of thirteen, who had never menstruated, began to complain in a very indefinite way of not feeling well. Naturally of a bright disposition, she became inattentive to her lessons in school and listless to small errands and household duties. Her appetite failed, her bowels were constipated, she lost weight, looked sick, and little by little preferred to stay in bed. Her doctor pronounced her in a run-down condition and prescribed tonics. After several weeks' trial and no improvement, I was asked to see the patient. I ascertained that her father died probably of consumption, and one paternal uncle died of the same disease. The area of liver dullness was increased, and the entire region was sensitive to pressure. The tongue was coated, temperature 101° per rectum and pulse 95. There was a hectic flush on her cheeks, with glassy-looking eyes and dilated pu-

pils. This was in the afternoon. Next morning her temperature was normal, pulse 82. I continued the tonics and in addition depleted her portal circulation by means of salines. In a few days the area of liver dulness diminished; there was less pain, but each night she had an elevation of temperature, varying between 100° and 101° . I insisted that she be kept out of bed, ordered exercise in the open air, and considered the advisability of sending her to the country and putting her on cod liver oil. Shortly I found her walking about with a very anxious facial expression and a tendency to favor the right side. This tendency increased until there was a decided bend to the right side while walking. There was no pain or tenderness, however, over the spinal column, but the spinal muscles on the right side were rigid and sensitive. I now thought of Pott's disease and the advisability of applying a plaster jacket. The mother, however, thought it was too bad to have her daughter tortured in this way, and refused to report at the appointed time. She failed to put in an appearance for ten days, and when she returned she brought with her a personal note from Dr. Abraham Jacobi, which read: "This is a case of perinephritic abscess and needs early and very extensive opening." Her urine was normal throughout the course of the disease and has remained so to the present day. Since my last visit the symptoms had remained the same in kind, but had become more pronounced in degree. There was greater curvature, greater rigidity of the spinal muscles, and there was a very slight bulging at the outer border of the right quadratus lumborum, but what was the origin of the pus? Judging from the gradual onset of the trouble, I thought it probably came from caries of the anterior portion of the bodies of the lumbar vertebrae. There were never any symptoms or local signs referable to the anterior region of the abdomen at any time. I operated, however, on the suggestion of Dr. Jacobi, making the regulation Simon nephrectomy incision, and in doing so I came upon a large quantity of faecal-containing and smelling pus. The appendix was not found; it had probably sloughed off. The wound was packed with sterile gauze, the dressing changed daily, each time badly soiled with faecal discharge. Her symptoms rapidly disappeared, she gained weight rapidly, and in five weeks was discharged with a small faecal fistula and orders to adhere to a restricted diet. This was the last week in January, 1901. She did well until March, when she called and stated that the wound had opened again and discharged profusely. She applied dressings and bandages, and came to see me. The dressings were soaked with a large amount of liquid faecal discharge containing small pieces of undigested cabbage and caraway seeds. I cleansed the wound, scraped the sinus, and packed it to the bottom. This was done daily until May, when she went to the country, and wrote me that the wound was closed. In August she returned, complaining of pain in the scar (it looked inflamed). She also complained of pain along the outer border of the right rectus on a level with the umbilicus. She consulted Dr. Jacobi again and brought a note recommending another operation with a view of removing what there might be left of the appendix. She went to the hospital for this purpose, but during the two days allotted

for the preparation for operation she did so well that the operation was refused; she remained two weeks in bed with proper attention to her bowels and diet, and returned home perfectly well. She weighs more than ever now, her menstrual periods have set in, she eats and drinks everything, yet still she has an occasional pain in the region of the scar and anteriorly, as described. Yet there are no local signs of any trouble, and her appearance and pulse are such as to make me believe that she simply offers this complaint as an excuse for an occasional visit to my office. Since her recovery she has attended school again and stands No. 1 in her class.

A few weeks ago I was asked to see a case with Dr. James W. Wilson, in which he had made the diagnosis of abscess of the liver. The patient, a young woman, had been sick eighteen days. She was taken sick with general abdominal pain, obstinate constipation, and vomiting. The pain gradually centered in the right flank, just below the free border of the ribs, and it was here the doctor thought the abscess of the liver had pointed. On examination, there was flatness over the abdomen to the right of the rectus muscle, extending from and continuing with the liver dulness, down to Poupart's ligament. The rectus was tense, as were the muscles of the back; temperature 103° , pulse 140, facial expression anxious and haggard. I diagnosed phlegmonous appendicitis with large abscess. She was operated on. There was a tremendous amount of thick, foul-smelling pus. The appendix had entirely sloughed off, the colon was very cedematous, and there was a large slough into the head of the colon which marked the site of the appendix. Several attempts were made to close the opening with a purse-string suture, but the tissue was so friable that the suture tore through, so the opening was only ineffectually closed. It was covered with gauze, and the rest of the huge cavity was packed with sterile gauze. In five weeks she was discharged. There was still a small sinus.

A middle-aged man, a carpenter by trade, returned home well after a hard day's work on a Thursday in December, 1901. During the night he was taken sick with severe pain in the region of the stomach. The pain was so severe that a morphine injection was given. During the next day the pain continued, and a second injection was given. At the end of the second full day his abdomen was distended and tender all over, temperature 102° , facial expression very anxious, no localized tenderness. I saw the patient at this time with Dr. George R. Kent, and concurred in the diagnosis of general peritonitis, due to appendicitis, and, judging from the fulminating character of the onset, absence of local tenderness, absence of the history of liver complications, ventured the diagnosis of septic peritonitis, due to a gangrenous appendix. The operation was at once performed, and the abdomen was full of pus. The appendix was found without any difficulty, but was not only not gangrenous, but not perforated, and only moderately diseased and slightly bound down by adhesions. It was severed by means of a Paquelin cautery. The abdomen was washed out with salt solution and the exposed loops of intestine were washed with peroxide of hydrogen. Within twelve hours thereafter the patient became

wildly delirious and his parotid glands began to swell. During the next day his knee joints became involved, and he died just three full days after the operation, of pyæmia.

The Post Mortem.—Those portions of intestine which were reached by the peroxide were least involved. Here the lustre of the peritonæum was gone, but the loops of intestine were not matted together; elsewhere they were matted together, especially in the dependent portions of the abdominal cavity. The liver was covered throughout with an exudate of lymph a quarter of an inch thick, which was as tough as leather.

A girl, thirteen years old, began to complain, just as abruptly as the preceding patient, of pain in the abdomen, in the region of the appendix, on a Friday night in January, 1902. She grew rapidly worse, as indicated by the intensity of the pain, elevation of temperature, and quality of pulse, and by Sunday had general peritonitis, with marked distention. The attending doctor did not believe that she had general peritonitis, because her bowels had moved. I was inclined to regard the case as one of general peritonitis with perforation of the appendix. The operation revealed general purulent peritonitis and the queerest-looking appendix I had ever seen, as the specimen will show, strongly bound down by adhesions, but there was no perforation. For the next three days the patient vomited incessantly, and after repeated washings out of the stomach with large quantities of normal salt solution the tympanites disappeared, her abdomen became perfectly flat, she passed gas, and had several movements of her bowels. On the fifth and sixth days she did well on champagne. On the seventh day she was given peptonized milk, which also agreed with her. On the eighth day she was allowed beef broth. Her temperature, which was 104° at the time of operation, gradually dropped to 100°, but her pulse remained high throughout, 120 to 130; yet I entertained a hope of her recovery because all tympanites had disappeared, flatus was freely expelled, and she had retained all her food since the fourth day. During the afternoon of the ninth day she suddenly vomited and went into collapse, and her temperature, which was 100° in the morning, within four hours ran up to 107.5°, when she died of septicæmia. An autopsy was not allowed.

These two cases were especially interesting to me because of their striking points of similarity and dissimilarity. Each was a primary attack of appendicitis of a very acute and virulent type; each was followed very rapidly by a general septic peritonitis; so rapid was the development of peritonitis that a diagnosis of gangrenous appendix was justified in each case, and yet neither case showed even a perforation. They differed, however, typically in the progress of the infection; one was a typical pyæmia with moderately high temperature, and a strong, bounding pulse, and the patient, wildly delirious, died a maniac. The other was a typical septicæmia, with a small, thready pulse and high temperature, and the patient, perfectly conscious, met death as "tranquil as a star meets dawn."

493 HIGH STREET.

A RÉSUMÉ OF FORTY-EIGHT CASES OF POSTOPERATIVE CRURAL THROMBOSIS.

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Thrombosis of the crural veins following surgical operations has been recognized for many years, yet comparatively little has been written on the subject, and in many of our leading text books and systems of surgery and gynecology only brief mention is made of this important postoperative complication. Appearing as it does late in the convalescence, at a time when every danger and every unfavorable symptom have seemingly passed, it is an ever present possibility, especially after pelvic operations, and is one of the events ever to be borne in mind and watched for during the later days of convalescence.

The literature contains fairly numerous reports of isolated cases, but there have been few papers based on a large number; thus, Lennander, of Upsala, reports five cases; Strauch, three cases; Mahler and Leopold, fourteen, followed by pulmonary embolus; Wyder, twelve; Coe, six; Van Derveer, three; and Meyer, two. Lennander's and Meyer's cases followed appendectomy.

Many ætiological factors have been mentioned in connection with this condition, but unfortunately pathological findings have rarely been reported, as autopsies in these cases are infrequent. It is with the idea of grouping together a comparatively large number of such cases and bringing out, if possible, any factors which may be common to all that the following forty-eight cases have been studied. These are all which have occurred in the thirteen years during which the gynecological department of the Johns Hopkins Hospital has been open. The report is necessarily a purely clinical one, as no opportunity for a post mortem examination has occurred.

Since the gynecological department of the Johns Hopkins Hospital has been open there have been 7,130 patients operated upon, and the records of these furnish forty-eight cases of thrombosis of the veins of the lower extremity. Besides these there have been a certain small number of patients who have complained of pain in one or the other extremity, but this pain has generally been so transitory, and the patient so free from the other symptoms of thrombosis, that these have not been considered. The forty-eight cases have shown a frank thrombosis, and the after-course has been such as to justify the diagnosis.

The operations were as follows:

Perineal alone	4
Hysteromyectomy and myomectomy.....	19
Ovarian cysts	9
Hysterectomy for carcinoma	5
Suspension of the uterus	3
Suspension of the uterus with repair of the perineum	4
Hysterectomy for pelvic inflammatory disease..	1
Miscellaneous	3

The most striking fact brought out by these figures is the large percentage of cases following operations for the removal of large tumors—twenty-eight of the forty-eight cases, or fifty-eight per cent. having occurred after pelvic tumors had been removed. These are not, as a rule, the cases in which there is the most traumatism, the loss of blood is not usually so great, and the chance of infection surely is not so great as in hysterectomy for inflammatory trouble—yet but one case of thrombosis occurred after the latter operation.

The factors playing a rôle in the formation of thrombi have been so thoroughly discussed in recent monographs on the subject that it is here unnecessary to repeat them. All the later publications have been based upon the exhaustive study of the subject by Welch, in Allbutt's *System of Medicine*. Suffice it to repeat that there are three main theories, namely, (1) changes in the blood itself, (2) mechanical interference with the circulation, and (3) alterations in the vascular walls; brought forward respectively by Hunter, in 1793, Virchow, in 1846, and Brücke, in 1857.

Before reviewing these possible causes Welch says: "While it is generally agreed that slowing and other irregularities of the circulation, contact of the blood with abnormal surfaces, and changes in the composition of the blood are concerned, singly or in combination, in the causation of thrombosis, there is much difference of opinion as to the relative importance of each of these factors and as to the part of each as a proximate, as a remote, or as an accessory cause."

To these three theories must be added infection, now generally recognized as the most potent ætiological factor, especially in those thrombi following operation, as well as the effect on the blood of toxins produced by the microorganism of infection.

What influence has the condition of the blood itself? Chemical changes, such as a high content of fibrin ferment, are probably of no importance in producing thrombosis, as no relationship seems to exist between the rapidity of coagulation of the blood outside the body and the occurrence of coagulation in the veins. That toxins developed from bacteria and circulating in the blood play an important rôle in this connection, there can be no doubt.

Blood platelets are an important constituent of thrombi, as shown by Osler, Hayem, and others. That the platelets are increased in the secondary anemias of cachexia and septic conditions and after the loss of considerable quantities of blood, is an accepted fact. In tabulating our forty-eight cases of postoperative thrombosis, we find anæmia (with hæmoglobin varying from 20 to 50 per cent.) noted in eleven, but the cases have not been the most frequent after those operations (panhysterectomy for carcinoma and hysterectomy for inflammatory conditions) in the course of which considerable loss of blood took place.

Virchow laid great stress upon the slowing of the circulation in the formation of stagnation thrombi, and mechanical disturbances of the circulation have always been considered a factor in their formation. The relative infrequency of postoperative thrombi in the right crural veins is thus explained, for the left common iliac is not only longer and pressed upon by the right common iliac artery, but is also subject to pressure from the rectum. In ten of our cases the right leg alone was affected, and in two there was well marked thrombosis in both extremities.

The importance of faecal masses in the lower bowel is difficult to judge, for a large majority of gynæcological patients are habitually constipated. Constipation is especially mentioned in but seven of these histories, but was undoubtedly present in many more cases. Attention has also been called to the frequent use of enemata after operation as a possible causative factor. These have always been used in our wards, whenever required, but no records as to number given in this group of cases are available.

Strauch, of Moscow, attributed the thrombosis which he observed in five cases to the use of the Trendelenburg position. If the elevated position is maintained by a flexure of the knees, with consequent pressure on the popliteal veins, this might produce conditions favorable to the formation of venous clots. In our cases, however, this position has always been maintained by fixing the shoulders, and there has consequently been no bending of the knees. The use of the Robb leg holder in perineal work might act in this way, but only four of our cases have occurred after perineal operations alone.

Welch particularly emphasizes the importance of lesions of the endothelial lining of the vessels in the causation of thrombi, attributing the influence to both physical and chemical conditions—"The smooth, non-adhesive character of the inner surface of the vessels is the physical property which comes primarily into consideration," "Changes which impair or destroy the normal lining of the vessels play an important part in the ætiology of thrombosis. The efficiency of these lesions in causing thrombi is increased if, by projecting into the lumen, they ob-

struct the blood flow or by their rough, irregular surface set up an eddying motion of the blood." Our information concerning the chemical effect is less exact, but Reuter has shown that necrotic endothelium has a definite influence. Venous thrombosis is much more common after operations on the pelvic organs than after interference with those in other parts of the body. This is very probably due to the injury which is done the large pelvic veins, and in studying a series of cases following gynecological operations, one is impressed by the great importance of this traumatism. Whatever the significance of other factors, this seems to be of primary importance. After ligation of the pelvic veins a clot forms, extends to the first branch, and probably then projects into the lumen. Clots forming after an injury to the vessel wall, such as the pressure from the blades of retractors, also act as foreign bodies and cause extension of the clot. There have been several apparent epidemics of thrombosis in our cases, and these have seemingly ceased after more cautious use of the deeper abdominal retractors.

The part which infection has taken in the causation of the thromboses in these cases is difficult to decide. Are they essentially cases of phlebitis, and how great a factor has inflammation been in their production? In practically all there has been a rise of temperature, with, in some cases, an accompanying leucocytosis. Pain, sometimes chills, and constitutional disturbance are conditions which speak for an infective origin. Flexner has shown that many thrombi examined post mortem contain organisms, even where infection was not suspected during life. The facts that they have not followed pus cases and that the condition occurs occasionally after operations on the appendix, gall bladder, or right kidney—cases, in short, where the site of the operation is more or less removed from the site of the thrombosis—are points difficult to explain under the theory of infection.

These cases present many identical points as regards the symptomatology. In practically all the cases the patients were doing well and an uninterrupted convalescence was expected, when suddenly pain in the left thigh or leg was complained of and there was an accompanying rise of temperature. The date of onset has been remarkably constant in these forty-eight cases. The earliest was on the sixth and the latest on the twenty-second day after the operation, while in twenty-five it was between the twelfth and the sixteenth, and in all but four after the tenth day. Pain of a dull, throbbing character, sometimes in the thigh, but often in the calf of the leg or popliteal space, and marked tenderness along the line of the larger veins are noted in all the cases. Sensitive enlarged glands were present in but six, and the veins distinctly palpable in but five cases. Œdema,

sufficient to cause pitting, was also a variable sign, being noted in but thirty-eight per cent. of the histories.

It is noteworthy that albumin occurred in the urine in twenty cases—a percentage of forty-one—whereas in fifty consecutive cases of myomata and ovarian cysts, where no phlebitis occurred, there were but twenty per cent. showing albuminous urine.

The relation of the pulse curve to the temperature curve, which has been noted by Singer, did not occur in these cases, the heart rate corresponding closely to the amount of fever; whereas in the cases of puerperal thrombosis studied by him there was a rapid pulse previous to the elevation of temperature.

Two cases of pulmonary embolus occurred:

CASE I.—Mrs. C., No. 3492, aged thirty-nine, who had been married fourteen years and had had no children, was operated upon May 11, 1895, a large myoma being removed. On the seventh day there was an acute attack of pain over the lower left chest, and a friction sound was heard along the seventh and eighth interspaces behind. This pain continued until the thirteenth day and then gradually lessened, disappearing altogether on the fifteenth day. The friction sound also disappeared. During the attack of pleurisy the temperature reached 103° on several occasions.

On the eighteenth day, while straining at stool, Mrs. C. suddenly fainted and became almost pulseless. After recovering consciousness, she complained of a heavy sensation beneath the sternum. Examination of the lungs was absolutely negative, and, the symptoms of shock continuing for eight hours, a short incision was made through the wound and the field of operation inspected. This was found in perfect condition.

The next day the patient began to complain of pain in the left leg, and a well marked thrombosis developed, followed by thrombosis of the right femoral veins, both persisting for four weeks after the onset. Mrs. C. finally made a good recovery.

CASE II (No. 6657).—Mrs. M., aged forty-two, fifteen days after a double oophorectomy for inflammatory trouble, complained of pain in the left thigh and leg, and there soon developed swelling and tenderness. The interne in charge of the case cauterized thoroughly with the Paquelin.

On the thirty-fourth day Mrs. M. was seized with an intense pain in the left lower abdomen, and, despite free evacuation of the bowels, there was marked abdominal distention. This distention continued for several days, accompanied by paroxysms of intestinal pain, and after thirteen days the abdomen was opened. Four days after this second operation, shortly after her being turned on the right side, the nurse found the patient unconscious, cyanotic, with respirations gasping in character, 30 to the minute, while the pulse was fairly good and 90 to the minute. Examination of the lungs was negative. After half an hour consciousness was regained and the general condition was excellent. The swelling of the legs persisted at the time of the discharge from the hospital, thirty-five days later.

The former of these two cases illustrates the condition to which Miller has called attention, i. e., a pleurisy followed by peripheral thrombosis. Miller's theory is that a clot forms in the pelvic veins soon after operation. From this thrombus there is dislodged an embolus, which, getting into the pulmonary circulation, causes a plugging of one of the smaller branches of the artery and produces a circumscribed pleurisy over the area supplied by the plugged vessel. Later on, extension of the thrombus from the original focus causes a blocking of the crural veins, and the pain and swelling of the leg follow. In this case there was evidently a second, possibly larger, embolus set free, with more marked signs of interference with the pulmonary circulation.

In the second case there were no symptoms referable to the nervous system, and the condition of collapse must be regarded as that caused by a temporary plug in a branch of the pulmonary artery. The injury done the existing thrombi at the second operation may have been a factor in loosening the embolus.

The treatment of postoperative thrombosis in the Johns Hopkins Hospital consists in keeping the patient in bed with the affected limb elevated. This is best done by pillows placed under the leg, which is sometimes covered with compresses of lead and opium wash or simple cold applications, and sometimes wrapped in cotton. This elevated position should be maintained for at least five weeks after the onset of the symptoms. In the cases where the patients were allowed to walk before this time there were swelling and pain on allowing the leg to be in the dependent position, whereas this was not noted after treatment for the full length of time. Cauterization with the Paquelin and massage previous to the sixth week are absolutely contraindicated, on account of the possibility of dislodging an embolus. Immobilization with splints has never been practised.

Conclusions.—Thrombosis of the crural veins is more common after pelvic operations than is generally recognized.

It occurs more frequently in those cases in which large tumors, springing from the pelvic organs, have been removed.

It rarely follows extrapelvic operations.

In this series it has been infrequent after infected cases.

The anæmia and cachexia in consequence of new growths seem to be factors in its causation.

Constipation and the use of enemata play a doubtful part in the ætiology.

Traumatism at the time of the operation should be borne in mind and deep retractors used with extreme care.

Infection is undoubtedly of great importance, but its frequency is difficult to decide.

This complication often occurs when least expected and usually late in convalescence.

Albumin in the urine is more frequent in these cases than in those running an uninterrupted course.

The pulse curve of Singer does not always occur.

The results of rest and elevation for the full length of time are excellent. When the time is lessened, swelling and pain persist, and the danger of pulmonary embolus is increased.

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CLINICAL CONTRIBUTION TO THE STUDY OF EMPYEMA OF THE FRONTAL AND ETHMOIDAL SINUSES COMPLICATED BY EYE DISEASE.

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In view of the numerous and extensive publications on frontal empyema, which elucidate the subject exceedingly well, it may appear superfluous to contribute a single case. However, the sum total of our knowledge is made up of single observations, which, although constituting the limited experience of the individual observer, frequently form a valuable link in the chain of knowledge. I have also been encouraged by the president of the section to present this case, which offers several interesting features:

Mr. A. R., forty-eight years old, of strong physique and exemplary habits, had typhoid in 1878. In 1890 he could not breathe through the right nostril and was treated by Moritz Schmidt, of Frankfurt, Fischenich, of Wiesbaden, *et alii*, for it. The removal of the right middle turbinal was advised, but declined. The obstruction remained unchanged for five or six years and no other signs were noticed. In 1896 the breathing improved after treatment with an acid in London.

The first headaches were experienced, in Bonn, in September, 1898, where he was treated by Burkhart for influenza. After four days, before he was

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entirely well, he went to London, England, and from there travelled for three days directly to Rome, Italy, where the headaches became very severe. In August, 1900, epistaxis from the right nostril took place in moderate form. Between December, 1898, and the summer of 1901 the headaches returned regularly at intervals of from one to three months, extending from the root of the nose over the right forehead in two ramifications. Last summer they became very acute and were associated with photophobia. In September, 1901, a bad odor appeared, which seemed to follow his person and was finally located by himself as hidden in his head, not every day, passing over a day or two, returning again, but not at distinct periods of the day; the odor was not noticed by his companions. The sense of smell was not impaired. He felt an extreme lassitude and digestive disturbances, neither enjoying the food nor digesting it properly. His breath was bad, but his bowels moved regularly. On November 21, 1901, after rising, the pain in the head suddenly became agonizing and lasted until the 26th. After that time, until December 2nd, the pain was kept in control with anodynes by Dr. Freeman A. Ward, who then referred the patient to me.

I found apart from a hypertrophy of the right lower turbinal, the septum bent posteriorly above to the right, forming with the outer wall a narrow chink, through which the middle turbinal could hardly be seen. A streak of pus was running along the outer wall anteriorly from above. A probe entered soft tissue and could finally be introduced into the frontal cavity. A doughy swelling was felt in the inner angle of the right eye and the floor of the right frontal sinus was sensitive upon pressure.

The diagnosis of empyema of the right frontal and ethmoidal sinuses was beyond doubt. I proposed the removal of the right middle turbinal and curetting of the sinus through the nose, whereby free drainage could be established, reserving the opening from without, in case of insufficient result of the procedure. After removal of the middle turbinal with the alligator forceps I scraped the sinuses, as far as I could reach them, with the Grünwald spoon, which was carried sagittally with hardly any lateral sweep. There was very little pain and bleeding connected with this operation, which was performed in the presence of Dr. Ward.

The nose was plugged and the patient went home, but returned after four hours with a handkerchief in front of his right eye and suffering from extreme photophobia. Two red streaks, each running from the inner angle of the right eye over half of the upper and lower lid, had appeared two hours after the operation and looked like the result of fisticuffs. The frontal headaches had ceased, never to return, and the patient felt very much relieved in this respect. The plug was soaked with pus.

On December 3rd considerable swelling of both lids, chemosis of the conjunctivæ with mucous discharge, and closure of the eye were recorded. On the following day Dr. Thomas R. Pooley found:

Extreme swelling of the upper inner angle of both lids and ocular chemosis in O.D. There was slight exophthalmia, the eye being displaced inward and outward, and diplopia in the outer and upper field of fixation. The swelling of both upper and lower lids was very large, but more so of the upper,

characterized by excessive congestion, exquisite tenderness, and hardness of brawn color. The fundus of the eye was normal.

Owing to the great swelling of the lower lid, the presence of exophthalmia, and restrictions of the movements of the globe, Dr. Pooley diagnosed a probable orbital phlegmon, apart from the empyema of the frontal and ethmoidal sinus, and concurred with us in the performance of an immediate operation from without.

On the same day I operated in Dr. Bull's sanitarium with the excellent aid of Dr. Pooley, Dr. Ward, and Dr. Denton, the latter administering the nitrous oxide-ether.

An incision was made from the middle portion of the supraorbital margin and around the eye down to the ala nasi. There was periosteitis, which caused considerable bleeding. After exposing the supra-orbital border and floor of the frontal sinus, carefully avoiding an injury to the trochlea and the supra-orbital nerve, an opening was made into the frontal sinus with gouge and rongeur forceps, large enough to permit the introduction of a finger. About two ounces of thick creamy pus and a handful of polypi were removed with a sharp spoon, and then another separate cavity was emptied of pus and polypi, situated in the upper inner corner of the frontal sinus. The largest amount of polypi and carious bone was in the lower portion, which consisted of the broken down ethmoidal cells and was thoroughly cleared out. Apart from the carious condition of the floor of the frontal sinus and of the ethmoid cells, no caries was found at the posterior, anterior, and septal wall of the frontal sinus. A drainage tube was pulled through the natural opening into the nose, and the cavity filled with iodoform gauze. The eye was then pushed off by means of the handle of a scalpel and the orbital cavity behind it explored with the finger, but no pus was found.

The outer and lower angles of the wound were closed by one and three stitches respectively. On the day following the operation the condition of the eye was the same as before; the lower lid appeared even more swollen. Pulse 100; temperature 101° F.

December 6th I felt fluctuation on the lower lid and asked Dr. Pooley to make an incision; he accordingly made one upon the infraorbital border with subsequent introduction of his finger into the lower orbital cavity without finding pus. The subjective condition of the patient was now very uncomfortable.

December 7th the fluctuation on the lower lid was still more marked, but I was prevailed upon not to open the swelling, as I should have liked to. Temperature 102° F., pulse 110.

On the following morning, after removal of the dressing from the eye, spontaneous bursting of the abscess of the lower lid had taken place. The opening was enlarged with scissors and considerable pus removed.

The temperature had fallen to normal on the next day, and the patient made, from now on, an uninterrupted recovery. The opening of the frontal sinus was closed after about eleven weeks with obliteration of the sinus and excellent cosmetic result.

There are several points of extreme interest in this case, by which it differs from others published.

From the antecedent history it is well established that the patient has suffered from a chronic hypertrophic nasal catarrh, which was aggravated by the deviation of the nasal septum to the right and superiorly above, and which, together with the hypertrophy of the middle turbinal, led to a closure of the mouth of the frontal sinus in the infundibulum. After the ethmoidal and frontal sinuses were infected by influenza in December, 1898, it took four years until the final exacerbation brought the condition to an acute issue.

The aetiology of the case was clear enough and it was not difficult for anybody familiar with diseases of the accessory sinuses to establish the diagnosis of empyema of the frontal and ethmoidal sinus. But to what extent these sinuses were affected could not be made out; for neither the probe, the irrigations, nor transilluminations will give an adequate idea of it.

It was, therefore, a rational procedure to attempt at first the establishment of free drainage from the nose, and then after a futile trial to perform an operation from without. Rhinologists usually advocate this mode of procedure, while oculists are in favor of the radical measure from the beginning. Oculists, however, do not see these cases until the perforation has taken place into the orbit or at least until a large swelling is observed at the inner angle of the eye, while empyema of the frontal and ethmoidal sinus reaches the rhinologist at a much less advanced stage, before the eye is at all implicated. Jansen (1) alone advocates the early opening from without, when persistent headaches and profuse discharge of pus through the nose predominate, particularly when the odor continues; for the spoon reaches intranasally but a small portion of the sinus, and never those separate cavities in the sinus, like the one found in our case. On the other hand, there are on record many cases of empyema of the frontal and ethmoidal sinuses operated on through the nose, and I may mention an observation of my own, a case in which I opened an abscess of the frontal sinus intranasally and emptied considerable pus—in an acute case, it is true—but with complete recovery observed for three years.

In curetting the ethmoidal and frontal sinus, which I have performed many times, I make it a rule to avoid a lateral excursion of the spoon, and I believe myself to have followed it also in this case.

When I saw the condition of the eye after the intranasal operation, the first thought was that of a perforation of the orbit.

The diagnosis of an orbital phlegmon or abscess was the next conclusion, and the exploration of the orbit at the end of the second operation constituted, therefore, a rational procedure. No pus was found, and the walls of the orbit proved upon palpation to

have been intact. Grünwald (2) cautions us against perforating, during the use of forceps and spoon, the orbital cells and the lamina papyracea, which are by their lateral location well protected.

I now do not believe that I had reached the frontal sinus with the spoon; I had simply curetted the anterior ethmoidal cells, and did, therefore, not inflict any injury to the orbital cells or the lamina papyracea.

However, it is quite possible, that the operation stirred up a dormant condition, produced according to Kuhnt (3) thrombophlebitis of the veins perforating the bony walls of the orbit, and established an orbital cellulitis, possibly also through congenital lacunæ (Williams [4]). It then took four days for the abscess of the lower lid to be formed.

If I had perforated the orbit through the frontal sinus, an abscess of the upper lid would have taken place, but an abscess of the lower lid in connection with frontal sinus disease is not on record.

Ziem (5) and Jansen (1) report abscesses of the lower lid associated with empyema of the antrum of Highmore, but these are, according to Turner (6), much less frequent in connection with this cavity. Another case of Ziem's (7) presents an abscess of the lower lid and glabella, in a girl aged five years, whose nose had been bitten by her small brother. From the lid and frontal abscesses much pus discharged. This is the only case on record in which the lower lid abscess occurred in connection with frontal sinus disease, but the age of the patient does not admit it as positive proof, since the frontal sinus is not often developed at the age of five years.

The points of interest in this case are: The course of the affection with its acute beginning, and acute exacerbation at the end, and a latent interval of four years between the two attacks; the formulation of the indications for the intranasal and external operation respectively; the occurrence of the eye complication immediately after the intranasal operation of curetting, and its diagnosis and treatment; and, finally, the complete recovery.

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THE AGE OF CONSENT.*

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For several years past a wave of moral improvement has swept over the civilized world; better put, a wave for the improvement of the world's morals has swept over civilized communities. Brussels, in 1899, entertained a congress of delegates from all over the world with the object of considering the phases of urban immorality and the influences which were responsible and the measures of prophylaxis which might be applicable to such conditions. A mass of information was correlated by the constituted members of the congress, all important enough to create the *Société internationale morale et sanitaire*, with its domicile at Brussels under the patronage of the Belgian government. A bulletin of the society's work and of the literature of its members has since the meeting been issued as the official expression of the society. In September, 1902, the second meeting of this congress is to take place, and a more advanced position is to be taken upon questions of immorality and the diseases incident thereto.

Much of interest is attached to the predominating causes of community immorality, and the secret diseases with their contributing causes are among the matters announced as subjects for discussion at the coming Brussels congress.

The law has occupied much the attitude of religion with regard to irregular sexual acts and their consequences; the one only taking cognizance of venereal conditions when in conflict with domestic relations or police regulations, while religion has occasionally spat out a volcanic tirade against vice in the abstract, as if it were a hydra-headed monster and needed the strong arm of mythical deity or barbaric custom for its annihilation.

Recently, in New York city, the evident neglect of the social and sociological aspects of the question seems to have elicited the attention of the medical profession and of the social economists, and with rather clear justice the state of affairs there has been made public.

The Medical Society of the County of New York deputed a committee of seven of its representative men to investigate the matter of venereal diseases in New York city and to render a report embodying a statement of conditions, with recommendations for the State Assembly to act upon. After several months this committee returned a report relating conditions of prostitution and venereal diseases as they found them, and, *out of deference to public opinion*, they made *no* recommendations for the State Assembly.

Meanwhile another committee, "the Committee of Fifteen," matured a report as the result of their labors in the same field, but from the lay point of view. As a model of analysis and as a presentation of actual conditions we doubt if this has ever been surpassed. No pains were spared in detailing the phases of prostitution in New York city and in suggesting remedial measures. These were chiefly directed at the Raines law as an incentive to vice and at methods of education for the young.

There are many kindred questions under consideration whenever the social evil is discussed, and while the New York Committee of Fifteen quite logically bore upon the aspect in New York, they dealt with only a part of the causes of conditions. Tenement house crowding, and the evils incident thereto as pointing to perversion, and the Raines law permitting quasi-hotels were points of attack. Incidentally a very graphic description is given of the methods of seduction in vogue and a new chapter on the "cadet" system is related.

The medical profession in the busy routine of practice seldom takes either interest or part in the phases of the physical social being, few realizing that there is any cognation with medical science as they know it. As a matter of fact, it is this failure often which places in the category of criminality many acts which are acts of disease, either immediate or of remote origin.

Because of the popular ignorance, or of the natural disgust or dread of the pictures of perversion in neurotic or sexual subjects, the whole matter has been relegated to an inner circle of students who are working for a higher plane for the human kinds. Medical men, however, should not decry or stand aloof in the discussion of these things, for vice is closely akin to the actual conditions of disease which we all teach. Civilization bears along in its restless whirl of activity many a unit of its human combination, unable to grasp the necessities of effort required, and they, therefore, become a natural burden.

In many parts of the civilized world the law is being directed at the preservation of species through the enactment of legislation directed at the elevation of the marital relation, in preventing disease,

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and in protecting the offspring from the mental or physical incapacity of the parents. Most of the United States carry acts in force directed at prohibiting the intermarriage of the insane; some States carry laws against the marriage of the tuberculous; other States discriminate against syphilitics.

All of this premises the question of this paper—The Age of Consent. In the analysis of the factors incident to the beginning of a life of prostitution the chief causes given are criminal environment, love of dress, and love of the life; among other causes given were seduction, neglectful parents, poverty, ignorance, etc. It is not intended here to thresh over the old subject, but to lead up to the relation of the members of the medical profession to questions of this sort. Now matter of fact judiciaries usually mold or frame the laws directed at these phases of vice which are not actually of criminal motive; legislatures are governed in such things by the discussion of the moment.

There should be some uniformity of legislation covering the age of consent, so that the education might begin reasonably early with both boys and girls. The physiological development of boys and girls into maturity, to wit, the age of puberty, is not fixed, but varies from the eleventh to the eighteenth year in females and from the thirteenth year in males; occasionally some anomalous case is reported of precocious menstruation, and cases have been related of childbearing at as early an age as eight years.

It has long been held that, with the assumption of the sexual function, or rather with the maturity of the sexual organs, the human being was at a stage of maturity in other functions. Yet the legal age of majority is in this country twenty-one for the male (twenty-four to twenty-seven in some European countries) and from eighteen to twenty-one for females, experience and time having evidently demonstrated the variance between the age of sexual maturity and mental balance.

It would be difficult to review the reasons which dictate the present laws governing the age of consent, but it would be as interesting, for in those countries where any law obtains this varies between wide limits.

In the United States the elasticity in legislative opinion lies between the ages of ten years (in Alabama and North Carolina) and seventeen years (Florida).

The ages of consent in the several United States and territories are as follows:

Alabama	10 years.
Alaska	Not ascertained.
Arizona	14 years.
Arkansas	16 "

California	14 years.
Colorado	16 "
Connecticut	14 "
Delaware	15 "
District of Columbia	16 "
Florida	17 "
Georgia	14 "
Idaho	14 "
Illinois	14 "
Indian (Territory)	Not ascertained.
Indiana	14 years.
Iowa	13 "
Kansas	12 "
Kentucky	12 "
Louisiana	16 "
Maine	14 "
Maryland	14 "
Massachusetts	16 "
Michigan	14 "
Minnesota	14 "
Mississippi	16 "
Missouri	14 "
Montana	15 "
Nebraska	14 "
Nevada	14 "
New Hampshire	13 "
New Jersey	16 "
New Mexico	14 "
New York	16 "
North Carolina	10 "
North Dakota	14 "
Ohio	14 "
Oklahoma (Territory)	Not ascertained.
Oregon	14 years.
Pennsylvania	16 "
Rhode Island	16 "
South Carolina	10 "
South Dakota	16 "
Tennessee	16 "
Texas	12 "
Utah	13 "
Vermont	14 "
Virginia	Not ascertained.
Washington	16 years.
West Virginia	14 "
Wisconsin	15 "
Wyoming	Not ascertained.

Rather diligent inquiry in the various text books on medical jurisprudence has resulted in discovering no reference to the age of consent as bearing upon any question of medicolegal import.

Originally, according to the *Century Dictionary*, aimed at the determination of the marriageable age, the age of consent has established correlative importance in its application to the documentary and legal status of youths of both sexes. In the com-

moner acceptance of the term to-day is understood the broader meaning of that age at which consent to sexual intercourse precludes a felony, to wit, charges of abduction, seduction, and the like. The law presumes a child under seven incapable of criminal intent; from seven to fourteen capable, but the contrary may be proved.

Our argument, however, is directed at the study of the questions concerning the age of consent as they bear upon the physical being and in their relation to questions of social importance and criminal acts. There is a wide variance of opinion, as evidenced in the diversity of ages which the several States indicate. For many years the limit in Louisiana was twelve years, but in 1896 it was raised to sixteen.¹ In this State the truth of the statement above referring to the current adaptation of the term "age of consent" is borne out and somewhat paradoxically; the law makes it a felony, punishable by not more than five years in the penitentiary, for any male to have carnal knowledge of a female, with or without her consent, who is under the age of seventeen. Yet the marriage laws permit contract at fourteen for males and twelve for females.

An analysis of the legislation of various States bearing on these points would very probably show a gradual appreciation of the need of raising the age limit, and this is evident from time to time. Only a few years ago the French scientific and sociological journals were full of discussions of the divorce laws, and incidental to the mass of argument were introduced the various marriage laws in vogue as conducive to divorce. A reflex of that discussion was brought into the journals of this country, and for some months the *North American Review* gave considerable space to the higher planes of discussion of the question. In New York State the matter has been made subject for comment several times in the past few years.

The several points which preponderate in the question are always directed at the physical capability of the female for sexual function and the legal responsibility attached to her position.

Dr. William Lee Howard, in his recent book *The Perverts*, has emphatically and graphically shown the irresponsibility of young men and women in sexual matters, and has presented a gruesome story of the consequences of neuroses directly resultant.

¹ "An act making it a felony for any person over the age of eighteen years to have carnal knowledge of an unmarried female between the ages of twelve and sixteen years, with her consent, and fixing the penalty thereof.

Sec. 1. If any person over the age of eighteen years have carnal knowledge of any unmarried female between the ages of twelve and sixteen years with her consent, he shall be deemed guilty of a felony, and, upon conviction thereof, shall be punished by imprisonment with or without hard labor not exceeding five years, providing nothing in this act shall affect the crime of incest.

Sec. 2. That all laws inconsistent or in conflict with this act be and the same are hereby repealed."

He inveighs against delayed marriages, and his characters are begotten by a man of middle age, with senile powers of procreation, by a woman in her spinsterhood. He does not touch upon the evils of too early marriage relations, but we are satisfied that, no matter how romantic it may seem to be in the eyes of the curious world, those of to-day who stop to think and who observe the conditions in no remote consequence of many premature marriages must be impressed with the importance of some restriction.

Society as constituted in the higher classes has unwittingly responded to this sociological demand. Young ladies of to-day seldom are submitted to the matrimonial market under eighteen years of age, while a generation ago marriages at fifteen and sixteen were common enough. The woman who enters the marriage obligations and accepts motherhood needs the full equipment of her physiological life, and it is rare indeed that a girl under eighteen meets this necessitous condition. The other equation of mental equipment, also, is not to be entirely set aside.

The civilization of to-day bears along with it a regular necropolis of women sacrificed to their disordered genital apparatus. Every day finds the surgeon's knife ready for a diseased or morbid pelvic state, for which the evils of gonorrhœa or the modern requirements of womankind cannot alone be held responsible—Why is it, then?

There is another phase of the question, and the one which really dictated this paper, that is, the moral phase. Laws do not always stop crime, but they tend to restrict it by putting penalties in the way to deter. The story of prostitution usually indicates the downfall of the woman at a mere pubescent age. They seldom know the seriousness of the act; it is seldom of their own seeking. Environment is often the conducive agent, while opportunity and the excitement are the direct causes, and seduction is in most cases certain, not necessarily in the legal acceptance of the term, but in the real sense, meaning the determining of the surroundings, of the occasion, etc., by the male.

While New York State is considering the phases of the social evil, this part of it has only been touched in passing; but it is seriously of importance, not that restrictions can stop the sexual act out of wedlock, but always the enforcement of restrictions excites respect for the laws.

The age of consent should be raised to a point of years where some actual discretion may obtain. How few females at eighteen are conscious of a moral balance. I do not mean conscious of the difference between right and wrong, but to appreciate fully the obligations to sex relations from any point excepting the gratification in it, or the abstinence from

sex connections, on account of various sentiments, in which fear is no small element.

Women have less worldly education than men, and it is rare to find a woman of eighteen in any walk of life who has had any education on sex questions, either moral or physiological.

A child of ten or of eleven (as in North Carolina and Alabama) cannot know what the sexual act is, and even at fifteen I am skeptical, very, if any but the purely physical part is clear to them.

This is a day of education and the torch of progress burns night and day. Marriage is no longer merely a religious and romantic form in which men and women are united from sentimental reasons alone; the contract implies a legal relation, which may be broken only under law, and it carries the natural obligation to procreate species.

In the selection of breeding animals, only those matured in function and perfect in type are chosen. The laws of every State should restrict marriage to those of sane mind and body, and in both these attributes the law should fix the period of ripeness in age. The age of consent should be raised to the age of majority, and the law should be directed promptly at infractions of it.

The whole question is a large one, but its very absence from the text books on medical jurisprudence and its relegation to obscurity in legal references make this paper excusable in its discursive presentation of an untaught subject.

THE USE OF ELECTRICITY IN THE TREATMENT OF HABITUAL CONSTIPATION.

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Definition.—By constipation is understood a condition of irregular, abnormally rare, or insufficient evacuations of the bowels. We take it as a rule that a human being in a normal condition should have one evacuation in twenty-four hours; but there are persons who have a daily defecation and are nevertheless constipated, because their evacuations are insufficient in quantity, consistence, and form. Others have evacuations only every forty-eight hours, or less frequently, but the quantity evacuated is in proportion to the amount of food ingested. Generally we consider a person to be constipated when no evacuations take place inside of two days.

Etiology.—Constipation may be a primary or a secondary condition. (1) The first is an independent disease, and we reserve for it the name of "habitual constipation." (2) In the second case constipation is the result of abnormal conditions, either in the intestines or in the other organs of the human body.

Spastic constipation, generally considered as a subdivision of habitual constipation, is rather a secondary than a primary condition and should be classed accordingly.

By habitual constipation we understand a condition of retarded intestinal peristalsis due solely to an atony of the muscular coat of the bowels.

The causes of this loss of muscular power have been classified by Illoway (1), according to their mode of action, into three groups.

(1) In the first group, the aetiological factors act chiefly on the mucous membrane by obtunding the sensibility of the nerve filaments. Hereto belong neglect to attend to the calls of nature, habitual use of food containing too little residual matter, and the habit of abstaining from cold water. (2) In the second group, the action takes place directly upon the muscular structures. To this belong lack of sufficient exercise, incident habits, insufficient oxygenation, muscular weakness of the abdominal walls, obesity, and old age.

(3) In the third group the action is upon the nerves governing the process of evacuation. To this belong the pernicious habit of reading at stool, prolonged mental work and worry, and mental depression.

The effect of all these factors, no matter what their mode of action, is a loss of normal tone in the muscular coat of the intestinal tract—an atony of the bowels.

Diagnosis.—The diagnosis of habitual constipation can only be made by exclusion, and may sometimes become very difficult. A careful examination of the abdomen, bowels, rectum, feces, and in fact the whole body, should never be omitted.

Treatment.—Coming to the treatment of habitual constipation, we first have to correct the faulty methods of living, especially in regard to diet and physical exercise. The second indication to be met is to remove the atonic condition of the bowels.

It seems to be the consensus of opinion of all clinicians that this can only be accomplished by means of mechanotherapy, i. e., by massage, electricity, gymnastics, and hydrotherapeutics.

As the object of this paper is to speak of the use of electricity in the treatment of habitual constipation, we will not consider the other modes of treatment, but will at once open our subject.

The opinions of various authors on the value of electricity in the treatment of habitual constipation have been divided. While some of them are very enthusiastic, others, like Nothnagel, Moritz, and Ewald, consider it as only of secondary value. Benedict, Stein, Erb, and Boas have reported very good and lasting results, especially Boas (3), who speaks of cures by the use of electricity in the most obstinate cases, when neither massage, diet, nor gym-

nastics had accomplished anything. As Boas generally avoids the use of several methods simultaneously, his successes are very convincing.

Physiological experiments have been made by various authors concerning the influence of electricity on the stomach and intestines. Ludwig and Weber (3), v. Ziemssen (4), and Bocci (5) have seen contractions of the stomach and have produced the secretion of the gastric juice by the application of the faradaic as well as of the galvanic current in animals. Fublini (6), after establishing an intestinal fistula showed that intestinal peristalsis was quickened by the application of electrical currents. Schillbach (7) by his experiments came to the conclusion that the galvanic current was preferable to the faradaic. Meltzer (8) published, in 1895, An Experimental Study of Direct and Indirect Faradization of the Digestive Canal in Dogs, Cats, and Rabbits, and came to the following conclusions:

"(1) The mucous membrane of the digestive canal offers a considerable resistance to the penetration of the faradaic current to the muscular coat."

"(2) Percutaneous and direct faradization of the stomach or intestines cannot produce any contraction in these parts."

Einhorn (9), repeating these experiments, but on other animals, came to different conclusions. This only proves what Meltzer himself says, that his statements refer only to the animals experimented upon, and do not justify any conclusions in regard to the human intestines.

Indeed, v. Ziemssen, as well as Boas (10) has seen peristaltic movements produced by faradaic currents in persons with very thin abdominal walls and inguinal hernias. Ewald and Einhorn (11) have demonstrated by the salol test an acceleration of the motility of the stomach. Even if we were unable to get muscular contractions by the use of electrical currents, this would not count against their application. What is really important in constipation is to get improved nutrition of the intestinal muscles, accelerated venous and lymphatic circulation, and improved function of the secretory glands, in order to be able to build up the tone of the tissues, often lost for so many years. That electrical currents can do this, has been proved by clinical experience. Of course, it sometimes takes many months before we can accomplish any results.

The currents used in the treatment of habitual constipation are the galvanic, faradaic, combined faradogalvanic, sinusoidal, and static. All of them are used, but I prefer to start the treatment with the static.

I use static electricity, either in the form of the wave current or of the static induced current; the first in the milder forms of constipation, the latter in the very obstinate cases of long standing. The

polarity is in so far of importance as that the positive pole has a stronger effect on the tissues it is in contact with than the negative pole.

In using the static wave current the patient is in contact with one pole only, while the other one may be grounded or not. If we use a current without grounding, the treatment is a very mild one. By grounding we make the current considerably stronger. The contact with the patient is made either by the rectum (the patient sitting on the upright rectal electrode) or by the abdominal walls (tin foil plate, 8" x 10"). The current strength is regulated by the spark gap between the sliding poles.

The static induced current enables us to use very powerful means without causing the patient any pain. The static induced current is, in reality, a current of high tension and high frequency. While the static wave current distributes its strength over the whole body, the static induced current concentrates its whole strength between two points of the body. The patient is connected with the outer surface of the Leyden jars, while the inner surfaces are connected with the poles of the machine. One electrode is generally on the abdomen, the other one either in the rectum (direct) or on the back (percutaneous). The current strength is also regulated by the spark-gap. As the patient need not be insulated, we can also use the labile method.

The powerful action of this current, as well as that of the wave current, may be enhanced by a mode of administration called the undulating, or swelling, current. By this we understand a current that, starting from zero, gradually swells to a maximum of strength and returns in the same way to zero. By alternately increasing and decreasing this current we produce in the muscles alternation of wavelike contractions and relaxations. The effect of this mode of administration of the current is a tonic exercise of the muscles, and in using it we do not risk the danger of overworking and exhausting the muscles, as its maximum contraction is only of short duration. The circulation of the blood and lymph will certainly be accelerated by this milking-like process, and we can readily understand how the atonic condition of the tissues is improved. On the static machine we get the swelling current by slowly removing one pole from and then approaching it to the other.

Next to the static, I have found the sinusoidal current very effective. Here, I use the direct method, one electrode in the rectum (straight rectal electrode), the other labile over the abdomen.

In using the faradaic current we must avoid the coil with long thin wire, if we want a localized action. I use a 500 yard No. 32 coarse wire coil of the Kidder-Monnell apparatus, the ampérage of which is strong enough to take a firm hold on the

muscles. We can use the labile method or the stable. In the first case the fast interruption is preferable; in the latter case I administer either the wave current or the slow interruption.

The galvanic current I use only in the form of hydroelectric treatment. I prefer the flexible electrodes, as recommended by Boas, to the hard rubber electrodes. The treatment is begun with the constant galvanic current, the negative pole being placed in the rectum, and is followed by the use of the interrupted or swelling galvanic. The current strength should be from 20 to 30 milliamperes, and the duration of each treatment from twenty to twenty-five minutes. The patient should lie on the left side with the hips elevated, the quantity of water, to which has been added a teaspoonful of salt, should not exceed a pint, and the flow of water should be slow.

I have had no personal experience with the galvanofaradaic current, but others have reported good results.

Report of Cases.—The results obtained by me in the treatment of habitual constipation by the use of electricity have been quite satisfactory. Of course, as with other methods, there are failures. Generally, reasons could be found for them. While, in some cases, I used electricity only, as a rule I have started by correcting the faulty habits of the patient, especially in regard to diet. The electrical treatment was given daily, until improvement was noticed, then I gradually left larger intervals between the treatments, and let the patient begin with gymnastics, paying special attention to exercises of the abdominal muscles. In my opinion, it is only by these means that the patient can be saved from a relapse, no matter what method has been used, whether massage, electricity, or any other mode of treatment.

Of the sixteen cases I have had under treatment, nine were successfully treated, three showed negative results, and in four, though the patients are improving, treatment has not advanced enough to justify conclusions.

In some of my patients, who were quite stout and had relaxed abdominal walls, I was able to observe some interesting facts. Measuring the abdominal circumference at the navel, and weighing them before and after each treatment, I always found a reduction in the abdominal circumference as well as in the weight of the body.

CASE I.—Mr. M. L., thirty-seven years old. Travelling salesman. Constipated for so many years that he cannot remember when his stools were normal. He came to my office, October 28, 1900. He complained of dizziness, palpitation of the heart, and a heavy sensation in his legs. His abdomen was bloated. Patient had difficulty in closing his trousers, and had to leave his waist button open. I

treated him with the sinusoidal current (direct). His symptoms of dizziness and heart palpitation disappeared and the patient was surprised to find that he was able to button his trousers easily. He had a good evacuation next morning. Second treatment next day, October 29th. This time I measured and weighed the patient before and after treatment. The circumference of the abdomen at the navel was $38\frac{3}{4}$ inches before and $37\frac{1}{2}$ inches after treatment. Duration of treatment, fifteen minutes. The weight was 175 lbs. 6 oz. before, and 175 lbs. 3 oz. after treatment. Loss of circumference, $\frac{3}{4}$ inch; loss in weight, 3 oz. Third treatment, November 1st. The patient wearing different clothes had a weight of 172 lbs. 11 oz. before treatment, and 172 lbs. 7 oz. after treatment; loss, 4 ounces. Circumference before and after treatment remained the same. The current used was the static wave current. Patient was treated until November 8th and had regular movements from the first day of treatment. Then he left New York and stayed away for four weeks. Soon after returning, he reported that he was well, but I have lost track of him since.

CASE II.—The second case was more satisfactory, as I have seen the patient for more than a year after the treatment was completed. The patient, Mrs. M., had been constipated for over twelve years, neither diet, massage, nor gymnastics had had any effect on her. Evacuations only occurred after the use of laxatives. The patient was quite anæmic. The first treatment was given March 29, 1901. Static induced current, direct, fifteen minutes' duration. Circumference at the navel before treatment, 36 inches; after treatment, $34\frac{3}{4}$ inches (a loss of $1\frac{1}{4}$ inches). The weight was $172\frac{3}{4}$ lbs. before, and $172\frac{1}{4}$ after the treatment (loss $\frac{1}{2}$ lb.). Good movement the next morning. Second treatment the following day, March 30th, by static wave current, ten minutes' duration. This time, the abdominal circumference remained the same before and after the treatment, namely, 34 inches. Here also, as in the first case mentioned, we do not observe a loss in circumference if the abdominal muscles are not under the direct influence of the electrode. The weight (patient wearing heavier clothing on this day) was 174 lbs. 5 oz. before the treatment, and 174 lbs. and 1 oz. after the treatment, a loss of 4 ounces.*

Third day. Sinusoidal current. Direct. Duration, five minutes. Abdominal circumference before the treatment 34 inches, after treatment $33\frac{1}{2}$ inches. Loss, $\frac{1}{2}$ inch. The weight before the treatment was 170 lbs. and 15 oz., and after the treatment 170 lbs. and 13 oz. Loss, 2 ounces. The patient had two good movements that day. From now on, the treatments did not seem to have any more influence on circumference and weight. The abdominal circumference remained quite stationary, around 34, and the loss of weight was also very small. Patient continued to improve, not only as regards constipation, but also in general health. Twice the patient had a slight relapse and I changed the treatment by using the galvanic current with the hydroelectric method. Each time, one application was sufficient to recover the lost ground. After three

* As we only consider the difference of weight before and after treatment, we do not pay any attention to the absolute weight of the patient.

months' treatment the patient left for the country, perfectly cured, and has remained so until now. Nothing else but electrical treatment was used in this case.

I have observed this loss in circumference and weight before and after treatment in other cases besides the two reported, but I believe these are sufficiently convincing. I do not want anybody to draw the conclusion that electricity used in this manner could reduce the weight of a person permanently. The explanation for the loss in abdominal circumference is that the powerful contractions of the abdominal muscles leave these muscles right after the treatment in a state of improved tonicity (less flabby and more contracted). The consequence is that these muscles are able to offer more resistance to the internal abdominal pressure; therefore the capacity of the abdominal cavity will be reduced and the circumference becomes smaller.

The loss of weight can be explained by two factors, the loss of H_2O and that of CO_2 . We know that electrical currents, and especially static currents, produce hyperhydrosis, and the great elimination of CO_2 is explained by the increased work done by the muscles.

That the patient may have a loss of weight after each treatment, yet gain weight on the whole, will be proved by the third case.

CASE III.—Mr. S. T. Business man. Has been constipated for more than five years, and is only able to produce evacuations by using the sulphur magnesia waters. The cause of his trouble could be traced to mental overwork and worry. Patient when he came to my office was in a state of great mental and physical exhaustion. I used, besides the static wave current in the rectum, the static spray on the spinal column. The first treatment was on March 6, 1900. Weight before treatment was 139 lbs. 1 oz.; after treatment 138 lbs. 14 oz. A loss of 3 ounces. Second treatment on March 7th. Before treatment the weight was 139 lbs. 4 ounces, after the treatment 139 lbs. 1 ounce. The next treatment was on March 11th. The patient weighed 140 lbs. and 5 oz. before, and 140 lbs. 1 oz. after the treatment. On the 12th, the weight before the treatment was 140 lbs. 5 oz., and 140 lbs. 2 oz. after the treatment. The weight was always taken at the same time and under the same conditions. In short, the patient was cured after four weeks, and, when he left, his weight was 146½ lbs.

The remaining cases I will report more briefly.

CASE IV.—Mrs. K., twenty-one years old, came for treatment in June, 1900, three months after a confinement, since which time she had been constipated. Four treatments with the static wave current effected a permanent cure, lasting now for almost two years. No diet or exercise had been prescribed in this case.

CASE V.—Mrs. G., forty years old, constipated for many years; the patient cannot tell exactly how long. Constipation came on gradually. Consider-

able relaxation of the abdominal walls. Cured after four months treatment, but I have not seen her since.

CASE VI.—Mr. F., eighteen years old; of indolent habits. A few treatments with the static induced current in combination with diet and physical exercise effected a speedy cure.

CASE VII.—Mrs. H., twenty years old; constipated since she was married, five months before she came to me for treatment. Pruritus ani and hemorrhoids. Bowels moved after the first treatment. Complete recovery after three weeks.

CASE VIII.—Mr. R., twenty years old. Student. Constipated for many years. Abstaining from cold water, too concentrated food, lack of exercise were the causes. He got well after two weeks' treatment, and remained so for over a month, then relapsed on account of his falling back into his old habits. He was treated again for four weeks, and so far has had no relapse.

CASE IX.—Mr. K., forty years old; constipated for more than twelve years. Can only get movements by taking laxatives. He had massage treatment three years ago, and the bowels began to move spontaneously after one month's treatment. During this treatment, which extended over three months, the patient felt well and had good movements, but one month after treatment had ceased he relapsed into the old condition. He has been under my treatment now for about three weeks. His bowels began to move spontaneously after the first treatment. His faeces are soft and well formed. An interruption of the treatment for three days did not interfere with his daily movements. The patient is still under treatment and I consider his chances for a lasting recovery very good.

Of four other patients who have begun treatment only recently it would be too early to form an opinion.

Three of my patients did not respond to electrical treatment:

(1) Mr. E., sixty-five years old. Constipated for many years, prolapse of the rectum. Patient came for treatment very irregularly. Neither the sinusoidal nor the static wave current was able to effect a single movement. It seemed that the muscular tissue was in a state of relaxation beyond repair. (2) Mrs. I. M., fifty years old. The patient had been constipated for many years. Before she came to me she had been treated for hyperacidity and atony of the stomach, but was apparently then cured. The electrical treatment was without any success. A later examination showed a floating kidney, and I believe that the floating kidney, in connection with coloptosis, was the cause of her constipation and explains the difficulty in curing her. (3) Mrs. B., fifty-four years of age. A nervous and asthmatic lady suffering from constipation for a number of years. Electricity proved ineffectual in her case also.

Conclusions.—Taking into consideration the fact that, of the 12 cases reported, 75 per cent. showed a complete cure, I have come to the following con-

clusions: (1) Electricity should not be employed as a last desperate chance after all other means have failed, but should be given a front rank in the treatment of this disease; (2) especially the static currents, with their powerful vibratory effects, should be employed more frequently than has been done heretofore; (3) the reduction of abdominal circumference by the use of these currents is a proof of their tonic influence upon the abdominal muscles; (4) the most powerful means of obtaining this tonic condition is the administration of the swelling, or undulating, current.

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- 116 EAST SEVENTY-NINTH STREET.

NEW MEXICO AS A HEALTH RESORT.

By H. B. MASTEN, M. D.,
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New Mexico is one of our largest territories, being bounded on the north by the thirty-seventh parallel, and reaching to Old Mexico on the south. In area it is nearly equal to the combined areas of New York, New Jersey, Pennsylvania, Maryland, and Massachusetts.

The Territory is made up of vast plateaus called mesas, with high mountain ranges, the peaks of which are often above the timber line, some of them being even covered with eternal snow.

The rivers are rapid and muddy. Part of the year they are raging torrents carrying away bridges and inundating the country, but usually they are so shallow that one can easily wade across them; or they are perhaps entirely dried up, leaving broad rivers of sand in place of water. This is one of the things that always seem very strange to Eastern people.

The whole area is elevated far above the ocean, the mesas of the north being 6,000 to 6,500, those

of the centre 5,000, and those of the south about 4,000 feet above sea-level. The fall in the Rio Grande from the Colorado line to that of Mexico is about 3,500 feet.

The main range of the Rocky Mountains enters the Territory from the north and disappears as a continuous chain near Glorieta. Running eastward from this as a kind of spur, along the Colorado line, are the Raton Mountains. The Santa Fé Railroad crosses this range through the Raton Tunnel at an altitude of 7,622 feet. From Trinidad, Colorado, to the tunnel is about fifteen miles, and in that distance there is a rise of 1,600 feet. In sending patients with weak lungs or considerable destruction of lung tissue westward over the Santa Fé, this sudden rise and great altitude must always be thought of, and the patients instructed to have their berths made up before reaching Trinidad, or at least to remain quietly in their seats until after the tunnel is passed. It is sometimes advisable on reaching Trinidad to give a dose of morphine, together with some diffusible heart stimulant, and to repeat the latter a little later on if the patient feels faint. In the case of nervous patients it is best, for obvious reasons, to have a friend carry out these instructions without letting the invalid know why they are done.

To return to the physical features of the country. The mountains are seamed with great canyons, which also penetrate the larger mesas in various places where, in some way, the covering of lava, which is their usual protection, has been removed.

Between contiguous ranges or spurs of the same range are often found "parks" of great beauty and fertility. These specially abound in the western part of Colfax County.

New Mexico, while generally requiring irrigation for cultivation, is more fully provided with rivers than any other of the mining States or of the Territories.

Mineral springs of various kinds and of great excellence are found in different localities. Prominent among them are Las Vegas Hot Springs, the Ojo Caliente, in Taos County, the Jemez Hot Springs, and the Hudson Springs. These all have special medicinal qualities and are of high temperature, the Ojo Caliente water being of a temperature of 114°, and the Jemez 168° F. There are also important springs south of El Rancho, in Taos County, in Colfax County, and eastward of Santa Fé.

As an "all-the-year-round" health resort, northern New Mexico possesses a climate that is not surpassed, even if it is equalled, by that of any other part of the world. It has mild, open winters, with rarely any rain or snow, and cool summers. The noon temperature in winter averages about 45° F., and in summer the thermometer seldom goes above 80°

F. These temperatures are taken in the shade. In the sun the thermometer registers much higher, but in our dry pure air one is not conscious of the heat.

The humidity is so slight that there are no dews, the grass being almost as dry in the morning as it is in the middle of the day. Occasionally a cloud will descend upon the higher regions, producing a fog which may last for a few minutes or sometimes even for a day, but this is rare. The average rainfall is from 12 to 14 inches, and almost all of this falls during the rainy season, which begins in July and lasts for about six weeks. During this time there is a shower almost every afternoon, but the mornings are invariably clear. The showers, while often severe, are of short duration, and the returning sun quickly dries the ground again.

The atmosphere is so clear and pure as to be proverbial. From the first characteristic arises the deception as to distance so generally experienced by strangers; and the second is evinced by the fact that, everywhere throughout the Territory, the natives hang up their meat out of doors to dry, and use pieces of it as required; not the slightest taint arises from this practice during series of months.

Visitors from the East are always surprised at the number of invalids that flock to this region. Every town has its quota. As nearly as I am able to judge from the cities and villages I have visited, I should say that one half of the inhabitants, not counting the native Mexicans, are people who have come here on account of their health or for the health of some member of their family. There are doctors, lawyers, merchants, priests; in fact, you find them in every walk of life, and a number with whom I have talked have told me that when they arrived there they were so bad that they had to be brought on a cot. By far the largest number are, or were, afflicted with tuberculosis, and probably nine tenths had some form of lung trouble—pneumonias that did not clear up well, pleurisy with effusion, bronchitis, or asthma; yet now they seem to be perfectly well. One minister, whom I knew in the East, and who was well past the first stage of phthisis when he came here, tells me that he has been accepted as a first class risk by one of the largest New York life insurance companies. Moreover, many of these people have recovered while doing more or less work, and under conditions that were certainly not the most favorable.

You must not understand me as saying that all patients who come to New Mexico recover. Far from it, one has only to watch the eastward bound trains for a few days to be thoroughly convinced of this; yet the fact remains, that a large number are restored to health, and many are enabled to greatly prolong their lives.

Besides lung troubles, the diseases for which this

climate is particularly adapted, are neurasthenia, gastrointestinal disorders of all kinds, acute and chronic catarrhal troubles, hay fever, and rheumatism. Except in a few places along the rivers, malaria is unknown.

Here the tired overworked nerves of the neurasthenic will find perfect rest. The cool nights, after a day spent in the dry sun-soaked air, insure sleep in almost every case. The open air life and freedom from care and excitement prevent nervous waste, improve the appetite and digestion, and strengthen the whole nervous system; and in a much shorter time than he had dared to hope, the patient finds himself restored to health.

Many a feeble child that would otherwise be lost could be saved if its first and second summers were passed in this climate. Their indigestion and diarrhoeas seem to get well here under exactly the same treatment from which they would have died in the East. The great trouble with most consumptive patients who come to this region is, that they delay starting until the disease is too far advanced. When a mixed infection has developed, especially if there is considerable destruction of lung tissue, most of the patients will die, no matter where they go or what is done for them. We should use more care in making an early diagnosis. By frequent physical examinations with a persistent use of the thermometer, or by the aid of a diagnostic dose of tuberculin, one can usually detect the disease before there are any bacilli in the sputum, or even before there is any sputum. Do not place any faith in a perfect family history or in the absence of cough, for the majority of tuberculous patients have a good family history, and a considerable number have no cough until after the disease is quite advanced. Neither, after you have a suspicion of the disease, should much time be lost with cod liver oil, cough mixtures, creosote, etc., while the patient continues at his regular employment, for in most cases it is only losing valuable time. If you are going to send them out to the West, send them at once, and their chance of recovery will be increased a hundred fold.

The United States Government Sanatorium at Fort Bayard, N. M., which is used exclusively for soldiers suffering from tuberculosis, divides its patients into three classes. During the year ending June 30, 1901, they treated thirty patients of the first class, and of these forty per cent. were clinically cured, forty-three per cent. were convalescent, and sixteen per cent. were unimproved at the time of discharge.

Of the second class, fifty-nine patients discharged. Six per cent. were clinically cured, sixteen per cent. were convalescent, forty-eight per cent. were improved, and twenty-nine per cent. were unimproved.

Of the third class, there were forty-eight patients.

Fifty per cent. died, forty-two per cent. were unimproved, eight per cent. were improved in general condition. Considering the short time they are able to hold their patients, the average length of treatment being only four months and one tenth, this result seems quite remarkable. The difference between the percentage of cures in the first and second class is very marked; if we wish to cure our patients, treatment must be begun early.

Southern New Mexico and Arizona are probably the best winter resorts to be found in America, but I doubt if tuberculous patients do any better there, even in the winter, than they do in the northern part of this Territory (at the Adirondack Sanitarium at Saranac they report that their patients do best during the cold months). Even during February and March, our worst months, there are very few days when, if the patients sit in the sun and out of the wind, they will not be comfortable, and that, too, with very few extra wraps.

All patients coming to this region should, if possible, be sent to one of the numerous sanatoria, at least for a few months, for here only will proper care and diet be provided. The hotels and boarding houses do not seem to cater in any way to invalids, although their patronage comes largely from this class. Most patients would be far better off at home with good medical supervision, care, and diet than they are here in the average hotel and boarding house. Tough meat and poultry are the rule, and even good milk and eggs are hard to get; and this in a country that is ideal for poultry, and in which the principal business is stock raising. There is one notable exception to this, and that is the Fred Harvey hotels and eating houses along the Santa Fé. They are first class as far as service and food are concerned. Patients in hotels and boarding houses, as a rule, have very little medical supervision; some of them go to see a doctor now and then, but most of them try to follow the directions of their home physician or they consult with him by letter, the results in either case being equally bad. Very few Eastern physicians are well enough acquainted with this climate and the conditions here to be able to advise their patients except in a general way, and any doctor who tries to treat his patients at a distance of a thousand miles or more can be pretty certain that in nine cases out of ten he will do more harm than good.

Most invalids seem to come here with the idea that they must get out and "rough it," as they express it. That means long horseback rides, hunting and fishing trips, or perhaps work on a rancho, which is usually very hard. Now, most patients, particularly tuberculous patients, when they first come to this climate are not ready for that sort of thing. Instead of exercise, most of them require

rest, and only when their fever is gone or is much reduced should they commence to take exercise, and even then the kind and amount should be prescribed by a physician.

As in the East, patients do better in the country than they do in the towns and cities. Western towns, especially those along the rivers and railroads, are very dirty. This is partly due to the smoke from soft coal which is universally used, but mostly to the fine dust, which, on account of the dryness, is much worse than in the East. In the South a high wind always produces a sand storm. In the North, the country being well covered with grass, it is not so bad, the only available dust being that of the dry river beds and roads.

Another thing to be thought of is the water supply. Much of the water throughout the West is more or less alkaline, and is prone to set up a diarrhoea, especially in susceptible people, as most consumptives are. Here again the northern part of the Territory has the advantage, the water being far less alkaline.

The altitude in the northern part is too great for advanced cases, but is of the greatest advantage to incipient cases. Sir Herman Weber, of London, who is probably the greatest living authority on the question of altitudes, gives the following indications as to the choice of climate for pulmonary invalids.

1st. In cases with limited disease at one or both apices, without or with only a slight amount of fever, nearly all climates can be made use of, but especially great altitudes and sea voyages, if the constitution is a strong one.

2nd. Cases with limited local disease and high fever must be at first treated in their homes or immediate neighborhood.

3rd. In the majority of cases with extensive disease of one or both lungs, without fever or with only slight fever, treatment at only a moderate elevation, or at warm seaside localities, deserves the preference.

4th. In advanced cases with fever, neighboring sheltered health resorts, with careful supervision, should be recommended.

5th. In cases of progressive tuberculosis, with scattered foci in both lungs and much fever, localities near home, or the home itself, are the best places.

6th. In cases of chronic, slowly progressive phthisis, better results are obtained from warm winter resorts, or sometimes from sea voyages.

7th. Quiescent cases, with extensive damage or cicatrization, are generally better off at only slight elevations.

8th. Cases with albuminuria, without fever, should avoid great altitudes.

9th. The complication of moderate diabetes does

not exclude great altitudes, but the latter are injurious in cases of advanced diabetes and emaciation.

10th. Chronic cases, with much cartarrh, require places with as little wind as possible.

11th. Great altitudes are contraindicated in chronic cases with extensive emphysema.

12th. For the prevention of scrofula and tuberculosis all healthful climates can be used, but great altitudes have advantages against tuberculosis, and marine climates (including sea voyages) more against scrofula.

13th. The cure of tuberculosis during the early stages is possible in all climates, but climate itself, without careful medical supervision, is generally insufficient. The patients' blind reliance on the climate often leads to errors, to aggravation of the disease, and to death.

CLINICAL NOTES

ON CARDIAC DISEASES.

By STANLEY S. CORNELL, M. D., C. M.,
ATHENS, ONT.

The physical signs pertaining to the condition of the heart may not become evident till an acute affection of the pericardium has developed.

CASE I.—Ezekiel B., aged sixty-seven years, complained for a year of dyspnoea occurring at intervals, and of "distress" in the region of the heart. There was no history of rheumatism or syphilis, nor did arteriosclerosis exist to a marked degree.

I examined the patient in December, 1895, and concluded that cardiac dilatation was present, although the physical signs of enlargement of the heart were meagre.

No apical impulse could be felt, and auscultation revealed weak sounds. Valvular defect was not detected. In December, 1896, pericarditis developed, and then, and then only, was the condition of the heart correctly interpreted.

A strong heaving impulse at the apex was discernible in the fifth intercostal space, an inch and a half to the left of the left nipple. The mitral valve was observed to be inefficient, a soft systolic murmur existing in its region. The physical signs now were those of extensive hypertrophy of the heart.

The attack developed pericarditis was really a pleuropericarditis. This lesion resulted in such an adherence of the pleura as caused retraction of lung tissue and effected an exposure of the heart to the extent that its physical signs became apparent.

CASE II.—*Angina Pectoris*. One evening in February, 1887, I visited Mrs. McV., Sr., aged eighty-seven years. She had been suddenly attacked with severe cardiac pain of a paroxysmal character. But the pain was not altogether localized in the cardiac region; it extended into the left axilla and down the left arm. The patient had been apparently

well before the onset of these painful symptoms. Upon my arrival, the patient was sitting in a chair; her spine was straight, although the body was bent slightly forward. Her daughter-in-law supported the patient's left arm by elevating the elbow. I placed my ear upon the point of the apex beat, and discovered that the heart's action was rapid and tremulous. Some of its beats were quite strong, others barely heard. During my examination the patient suddenly held her breath, firmly closed her jaws, and clenched her hands; then, in a few seconds, emitted a deep groan. I requested that she be helped to bed, and turned to prepare a hypodermic injection of morphine; but the patient had only attained the sitting posture in bed when she placed her hand over her heart, cried, "O, God!" and fell back dead.

CASE III.—*Angina Pectoris*. B. F., aged forty years, a son of the foregoing patient, died January 6, 1890. He had been well prior to his fatal seizure. He had eaten a hearty meal upon the evening before his death. At 3 a. m. the next morning he awoke with a hard pain in his stomach, which lasted till 7 a. m., when he died suddenly. During his four hours' suffering he frequently threw back his shoulders and tried to obtain relief by taking deep inspirations. (I did not see this patient, but depend for this description upon the report of an intelligent neighbor.)

CASE IV.—*Angina Pectoris*. J. K. McV., a twin brother of the foregoing patient, died July 23, 1901, aged fifty-one years. While chopping a piece of hard wood, the patient was seized with a severe pain that began between his shoulder blades and passed thence to his stomach. After a short time he complained of a roaring noise localized in his ears, and of a pain in his left arm. The left arm became numb after the development of pain in it. He turned very pale and looked decidedly distressed. He frequently threw back his shoulders as if to expand his chest for the reception of more air. During the first forty minutes of his attack he sweated profusely, and, eventually, complained of being very cold. Through all this time he was walking about the room. Suddenly he stopped walking and put on his coat; then he proceeded to a near-by couch, lay down, straightened his body, and died. Death came quietly.

(Although sent for, I did not see the patient before death, and depend for this description upon a recital given me by a neighbor, who intelligently witnessed the patient's sufferings.)

CASE V.—*Angina Pectoris*. Orren L., aged seventy-two years, came to my office upon the evening of March 5, 1896. He stood with shoulders bent forward and arms hanging by his sides. He complained of great pain between his shoulder blades and of slight pain along the inner side of his left arm. He felt an intolerable anguish, a sense of being borne down with the pain. Yet he did not present the facies of one enduring terrible suffering. While walking he kept his back fixedly arched. His arteries were extremely atheromatous wherever palpable. I prescribed morphine in doses sufficient to relieve the pain. The patient went to his home, and I visited him the following morning. His face bore a distressed look. His heart beat was weak; the pulse characters were indeterminate, owing to the dense atheroma of the arteries. During the

night the anginal pain returned many times, but was subdued with morphine. The following morning (March 7th) the patient walked from his bed to the stove; then returned to bed, lay down, gasped, and died.

CASE VI.—Hugh J., aged forty-three years, was attacked with acute articular rheumatism in November, 1886. The disease proved obstinate, the joints remaining acutely sore and swollen till the middle of the following December. At this time, when the temperature had fallen to 99° F., and the joints were regaining their natural size and functions, the physical signs of pericarditis showed themselves by the occurrence of a friction murmur extending from the third left rib, close to the sternum, downward and outward to a point somewhat to the left of the cartilage of the fourth left rib, and by the *obscuring* of the sounds of the heart at the apex. The murmur was audible for five days, and then disappeared. All sounds of the heart at that time were so hidden as to be scarcely heard. Yet percussion of the superficial and deep cardiac areas demonstrated *no enlargement* of the heart in any direction.

But suddenly, upon the night of the tenth day of the pericarditis, a sound completely resembling that produced by the churning of milk emanated from the patient's chest. It could be heard at a distance of five feet from his body, and suggested the presence of a pericardial effusion that was being churned by the heart. Examination with the stethoscope revealed these signs as existing in an intense degree over the entire region of the heart. Percussion, however, indicated *no enlargement* of the heart. An exploring needle was introduced into the pericardial sac beneath the fourth rib, at the left border of the sternum, and brought away nothing.

Plainly, the churning sound was not dependent upon the presence of an effusion within the pericardium. But the physical signs of the epigastrium betrayed the source of the apparently intrapericardial sounds; the stomach was overstretched with gas, and the impact of the heart against it caused such a commingling of muscular (cardiac) and gaseous (stomachal) sounds as gave a faithful representation of the churn dash being rhythmically forced up and down in a vessel of cream. That this is the correct explanation of these signs there is no doubt: First, because the sounds stopped when the stomach had become freed of gas; second, because after death, the following morning, the pericardial sac was found to contain only two teaspoonfuls of serum. It is interesting to note that in this case the hiding of the heart sounds was not caused by an effusion of serum into the pericardium; rather, it depended upon the presence of a deep cushion of fibrinous exudate lining the whole pericardial sac. The problem in this case is this: The subsidence of the pericardial friction murmur without the formation, in considerable quantity, of serum or the absorption of the whole or the greater part of the fibrinous exudate.

Therapeutical Notes.

Meglin's Pills for Nervous Troubles.—Professor Gilbert (*Journal de médecine interne*, August 1st) gives the formula for Meglin's pills, a method of administering zinc oxide in such nervous troubles as hysteria, insomnia, etc.:

R Extract of hyoscyamus seeds... of each 0.50 gramme
Extract of valerian..... (7½ grains)
Zinc oxide.....

M. Divide into 10 pills. From one to two may be taken daily.

White of Egg Lemonade.—Dr. R. W. Leftwich (*Edinburgh Medical Journal*, May) speaks, from many years' experience, very highly of the following preparation as a nutritive drink for febrile and wasting disorders:

Take—

Two lemons,
The white of two eggs,
One pint of boiling water,
Loaf-sugar to taste.

The lemons must be peeled twice, the yellow rind alone being utilized, while the white layer is rejected. Place the sliced lemon and the yellow peel in a quart jug with, say, two lumps of sugar; pour upon them the boiling water and stir occasionally. When cooled to about the ordinary temperature of tea, strain off the lemons. Now insert an egg whisk, and, when the lemonade is in full agitation, add slowly the white of egg. Continue the whisking for two or three minutes more. While still hot, strain through muslin. Serve when cold.

The white of egg will be found to impart a blandness which makes the addition of sugar almost unnecessary, and this absence of sweetness is greatly appreciated in pyrexial cases, and has its obvious value for diabetics. For non-febrile patients with clean tongues, more than the two eggs may be used to the pint, if desired, but the above is the best proportion in general. To the objection that the drink is contraindicated where albuminuria is present, the author says this may be true of Bright's disease; but he has not found that diphtheria or pneumonia cases exhibit either more or less tendency to this complication than others, and no one hesitates to order brandy-and-egg mixture in these diseases.

This drink is very useful in the febrile diseases of children. It may be given simply as a "lemonade," without mentioning the eggs, and will thus be readily taken by children and difficult patients. It also possesses antiscorbutic properties, which replace those lost from milk by boiling and sterilization. In typhoid it is specially valuable, forming a relief from the monotony of milk, and not having the constipating and flatus-producing effects that beaten-up eggs that include the yolk, have. The author is confident that the patient who takes plenty of this lemonade, in addition to four pints of milk *per diem*, will emerge from the pyrexial period of typhoid fever without that wasted, hollow-eyed, and skin-drawn look, and that, after a few days, instead of lying like a helpless log he will be able to shift himself pretty freely.

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AMERICAN CONTRIBUTIONS TO SURGERY.

If there are any of us Americans who fail to realize the number and magnitude of our own country's part in the progress of medicine during the past hundred years or more, we may draw satisfaction and enthusiasm from a short account of America's contributions to surgery, by Dr. Martin B. Tinker, published in the August-September number of the *Bulletin of the Johns Hopkins Hospital*. Among the American surgeons whose achievements Dr. Tinker mentions, those which have happened to come to his notice in a moderate amount of reading, together with some that he has seen referred to in historical articles, are only such as have "performed some important operation for the first time, introduced new and valuable methods or have made specially important changes in old methods, or in some other way have really contributed to the progress of surgery."

Dr. Tinker first mentions the epoch-making discovery of anæsthesia, which so towers above everything else as to lead him to say: "Important as all of us regard antisepsis, I feel sure that if we had to choose between operations without anæsthesia or without antisepsis, many of us would take the old dirty methods rather than the terrible torture of an operation without anæsthesia." What this torture sometimes amounted to may be inferred from the statement, in a subsequent part of the article, that the first excision of the clavicle ever performed, which was done by Valentine Mott, before the days of anæsthesia, lasted four hours, forty vessels requiring to be tied. Although he does not expressly say that to Morton is due the chief credit of introducing anæsthesia, Dr. Tinker implies that he shares in the predominant opinion by quoting with

apparent approval the following sentence from Sir James Paget: "While Long waited and Wells turned back and Jackson was thinking, and those to whom they had talked were neither acting nor thinking, Morton, the practical man, went to work and worked resolutely; he gave ether successfully in severe surgical operations, he loudly proclaimed his deeds, and he compelled mankind to hear him."

In the field of the ligation of arteries, the early American operators were specially bold and original. The most prominent of them was Mott, who was the first to tie the innominate and of whom Gross is quoted by Dr. Tinker as saying: "No surgeon, living or dead, ever tied so many vessels or so successfully for the cure of aneurysm, the relief of injury, or the arrest of morbid growths." The well known fact is alluded to that J. Kearny Rodgers, of New York, was the first to succeed in tying the left subclavian artery between the scaleni muscles, an operation that Sir Astley Cooper had attempted unsuccessfully many years before. The subclavian was first tied on the scapular side of the scaleni by Wright Post, of New York. This operation also, according to Mott, had previously been attempted in vain by Ramsden, Abernethy, and Cooper. The common carotid artery was first successfully tied by Amos Twitchell, of Keene, New Hampshire, eight months before it was done by Sir Astley Cooper, who was for a long time credited with having been the first to accomplish it. William Gibson, of Philadelphia, first tied the common iliac artery.

The use of animal ligatures, cut short and left buried in the wound, seems to have been first advised by Philip Syng Physick, of Philadelphia, who made his ligatures of thin strips of buckskin, which he rolled under a marble slab. Jonathan Knight, of New Haven, introduced the treatment of aneurysm by digital compression of the artery, and John Mason Warren, of Boston, cured two "inoperable" aneurysms of the subclavian by means of weights applied directly over the tumor.

In the management of fractures and dislocations, the notable American improvements mentioned by Dr. Tinker include the introduction of Buck's extension for fractures of the femur and the reduction of dislocations by manipulation, the main work of systematizing which was done by William W. Reid, of Rochester, N. Y., though Nathan Smith, Physick,

and Bigelow contributed powerfully to its general adoption. We may add, what seems to have escaped Dr. Tinker's notice, that Nathan R. Smith, of Baltimore, and John T. Hodgen, of St. Louis, gave us a valuable means of treating thigh fractures in the anterior suspension splint, and that James L. Little, of New York, worked almost a revolution in the treatment of various fractures by means of the plaster of Paris splint. It might be mentioned also that Buck's extension was led up to by Josiah Crosby, of Manchester, New Hampshire, who introduced the use of sticking plaster as an element in extension apparatus.

As regards excisions of bones and joints, Dr. Tinker records that Horatio G. Jameson, of Baltimore, was the first to excise the upper jaw; that Deaderick, of Rogersville, Tennessee, first excised the lower jaw; and that Valentine Mott, as before stated, did the first excision of the entire clavicle. Dr. Tinker omits mention of the work done by James R. Wood, of New York, in securing the regeneration of bone from periosteum, and proceeds to accounts of certain miscellaneous operations, such as the first excision of the parotid gland, by John Warren, of Boston, who was a surgeon in the Continental Army and a brother of the Revolutionary General Joseph Warren, of Bunker Hill fame, and amputation of the entire upper extremity, including the scapula; first performed by Dixie Crosby, of Hanover, New Hampshire, in 1836.

"Abdominal surgery," says Dr. Tinker, "practically had its origin in America with Ephraim McDowell's first ovariectomy, which was performed in 1809." It appears from Dr. Tinker's account, but we doubt if it is generally known, that Nathan Smith performed the operation successfully in 1821 without knowing that McDowell had done it—such was the tardiness with which in those days information was diffused. The author credits Wolcott, of Milwaukee, with the first nephrectomy, and Bobbs, of Indianapolis, with the earliest cholecystotomy. Willard Parker, of New York, is credited with having shown in 1867 that an early operation would save seventy-five per cent. of persons affected with disease of the vermiform appendix, and to Fitz, of Boston, Morton, of Philadelphia, and McBurney, of New York, is given due credit for what they have done to establish the recognized American treatment of the present day. "It is strange," says Dr.

Tinker, "that in Germany, England, and France many of the best known surgeons still have not advanced further than had Willard Parker over thirty years ago, and only a few of the most progressive surgeons of European countries have come to adopt the treatment which has been proved by experience of twenty years in America to save most lives."

The work done in plastic surgery by John Mason Warren, of Boston, is duly appreciated, and the statement is added that Velpeau credits Warren with having been the first to puncture the pericardium for the relief of effusion. Joseph Pancoast, of Philadelphia, according to Dr. Tinker, was the first to do a successful operation for extrophy of the bladder, and he thinks that skin grafting was probably first suggested by Frank H. Hamilton, then of Buffalo. Benjamin Winslow Dudley, of Lexington, Kentucky, is said to have been among the first to trephine successfully for the relief of epilepsy. John M. Carnochan, of New York, is mentioned as having in 1858 reported a method of resection of the superior maxillary nerve beyond Meckel's ganglion for neuralgia; William Detmold, of New York, is said to have been the first to evacuate an abscess of the brain, in 1849; and Frank Hartley, of New York, is recorded as having devised the method of removing the Gasserian ganglion that is now in most general use. The author finds from von Bergmann's tables that, out of more than three hundred operations for tumor of the brain, nearly a third have been done by Americans, and with a due proportion of successes. One would expect mention in such a paper of Bigelow's litholapaxy and of Otis's urethral investigations that paved the way for it, but considerable omissions are almost certain to be detected in a contribution dealing with such a vast subject. As it is, Dr. Tinker has rendered a distinct service in the direction of encouraging American surgeons by showing them the glorious past that they will have to live up to.

"THE OPHTHALMOLOGIST."

The following, with the omission of names, is taken verbatim from a publication called *The Ophthalmologist*, Vol. III, No. 8, page 149: "They die hard. Dr. ———, of ———, is a regular graduate Doctor of Ophthalmology. He is being attacked by a cheap physician through a cheaper

newspaper, which prints an article entitled Ophthalmologist Defined, saying it is a properly qualified physician. I say the author of such statement is either ignorant or a deliberate liar. An ophthalmologist is one who understands the eyes, etc., and physicians are notoriously deficient in that direction. I'll bet 2 to 1, any amount, that Dr. ——— knows more about eyes than all the physicians in ———, and I know beyond the pale of betting that he is too much of a man to stoop to such dirty tricks to injure another. The public should beware of that newspaper and the physician who inspired the article."

This dignified and dispassionate paragraph suggests several questions the answers to which might perhaps be interesting. What degree is doctor of ophthalmology? By what university or reputable, not self-styled, college is the degree conferred? To what extent does it purport to give the right to practise medicine in Minnesota or elsewhere? How is it possible for anyone not a qualified physician to become possessed of sufficient knowledge of the ills of the human body to enable him *honestly* to subscribe himself "One who understands the Eyes, their Defects, and their Relation to Human Ills," the definition of an ophthalmologist given on the title page of the cover of this periodical.

The first and second questions are easily answered by the advertisements of a certain optical college, the name of which is the same as the surname of the editor of this periodical. The answer to the third is given in an advertisement which reads: "Graduates of the ——— Optical College are not Oculists or Opticians, They Are Ophthalmologists. They understand physical optics and can make schematic drawings to prove contentions. They understand physiological optics and know how to measure errors of refraction correctly, and *prove it*. They understand anatomy and physiology and can explain to their patients why the results they promise are certain. They understand neurology so well that they can measure the nerve supply of any patient. They understand pathology and know the difference between real disease and functional derangements. They know that 80 per cent. are the latter, and act accordingly. They do not need laws to protect them. They will not submit to bulldozers. They practise on their merits and guarantee their work."

There is nothing here to show the length of time

to be spent at the "college," but from remarks on pages 149 and 155 it may be thought to be eight days, certainly a brief period in which to obtain such a definite knowledge of anatomy, physiology, pathology, and neurology, to say nothing of ophthalmology. It is not only possible, but absolutely true, that many men to-day believe themselves fitted to treat the eye because in their ignorance they take the ground that what they do not know does not exist, and they may through their dense ignorance honestly assume to themselves a title hitherto reserved for those who by their education have been qualified to bear it. Thus honesty and ignorance may be united. But it is difficult to imagine an ignorance so dense as to be misled by an advertisement which guarantees the attainment, in a single course, of knowledge and skill in the most difficult branches of medical study far surpassing the most brilliant attainments of the ablest specialists after a life's devotion. It is also a pity to see the honored name of ophthalmologist thus dragged in the dust.

ADDISON'S DISEASE CURED BY SUPRARENAL EXTRACT.

Judging from what is known of the pathology of Addison's disease, it would appear quite natural to look for decided benefit in that disease from the use of suprarenal extract. Dr. W. E. Deeks, lecturer in medicine at the University of Bishop's College, Montreal, reports in the *Montreal Medical Journal* for July a case of Addison's disease cured by suprarenal extract. The patient, a woman aged thirty-two years, was admitted into hospital on April 3rd of the present year, in apparently a pretty bad condition—quick, small, weak pulse, hurried respirations, temperature 102° F.; dizziness, headache, and palpitation; anorexia, diarrhoea, nausea, and vomiting; dull aching pains in the epigastric, hypochondriac, and lumbar regions; loss of physical and mental energy, with slow and incoherent speech, cold clammy extremities, and, finally, characteristic universal pigmentation, including even the mucous membranes of the lips and cheeks. All treatment up to May 5th was unavailing; indeed, the patient's vitality was progressively sinking, when it was decided to give three grains of suprarenal extract three times daily after meals. Improvement began immediately, and within three days the vomiting and diarrhoea lessened and strength was regained. From this time on, improvement was steady, till on May 31st the patient left the hospital feeling very well and with the pigmentation fast disappearing. The improvement has continued. The results of this case are certainly encouraging.

There can be little likelihood of error in the diagnosis; the results would seem to be too closely connected with the use of the extract to suggest a *post hoc, ergo propter hoc* conclusion. Clearly, therefore, suprarenal extract is a remedy of promise in Addison's disease, and deserves a thorough and complete investigation.

STREET ACCIDENTS.

London, as well as New York, judging from an editorial annotation in the *Lancet* for August 16th, entitled Discredit to Whom Discredit is Due, has its share of street accidents, which, in the proper sense of the word are no "accidents" at all, but the result of sheer "don't-care-a-damnativeness." How often do not we in New York see careless and indifferent drivers of vans, etc., "turn down side streets or even completely round in the same street without looking behind them or warning after comers of their intentions." The unavoidable difficulties of crowded streets are bad enough without the brutal callousness of the majority of drivers, and even in cases a malicious folly which induces them to "whip up" on purpose on some helpless pedestrian at a crossing, endangering him with other vehicles in his efforts to avoid the suddenly accelerated pace of one which otherwise he would have had ample time watchfully to pass in front of according to his calculations. A few such would-be jokers sent to jail might have a wholesome effect.

TRAUMATIC HEART DISEASE.

Stoldt (*Deutsche militair-ärztliche Zeitschrift*, 1902, No. 1; *Berliner klinische Wochenschrift*, August 4th) relates the curious case of a subaltern officer whom a horse kicked in the region of the heart. Seven weeks later, and not before, a systolic murmur was to be heard over the pulmonic orifice, and at still later periods there were observed strong pulsation in the second left intercostal space, an extension of cardiac dulness toward the right side, and decided acceleration of the pulse. In the course of time there was notable improvement of the man's condition, but in what particulars the abstract does not state.

VERATRUM VIRIDE SUBCUTANEOUSLY IN PUERPERAL CONVULSIONS.

Mangiagalli is credited by A. Bertino (*Archivio di ostetricia e ginecologia*, June; *Centralblatt für Gynäkologie*, August 16th) with having inaugurated a new method of treating puerperal eclampsia with veratrum viride, but the peculiarity of the method does not seem quite clear from the *Centralblatt's* abstract. Bertino reports three cases, one of

which ended fatally. He used the fluid extract, giving it at first by the mouth, but, as vomiting was produced, he resorted to its subcutaneous injection, beginning with a dose of a cubic centimetre (about fifteen minims). Besides favorably affecting the convulsive seizures, the drug, as might have been expected, reduced the frequency of the pulse in a notable degree.

TUBERCULOUS DISEASE IN A HERNIA.

The occurrence of primary tuberculous disease in the contents of a hernial sac is seldom observed, and therefore interesting in itself, but doubly so when, as in a case reported by Chavannaz (*Journal de médecine de Bordeaux*, 1902, No. 13; *Centralblatt für innere Medizin*, August 2d), removal of the affected structure seems to cure the patient. In this case, that of a young man with a congenital femoral hernia, a radical operation was performed, and among the contents of the sac there was found a portion of omentum strewn with miliary tubercles. It was removed, and two years later the patient was perfectly well.

LABOR DAY SPORTS ON WARD'S ISLAND.

Some time ago we commended the course pursued by Dr. A. E. Macdonald, the superintendent of the Manhattan State Hospital, East, in instituting holiday contests for the patients and the employees, and we are glad to learn that on Labor Day it was followed again. The programme provided for a fifty yard swimming contest, a game of base ball, a contest at lawn bowls, a hundred yard foot race, a tug of war contention, a competition in throwing the base ball, a hundred yard sack race, a seventy-five yard shoe race, a hundred yard three-legged race, and a hundred yard wheelbarrow race for the male patients, and a potato race, a tug of war contest, and a seventy-five yard foot race for the female patients. As the patients are all lunatics, it is to be presumed that such contests must have a powerful influence in diverting their minds from their imaginary troubles.

THE CORNEOMANDIBULAR REFLEX.

F. von Sölder would have us add this to the list of reflexes, though he is not prepared to state its clinical significance. He describes it (*Neurologisches Centralblatt*, 1902, No. 3; *Centralblatt für innere Medizin*, August 16th) as manifested by a side movement of the lower jaw toward the side opposite the eye tested when the cornea is lightly touched and the mouth is slightly open. The reflex centre, he thinks, lies in the fifth motor nucleus, and the arc is constituted by the sensory and motor branches of the trigeminus.

Society Meetings for the Coming Week:

MONDAY, September 8th.—New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-Historical Society (private); New York Ophthalmological Society (private); German Medical Society of the City of New York; Gynecological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

TUESDAY, September 9th.—New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); Rome, N. Y., Medical Society of the County of Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioner's Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, September 10th.—New York Pathological Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Philadelphia County Medical Society.

THURSDAY, September 11th.—Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia; Church Hill Medical Society of Richmond, Virginia.

FRIDAY, September 12th.—Yorkville Medical Association, New York (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

Changes of Address.—Dr. John Aldrich, to No. 164 West Eighty-first Street, New York; Dr. Percy D. McLeod, to No. 187 Huntington Avenue, Boston.

Charged with Forging Diplomas.—Two Armenians have been arrested in Boston on the charge of forging or attempting to forge diplomas of the Tufts College Medical School.

A Post-Graduate School at Frankfort, Germany.—According to a Berlin dispatch to the *New York Herald* the sum of \$500,000 has been donated by a private individual for the establishment of a post-graduate medical school at Frankfort, Germany, modeled after the post-graduate schools of the United States.

Advanced Pædiatrics.—The *Rochester Union and Advertiser* says that a Canadian firm, in an advertisement of a new nursing bottle it had patented, after giving directions for the use of the bottle, concluded as follows: "When the baby is done drinking it must be unscrewed and laid in a cool place under a tap. If the baby does not thrive on fresh milk it should be boiled."

A Suit Necessary to Determine the Status of Boards of Health.—Owing to errors which have crept in in copying the law enacted at the last meeting of the Louisiana Legislature for the government of the Boards of Health of that State it has been decided that a friendly suit be entered into with a view to obtaining a judicial decision as to the actual meaning of the statute.

An Addition to the King's Hospital Fund.—King Edward's Hospital Fund, which was referred to in our last issue, has received another very considerable addition, in the form of a sum sufficient to produce an income of \$80,000 a year, which has been donated to the fund jointly by Lord Strathcona and Mount Royal, Canadian High Commissioner in London, and Lord Mount-Stephen, President of the Bank of Montreal.

Gas Works to be Removed from Manhattan Island.—There has been a good deal of complaint from time to time concerning the various gas works located on Manhattan Island, and the Consolidated Gas Company which owns all of the nine plants on the island have decided to erect works at Lawrence Point above Astoria, Long Island, which will be large enough to enable them to abandon the nine plants now operated in Manhattan Borough.

A Patient Killed by Accident in a Hospital.—Victorine Raedle, a French maid, was killed on August 28th by slipping from a wheeled stretcher down an elevator shaft. Miss Raedle had undergone an operation in a private hospital on Sixty-first street in this city and while still under the influence of an anæsthetic was placed on a wheeled stretcher, the stretcher placed on an elevator and so conveyed to the fifth floor. On reaching the fifth floor the end of the stretcher was tilted up in some way and the patient slid off the stretcher and down the elevator shaft. No blame was attached to the attendants in the case.

Fraudulent Registration in Indiana.—According to press dispatches emanating from Indianapolis the Indiana State Board of Medical Examiners has discovered that a large number of physicians have secured registration by having a substitute appear before the Board for examination. With a view to putting a stop to such practices in the future the Board has announced that all applicants taking the examinations must leave their photographs with the Clerk of the Board to assist in identification, if an effort should be made to repeat the swindle. A system similar to the Bertillon system will be established in connection with the photographs.

An International Society of Surgery.—The Belgian Society of Surgery, whose annual congress will take place in Brussels, from September 8 to 11, 1902, has invited the most eminent surgeons of all countries to take part in this congress, and to found an international Society of Surgery. The three following questions will be debated:

1. The Treatment of Appendicitis. Reporters: Dr. Broca, of Paris; Dr. Sonnenburg, of Berlin; Dr. Roux, of Lausanne; and Dr. Gallet, of Brussels.

2. The Treatment of Fractures of the Limbs. Reporters: Dr. Tuffier, of Paris; Dr. Rothschild, of Frankfort-on-Maine; and Dr. Hannecart, of Brussels.

3. Operative Asepsis, in Relation to the Preparation of the Hands and the Sutures. Reporter: Dr. Walravens, of Brussels.

The American Electro-Therapeutical Association held its twelfth annual meeting at Hotel Kaaterskill in the Catskill mountains, on Tuesday and Wednesday, September 2nd and 3rd. The meeting was presided over by Dr. Frederick H. Morse, of Melrose, Mass., president of the association.

A Zoologist for the Public Health and Marine Hospital Service.—Dr. Charles W. Stiles who has been zoologist of the bureau of animal industry, Department of Agriculture, has been transferred to the Public Health and Marine Hospital service, where he will continue the special work which he has been doing in the investigation of the relations of the diseases of domestic animals to human diseases with a view to the practical application of the knowledge thus gained.

A Hospital Sued for Damages.—Suit has been brought in the Superior Court of Illinois against the Northwestern University and the Lakeside Hospital for \$12,000 damages by John Bortoli. The plaintiff underwent an x-ray examination at the Lakeside Hospital in the course of which he was exposed to the rays for a considerable length of time. He avers that necrosis set in as a consequence involving a considerable portion of his body, and that his physicians state that it will be a long time before he recovers.

Improvement in the Health of Troops in the Philippines.—It is reported that dysentery which has been the cause of a larger number of fatalities than any one disease among troops in the Philippines has practically disappeared owing no doubt to the strict enforcement of sanitary measures. An affection of the skin known locally as "adobe itch" which had caused considerable trouble among the troops has also been eradicated by enforcing proper precautions in the handling of the laundry of the soldiers.

The Maryland State Tuberculosis Commission.—Three members of the State Tuberculosis Commission, recently appointed by the governor of Maryland, met on August 22nd at the offices of the State Board of Health, 10 South Street, and effected an organization. Dr. W. S. Thayer, of the Johns Hopkins University, was made president and John Glenn, who is at present in Europe, was elected secretary. The full commission will meet on October 8th. The commission will investigate tuberculosis with special reference to showing its cost to the State through pauperism and the failure of productive activity, and will endeavor to point out a remedy by which the disease can be checked and reduced in extent. It will report to the next Legislature and it is desired to get the benefit of one full year's observation.

City Sued for Death from Vaccination.—A claim for \$25,000 has been filed with the City Clerk of Buffalo on behalf of Homer E. Sturdevant, father of the late Lucille E. Sturdevant, whose death her parents claim was due to vaccination poisoning, and whose tombstone in Forest Lawn Cemetery bears an inscription to this effect. The child

was vaccinated at Public School No. 35 on May 13, 1902. She died shortly afterwards, but the physicians by whom she was attended gave the cause of death on the certificate filed in the Bureau of Vital Statistics as due to double pneumonia. It is the intention of the child's parents, however, that this latter malady was induced by the public vaccination of the child; that germs were introduced at the time of the vaccination in the schoolroom which caused the double pneumonia, which, coupled with the effects of the vaccination, caused the little child's death.

Changes in the Faculty of the National University at Washington, D. C., have been announced as follows: In the medical department the chair of theory and practice of medicine will be filled by Professor George C. Ober, who has taught materia medica and therapeutics in the schools for the last ten years. The latter chair has been placed in the care of Professor N. P. Barnes, formerly professor of pediatrics. Dr. John R. Wellington has been chosen for the chair of surgery, and Dr. James Kerr has been made clinical professor of surgery. Dr. H. H. Barker, who has been dean of the school for eighteen years, will continue to occupy the chair of obstetrics, and Dr. F. M. Thompson and Dr. William M. Sprigg will continue to hold the chairs of anatomy and physiology, which they have held for twelve and ten years, respectively. Dr. W. H. Bradbury will teach chemistry as heretofore.

The National Association of Hospital Superintendents will hold its annual conference in Philadelphia, October 14th, 15th and 16th. The social features of the occasion will include a tally-ho ride through Fairmount Park, the Wissahickon Drive and the Centennial grounds and a reception and luncheon at the Pennsylvania Hospital, the oldest hospital in the United States. The annual banquet will take place on the evening of October 15th and a theatre party is planned for the evening of October 14th. It is also planned to have the members visit Independence Hall, the United States mint, the Cramp shipyards, Baldwin locomotive works and Girard College. Free transportation will be furnished all members and their wives, from Philadelphia to Atlantic City and return; the tickets being available for use the day after the adjournment of the conference.

Governor Odell Lays the Corner Stone of a Hospital.—On August 30th Governor Odell laid the corner stone of a new hospital now being constructed at Dobbs Ferry mainly from funds contributed by residents of the vicinity. The Governor took occasion to make an address in the course of which he said: "It was my privilege during the past year to visit all of the State's institutions and what impressed me more than anything else was that the extravagance of our people had led them more in the direction of expensive and ornate buildings than toward the food supply and medical treatment that was designed to bring back health and intelligence. It led me to the conclusion that those who were nominally in control practically exercised but little influence for the good of the inmates. From this followed

legislation intended to cure some of the evils which through years of neglect had grown up and to secure a corresponding benefit to the inmates. While its object was at the time misunderstood by some, I am convinced that the result will be of such lasting benefit that its value, which is now more fully recognized, will become more apparent with each succeeding year. Politics should never be permitted to be a factor in the administration of the institutions for the unfortunate. It has no place there, and I have so much confidence in the wisdom of our people that I do not believe they would tolerate such interference and would be quick to condemn those who were instrumental in taking advantage of the deplorable physical conditions which exist in our institutions for either party or personal benefit."

The Physical Examination of School Children.

—The Illinois State Board of Health has issued a circular addressed to county superintendents of schools urging upon them the importance of having the eyesight and the hearing of the pupils tested by the teachers once every year. The list of facts to be ascertained by the teacher which is inclosed in the circular reads as follows:

1. Does the pupil habitually suffer from inflamed lids or eyes?
2. Does the pupil fail to read a majority of the letters in the number xx (20) line of the Snellen's Test Types, with either eye?
3. Do the eyes and head habitually grow weary and painful after study?
4. Is the pupil probably "cross-eyed"?
5. Does the pupil complain of ear-ache in either ear?
6. Does matter (pus) or a foul odor proceed from either ear?
7. Does the pupil fail to hear an ordinary voice, at twenty feet in a quiet room?
8. Does the pupil fail to hear the tick of a good-sized watch at three feet, with either ear in a quiet room?
9. Does the pupil fail to breathe properly through either nostril?
10. Is the pupil an habitual "mouth-breather"?

If an affirmative answer is found to ANY of these questions, the pupil should be given a card or letter of warning to be handed to the parent, which should read something like this:

Dear Sir:

After due consideration, it is believed that your child has some Eye-Ear disease, for which your family physician or a physician who makes a specialty of diseases of the eye or ear should be consulted.

It is earnestly requested that this matter be not neglected, as children with Eye-Ear diseases cannot attain the best results in school.

Respectfully,

Principal.....School.

The Fourteenth International Congress of Medicine.—Notice has just been issued that special reductions have been made for members of the next International Medical Congress, which will be held at Madrid next year, of 50 per cent. on all tickets purchased over the Northern Railroad of Spain, the Madrid, Saragossa & Alicante Railroad, the French railroads, the Italian Navigation Companies of Puglia, of Naples, and of Sicily, and a discount of 33½ per cent. on tickets purchased from the Spanish Transatlantic line. It is expected that similar concessions will be made by

other transportation companies which have not yet been heard from. The firm known as the *Voyages Pratiques* at 9 rue de Rome, Paris, has agreed to look after all tickets and traffic arrangements without charge. Hotel accommodations may be obtained through a committee of the congress by addressing the *Bureau des Logements, Faculté de Médecine*, Madrid. All who wish to receive the preliminary programme of the congress should address the general secretary of the congress at Madrid, or Dr. J. H. Huddleston, secretary for the United States, 126 West Eighty-fifth Street, New York. The general secretary must be informed prior to January 1st, 1903, of any communications the titles of which it is desired to have appear in the printed programmes. Much comment has been aroused by the statement made some time since by the Executive Committee that Article II of the regulations concerning the admission of members of the congress was to be so construed as to permit of the membership of "all persons having a professional or scientific title." It is explained in a circular just issued by the general secretary that the extension is intended to apply only to such "professions and sciences as have a certain affinity with medicine." Subscriptions of members may be addressed to the general secretary of the congress at Madrid, or the secretary for the United States, Dr. Huddleston, whose address is given above.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending August 30, 1902:

DISEASES.	Week end'g Aug. 23		Week end'g Aug. 30	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	119	20	204	24
Scarlet fever.....	76	7	83	6
Cerebro-spinal meningitis.....	0	3	0	2
Measles.....	63	2	49	2
Diphtheria and Croup.....	158	25	186	23
Small-pox.....	5	1	6	1
Tuberculosis.....	209	134	227	153

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending August 30, 1902:

- CHASE, ALPHA M., Contract Surgeon, will proceed to Fort Reno, Oklahoma Territory, for duty.
- CLAYTON, JEREMIAH B., First Lieutenant and Assistant Surgeon. The leave of absence granted him is extended fifteen days.
- HOGUE, GUSTAVUS I., Contract Surgeon, will report in person to the commanding general, Department of California, for duty in that department.
- MANY, HARRY C., Contract Surgeon. Upon his arrival at Fort Slocum, N. Y., will proceed to Fort Riley, Kansas.
- PORTER, LEWIS B., Contract Surgeon, will report in person to the commanding general, Department of California, for duty in that department.

PERNELL, HARRY S., First Lieutenant and Assistant Surgeon, is detailed as a member of the examining board at Columbus Barracks, Ohio, vice GUY L. EDIE, Major and Surgeon, relieved.

SEARS, C. EDWARD, Contract Surgeon, will report to the commanding officer at Fort Niobrara, Nebraska, for duty.

SHEPHERD, JOHN M., Contract Surgeon. The leave of absence granted him is extended one month.

SMITH, ALLEN M., Captain and Assistant Surgeon, is granted leave of absence for fifteen days.

TIGNOR, EDWIN P., Contract Surgeon. The leave of absence granted him is extended ten days.

TORNEY, GEORGE H., Major and Surgeon, will proceed to Little Rock, Arkansas, to confer with the United States Attorney for the eastern district of Arkansas, on official business pertaining to the Hot Springs Reservation.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending August 30, 1902:

Smallpox—United States.			
California.....	San Francisco.....	Aug. 10-17.....	8 cases.
Colorado.....	Denver.....	Aug. 8-16.....	1 case.
Illinois.....	Chicago.....	Aug. 16-23.....	4 cases.
Indiana.....	Indianapolis.....	Aug. 16-23.....	3 cases.
Louisiana.....	Shreveport.....	Aug. 16-23.....	3 cases.
Massachusetts.....	Boston.....	Aug. 16-23.....	8 cases.
	Cambridge.....	Aug. 16-23.....	2 cases.
	Lawrence.....	Aug. 16-23.....	2 cases.
Missouri.....	St. Joseph.....	Aug. 16-23.....	16 cases.
	St. Louis.....	Aug. 17-24.....	1 case.
Nebraska.....	Omaha.....	Aug. 16-23.....	4 cases.
N. Hampshire.....	Manchester.....	Aug. 16-23.....	1 case.
New Jersey.....	Camden.....	Aug. 16-23.....	3 cases.
	Jersey City.....	Aug. 17-24.....	1 case.
	Newark.....	Aug. 16-23.....	6 cases.
	Passaic.....	July 26-Aug. 23.....	2 cases.
New York.....	Buffalo.....	Aug. 16-23.....	4 cases.
	New York.....	Aug. 18-25.....	5 cases.
Ohio.....	Cleveland.....	Aug. 16-23.....	50 cases.
Pennsylvania.....	Allegheny.....	Aug. 16-23.....	2 cases.
	Altoona.....	Aug. 16-23.....	1 case.
	Erie.....	Aug. 16-23.....	6 cases.
	Johnstown.....	Aug. 16-23.....	4 cases.
	McKeesport.....	Aug. 16-23.....	3 cases.
	Philadelphia.....	Aug. 16-23.....	3 cases.
	Pittsburgh.....	Aug. 16-23.....	9 cases.
South Dakota.....	Sioux Falls.....	Aug. 16-23.....	1 case.
Utah.....	Salt Lake City.....	Aug. 16-23.....	1 case.
Wisconsin.....	Milwaukee.....	Aug. 16-23.....	1 case.
Smallpox—Foreign.			
Canada.....	Quebec.....	July 26-Aug. 16.....	3 cases.
Gt. Britain.....	Dublin.....	Aug. 2-9.....	1 case.
	Glasgow.....	Aug. 8-15.....	1 case.
	Leith.....	Aug. 2-9.....	1 case.
	London.....	July 2-9.....	21 cases.
India.....	Bombay.....	July 22-29.....	4 deaths.
	Calcutta.....	July 19-26.....	8 deaths.
	Karachi.....	July 20-27.....	1 death.
Russia.....	Odessa.....	Aug. 2-9.....	4 cases.
Yellow Fever.			
Brazil.....	Amazon.....	July 24.....	Raging.
Colombia.....	Panama.....	Aug. 11-18.....	3 cases.
Dutch Guiana.....	Paramaribo.....	July 1-30.....	1 case.
Mexico.....	Catracualcos.....	Aug. 8-16.....	9 cases.
	Vera Cruz.....	Aug. 8-23.....	39 cases.

Plague.			
Egypt.....	Alexandria.....	April 14-Aug. 6.....	70 cases.
	Tukki District.....	May 2-Aug. 6.....	39 cases.
India.....	Bombay.....	July 2-29.....	28 deaths.
	Calcutta.....	July 10-26.....	12 deaths.
	Karachi.....	July 20-27.....	15 deaths.
Russia.....	Odessa.....	July 26.....	Officially announced.

Cholera.			
China.....	Niuschwang.....	July 5-12.....	98 cases.
	Tientsin.....	June 30-July 14.....	100 cases.
Egypt.....	general.....	July 15-Aug. 6.....	981 cases.
	Alexandria.....	To Aug. 6.....	5 cases.
	Assiout Dist.....		
	including		
	Moucha.....	July 5-Aug. 6.....	459 cases.
	Cairo.....	July 10-Aug. 6.....	164 cases.
India.....	Bombay.....	July 2-29.....	4 deaths.
	Calcutta.....	July 19-26.....	34 deaths.
	Karachi.....	July 20-27.....	24 deaths.
Japan.....	Fukuoka Ken.....	To July 28.....	287 cases.
	Hiroshima Ken.....	July 29.....	Present.
	Kanagawa Ken.....	July 29.....	1 case.
	Kumamoto Ken.....	July 29.....	Present.
	Nagasaki.....	July 29.....	"
	Saga Ken.....	July 29.....	"
	Tokyo Fu.....	July 29.....	3 cases.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending August 30, 1902:

BELL, W. H., Passed Assistant Surgeon. Detached from the *Chesapeake*, and ordered to duty as a member and recorder of a board of medical officers at the Naval Academy, Annapolis, and thence home to await orders.

BENTON, F. L., Passed Assistant Surgeon. Part of the order of May 27, 1902, detaching him from the *Columbia*, is revoked.

Births, Marriages, and Deaths.

Born.

URBAN.—In Buffalo, on Monday, August 25th, to Dr. and Mrs. Adolph H. Urban, a daughter.

Married.

ABELS—COHEN.—In Chicago, on Tuesday, August 19th, Dr. E. J. Abels and Miss Adele M. Cohen.

KIRK—COUNTRYMAN.—In Albany, on Wednesday, August 20th, Dr. William Kirk, of Troy, and Mrs. Grace Ingalls Countryman.

KOLIPINSKI—SOEHNEN.—In Washington, on Wednesday, August 20th, Dr. Louis Kolipinski and Miss Ella Mercedes Soehngen.

WASHBURN—THOMAS.—In Perry, N. Y., on Wednesday, August 20th, Dr. Frederick M. Washburn and Miss Ada Marie Thomas.

WINTERS—HOVELMAN.—In St. Louis, on Tuesday, August 12th, Dr. William O. Winters and Miss Dora M. Hovelman.

Died.

ARMSTRONG.—In Doylestown, Ohio, on Friday, August 22d, Dr. A. M. Armstrong, in the ninety-fourth year of his age.

BRADLEY.—In Philadelphia, on Wednesday, August 27th, Dr. Michael Bradley, United States Navy, retired, in the sixty-fifth year of his age.

CHADBOURNE.—In Lowell, Massachusetts, on Thursday, August 21st, Dr. Francis W. Chadbourne, in the thirty-ninth year of his age.

CLOUD.—In St. Louis, on Sunday, August 17th, Dr. Robert T. S. Cloud, in the eighty-seventh year of his age.

FRIEDENWALD.—In Baltimore, on Wednesday, August 27th, Dr. Aaron Friedenwald, in the sixty-fifth year of his age.

PHILLIPS.—In Canton, Ohio, on Saturday, August 30th, Dr. T. H. Phillips, in the sixty-fourth year of his age.

SHAFFER.—In Wabash, Indiana, on Saturday, August 23rd, Dr. Philip Shaffer, in the seventy-first year of his age.

TALBOTT.—In Terre Haute, Indiana, on Thursday, August 21st, Dr. John M. Talbott.

WILKIE.—In Cuddebackville, N. Y., on Sunday, August 31st, Dr. Mortimer V. Wilkie, in the forty-fifth year of his age.

OBITUARY NOTES.

DR. W. F. HENDRICKSON, instructor in pathology in the University of Pennsylvania, died on August 21st at the age of 20. He was educated at Johns Hopkins University, taking high honors. For the past two years he has been connected with the faculty of the University of Pennsylvania.

Pith of Current Literature.

PRACTICE OF MEDICINE.

The Causation and Prevention of Phthisis. By Dr. Byrom Bramwell (*Lancet*, August 2nd).—The fifth, and concluding lecture of this series, being concerned with the compulsory notification of phthisis will be found in the section on Hygiene and Sanitary Science.

Some Further Statistics Regarding the Effect of Inoculation against Typhoid Fever in South Africa, with Special Regard to the Question of Age. By Dr. A. Crombie (*Lancet*, August 16th).—In a previous communication on the subject of inoculation against typhoid fever, the author's statistics seemed to show that inoculation conferred a certain amount of protection for about six months, after which time the inoculated seemed to suffer more than the uninoculated. It was suggested that age had something to do with these results, and that the inoculated individuals would be found to be younger than the uninoculated. On reclassifying his cases from this point of view, he reaches the following conclusions: The period of greatest susceptibility to typhoid fever is from twenty to twenty-five years of age. Up to the age of thirty years, the advantage of a single protective inoculation is distinct, the incidence in this class being 27 per cent. against 51 per cent. among those not inoculated. Beyond the age of thirty years, the position is reversed and the advantage is with the noninoculated, the incidence among them being only 14.3 per cent., against 27.4 per cent. among those inoculated once. These figures would seem to suggest that, as the period of natural susceptibility to the disease is passing away, inoculation is to be avoided as likely to increase the liability to infection.

Chorea and Its Relation to the Infectious Diseases, especially Rheumatism.—Dr. Georg Köster (*Münchener medizinische Wochenschrift*, August 12th) has prepared a statistical table of his cases of chorea. He finds that 74.3 per cent. of his cases have an ætiological factor in some acute infectious disease, which he considers a very high percentage. As to rheumatism, he comes to the conclusion that, until or unless it is possible to isolate from the blood of choreic individuals the infectious element of an acute or latent rheumatism, the possibility of other infectious agents as provokers of chorea must be admitted.

Cancer Statistics.—Dr. W. Riechelmann (*Berliner klinische Wochenschrift*, August 4th and 11th) reviews the pathological material in his hands. He finds the total number of cases among his autopsies to be 21.94 per cent. He attributes this large number in part to increased population, in part to improved methods of diagnosis and the correctness of autopsy findings, and thinks that possibly a part may be ascribed to an actual increase in the number of cancer cases. Cachexia he ascribes to inability to take nourishment or to assimilate it properly, to ulceration and necrosis of the growth, and to the situation and number of metastases.

Treatment of Appendicular Inflammation with Oleum Terebinthinæ.—Dr. Moritz Mager (*Münchener medizinische Wochenschrift*, August 12th) alleges that, on account of its antiphlogistic properties, oleum terebinthinæ is almost a specific in cases of acute appendicular inflammation. He administers it by mouth until a transudate can be felt in the right iliac region, when it is also applied externally. He reports six cases of patients treated in this manner, together with opium and a fluid diet, who recovered from their acute attacks.

Plague as a Soil Infection. By Dr. F. Farrar (*British Medical Journal*, August 16th).—In this paper the author summarizes evidence to the effect that outbreaks of bubonic plague are dependent on the infection with a specific microbe of soil contaminated with the excreta of rats or other animals that have suffered with the disease; and that, except in pneumonic cases, infection is ordinarily the result of direct inoculation from the soil, the element of personal communication being a factor of relatively small importance. It is a significant fact that the policy of evacuation of infected villages so long a custom in India, is always highly successful. Evacuation checks an increasing epidemic, lessens mortality, and if promptly carried out in villages, tends to arrest disease *in toto*. Even more conclusive as to soil infection is the fact that such cases of plague as do sporadically occur in health camps after evacuation has been carried out, occur almost exclusively in persons who have surreptitiously visited their homes against orders.

The terrible susceptibility of the people of India to plague lies in the fact that they are a barefooted race. Further, most of them have chronic abrasions due to badly fitting toe-rings. To well-shod and well-clad Europeans, plague is very little dangerous. The author emphasizes the fact that mortality among rats almost invariably precedes an epidemic of human plague. This connection is well known in India, where plague is often termed the rat disease.

Plague, when it is introduced by persons, may readily be exterminated; when it is introduced by rats, followed by infection of shore rats, it has come to stay. To exclude plague, our energies must be devoted not merely to the exclusion of plague-smitten persons and plague-infected articles, but even more earnestly to the exclusion of rats. Safety lies in rat-free ships.

The Plague in Batoum in November, 1901. By Dr. N. Berestneff (*Roussky Archiv Patologii*, June 30th).—The author describes the features of an epidemic of plague which occurred in Batoum in 1901. The bacillus of plague was isolated from the bubo of one of the patients on the eighth or ninth day of his disease. This bacillus proved virulent and showed all its characteristics. In cases corresponding to that observed in this patient, the bacilli of plague disappear, as a rule, about the fourteenth day of the disease. The malady was of the bubonic type, without septicæmia, and with a fall of temperature on the eighth or ninth day of the disease without specific treatment. The viscosity of the cultures of *Bacillus pestis* is an inconstant sign; it may be absent in the first few generations, and may appear after several reinoculations. In the case under con-

sideration the germ formed round colonies, which projected over the surface of the medium and were white in color. No colonies with a surrounding transparent zone and festooned edges were seen in this case, except when there was difficulty in the access of air to the culture, as in sealed tubes, or when the growth of germs was retarded owing to a defect in the nutrient qualities of the medium. The bacilli of plague found in Batoum were very sensitive to desiccation. Those found in the blood and exudate were less so than those grown on ordinary culture media. The bacilli of plague kept in sealed tubes containing blood or exudate underwent the same morphological changes as are seen in the body. The stalactites and the superficial pellicle present means of distinguishing bacilli of plague when they grow in bouillon mixed with some other microbes, such as staphylococci. In cases of suspected plague, in which bacteriological examination does not give a definite answer, it is necessary to resort to the agglutination test, which is characteristic.

The Ætiology of Return Cases of Scarlet Fever.

By Dr. C. K. Millard (*British Medical Journal*, August 16th).—Return cases of scarlet fever are cases which are caused by the carrying home of infection by patients returning from the hospital. They are essentially a hospital phenomenon—analogue cases rarely arise after treatment of scarlet fever at home. The infective influence arising from the return of patients from hospital persists for a much longer time than was at first supposed. If a limit must be set to the length of the interval which may elapse between the return home of a patient and the occurrence of a return case, it should be at least six weeks. The clinical complications of patients leaving hospital most frequently associated with the carrying home of infection are discharges from the nasal and aurial passages, and unhealthy conditions of the nasal mucous membrane, with or without visible discharge. The fatality of return cases has long been noted to be above the average. It was formerly supposed that if a patient proved to be still infectious after return from hospital, it was evidence that he had been sent home prematurely, and the physician was blamed accordingly. In order to avoid this, the period of detention in hospital has been greatly increased, until now it surpasses that of patients sick at home. Yet this plan has not been a success; the number of return cases has not been materially reduced. Marked overcrowding in hospital is frequently followed by an increase in the number of return cases, regardless of the length of the period of detention. There are two theories as to the nature and origin of the infection. The one held by most authorities is that, during his stay in an acute ward, the convalescent patient, in the act of breathing, stores up in the nostril the infective matter discharged from acute cases, which he subsequently expels at home. The author's own view is that there is a retardation of the elimination of infection, caused by the already infection-laden atmosphere. The patients do not really complete the elimination until after they leave the hospital. In order to prevent the occurrence of such return cases in hospital, the following scheme was followed out:

1. To isolate all cases for a fortnight before discharge in special wards.
2. To inunct the patients with weak carbolic oil and to wash out the nostrils immediately before transference to the isolation ward.
3. To bathe them every alternate day, and immediately after the bath to reinunct them.
4. To wash out the nostrils and ears every day with an antiseptic solution.
5. The patients are encouraged to spend as much time out of doors as possible.

SURGERY AND ANATOMY.

Some Cases of Appendicitis.—Dr. J. Basil Hall (*Quarterly Medical Journal*, August) thus sums up: (1) When marked signs of peritonitis are not ameliorated during the first six or eight hours after the onset, operate. (2) Where acute local symptoms persist beyond the fourth day, operate. (3) Where subacute or mild symptoms persist into the second week, operate. (4) When in doubt, operate. The author urges that in acute cases the fatal mistake is too frequently made of waiting for "positive evidence" of general peritonitis. Appendicular inflammation is, after all, a localized peritonitis of septic origin, and, to attain success in these cases, operation must be undertaken immediately, when there is a reasonable suspicion that the process is not remaining localized, or that suppuration is taking place.

The Best Methods of Sterilizing Catgut. By Dr. V. P. Feodoroff (*Roussky Vrach*, July 27th).—The author's conclusions, based on laboratory work with various methods of preparing catgut for the operating table, are as follows: (1) The question as to the use of catgut resolves itself into the question of sterilizing this material. (2) The physical methods of sterilization are superior to the chemical, because, by physical means, the sterilization is more complete, and can be accomplished in a far shorter period of time. (3) Of the physical methods of sterilizing catgut the cumol method is the best. (4) Of the chemical methods, the cajeput method and the turpentine method are the best. (5) In some cases Schaeffer's method may be employed. (6) The best medium for the preservation of catgut is a 1:1000 solution of corrosive sublimate in absolute alcohol, and whenever necessary 10 or 20 per cent. of glycerin may be added. (7) A bacteriological examination of every case of catgut suppuration is needed for the elucidation of the question of chemio-taxis of catgut undergoing absorption in the tissues. [Schaeffer's method of sterilization involves the use of one-per-cent. mixtures of corrosive sublimate in a special apparatus devised by the author. *Berliner klinische Wochenschrift*, 1896, 30-34.]

The Treatment of Appendicitis. By Dr. J. O'Connor (*Lancet*, August 16th).—The author's article is based upon a series of 140 cases of appendicular inflammation. Of these, 53 were purulent. In all, he had 9 deaths, 6 of which occurred in fulminating cases.

In nonpurulent appendicitis, owing to the impossibility of determining the exact pathological condition and to the insidious nature of the disease, the author considers it a duty to operate in every case

within twenty-four hours. In purulent cases the key to success is to operate early and to introduce the sense of sight by a large incision; without the latter, disaster is bound to occur. A four-inch oblique incision is made over the centre of tumefaction, the external oblique is split parallel to its fibres, and the underlying muscles are divided with a scalpel through the entire length of the wound. The author has found McBurney's gridiron method very unsatisfactory, as it disturbs the muscles too much, and opens up muscular planes which increase the risk of parietal infection during the evacuation of pus.

In fulminating appendicitis adhesions are usually absent, which may be explained by streptococcic infection, causing intense toxæmia with destruction of the plastic elements of the blood. The "cuff" operation for amputation of the appendix is characterized by the author as a "finicking procedure;" he simply cuts off the appendix close to the cæcum, and closes the little wound with two rows of fine silk continuous sutures.

A Case of Ruptured Gluteal Aneurysm, Transperitoneal Ligature of the Internal Iliac Artery. By H. W. Page. F. R. C. S. (*Lancet*, August 16th).

—The author reports the case of a man, aged forty-four years, who, for five weeks, had suffered from a swelling in the right buttock, which had steadily increased in size. It was fluctuant and nonpulsatile, but on exploratory incision was found to contain only blood clot. A diagnosis of ruptured aneurysm was made and two days later the original exploratory incision was enlarged, and the cavity cleaned out, more than two pints of old and recent blood clot being evacuated. Hæmorrhage was taking place from the gluteal artery within the sciatic notch, but fortunately the bleeding-point was seized with right-angled artery forceps on the inner side of the bone. As the artery could not be tied at this spot, the internal iliac artery was at once ligated. The patient did well for three days, when pneumonia developed, the patient dying a few days later. At the autopsy the internal iliac artery from the site of ligature onward into the gluteal artery was found firmly occluded by healthy clot. Septic inflammation of the wound cavity probably took place. The patient gave no history of injury to account for the hæmorrhage further than a slight strain.

Statistics of Amputations in Russia. By Dr. B. L. Gordon-Kliatchko (*Chirurgia*, April).—A study of the statistics of amputations in Russia leads the author to the following conclusions: In the prognosis as to the result of an amputation, the condition for which the operation is contemplated plays a prominent rôle. Depending upon this condition, the general mortality of amputations varies between 6.4 per cent. and 19.3 per cent. The danger of amputations increases with the age of the patient and with the impairment of his general condition. The healing of the wound depends upon the technics employed, the proper selection of the time, and the site of operation. Modifications in the methods of amputating are only of importance as they affect the healing powers of the wound. Reamputations and amputations "of choice" do not differ in danger or in results from other amputations. The technics of amputations is far from perfect, and the principal mistakes are made in estimating the elasticity and

contractility of the muscular tissues and of the skin, as well as the rate of growth of the bones and soft parts. The general mortality of operations is 9.5 per cent., and the average time for the healing of the wound is twenty-seven days if the wounds heal by primary union, and seventy-six days if they heal by secondary union. With the modern methods of treating wounds there is practically no difference between amputations for traumatism and amputations for pathological conditions, except that in the latter the average time for the healing of the wound is eighty-seven days. During the past twenty-five years the mortality of amputations has diminished to the extent of nearly fifty per cent., a result which has been brought about by improved technics, not so much in operating, as in treating, wounds.

The Treatment of Fractures of the Shaft of the Humerus.—Dr. George Wilkinson (*Quarterly Medical Journal*, August) asserts that no other method of treatment gives a degree of fixation and a feeling of security to the patient equal to a properly applied shoulder cap. In those cases in which the arm is too tender to bear the small amount of manipulation necessary, the following method of splinting will be found useful. The elbow is flexed to a right angle, and the fingers, hand, and forearm bandaged with flannel bandages, the wrist being extended and the fingers flexed. A roller bandage may be held in the hand. A "bandolier" sling is put on. The splints for the arm are now prepared. A paper pattern is first cut out, to fit the front, outside, and back of the arm, leaving plenty of room in front for the fixation of the elbow joint. A pad is next cut to the shape of the pattern; next, a piece of strapping is cut to the pattern, with the adhesive side inwards, but slightly wider. The straight splints are now cut, about one inch and a half wide, for the anterior, external, and posterior surfaces of the arm. The outer splint should reach from the great tuberosity of the humerus to just above the external condyle. These are fixed in position on the adhesive side of the strapping. A short internal splint of the same width should be cut, to reach from below the folds of the axilla to above the internal condyle, and should be well padded. The patient being seated in a chair, an assistant makes traction downward on the arm from the bend of the elbow so as to bring the fragments into position, and the padded splints are placed in position around the bone. Two pieces of strapping are next carried from the anterior and posterior splint over a pad on the top of the shoulder, and down on to the front and back of the chest respectively, to prevent the splints working down by their own weight, and causing pressure at the flexure of the elbow joint. The splints are fixed by two buckled straps carried tightly around the whole. Sufficient padding is placed between the chest wall and the internal splint to keep the arm from being pressed inwards out of the perpendicular. Where the hollow of the waist is well marked, as in women, a wedge-shaped pad with the base downwards should be used. The arm is then bandaged firmly to the side by a flannel roller encircling the chest. The points to be attended to are (1) that the arm hangs perpendicularly from the shoulder; (2) that the wrist is extended and the fingers flexed, and that the hand is not confined under the clothing; (3) that there is no

pressure in the bend of the elbow; (4) that the internal splint does not press in the axilla; (5) that the external splint is of proper length, *i. e.*, extends from the great tuberosity to just above the external condyle. If it is shorter than this there is a tendency for the fragments to be bowed inwards when the arm is bandaged to the side. (6) In the after treatment passive movements of the wrist and fingers should be made each day, and the splints should be readjusted and tightened up as the swelling of the arm subsides.

OBSTETRICS AND DISEASES OF WOMEN.

Conduct of Labor in Contracted Pelves.—Professor Krönig (*Münchener medicinische Wochenschrift*, August 12th), in a review of the cases in his clinic in Dresden, comes to the conclusion that the induction of premature labor, version prophylactically performed, and the use of the high forceps, do not improve the prognosis for mother and child so much as the operations of symphysiotomy and the Cæsarean section. If, however, expectant measures are quietly pursued, cranioclasia may be the necessary outcome. Symphysiotomy has the advantage of allowing strict indications to be set for its performance, since the course of the labor may be carefully watched, the dilatation of the cervix may be awaited, and it may be observed if the uterine contractions can force the head through the pelvis long after the rupture of the membranes. When the conviction is finally forced on one that spontaneous birth is impossible, the operation may be performed. The Cæsarean section, however, permits of the more rapid delivery of the child, so that, in some cases, symphysiotomy is only a preliminary operation.

On the Pathogenesis and Treatment of Eclampsia. By Professor V. V. Stroganoff (*Roussky Vrach*, July 27th; *abstract concluded from p. 343*).—In the institutions in which the author's method of treatment is employed, not a single death has occurred from eclampsia if the patient has been admitted in a satisfactory condition. Within the past five years there have been 126 cases of eclampsia in these institutions, and the death rate among these cases is only 6.3 per cent. The author's method of treatment is a combination of various remedies that have proved efficient in eclampsia. It consists, in the first place, in the administration of morphine and chloral hydrate, particularly the latter, and the essential point in using these drugs is that they must be given in large doses for one or two days after the first attack, the dose depending upon the severity of the seizures. Eclampsias after labor and during pregnancy are less severe, and require smaller doses, as a rule. Morphine lowers the reflex excitability, while chloral acts as an efficient antispasmodic; and by the repeated administration of these drugs in moderate doses, $\frac{1}{4}$ grain of morphine hydrochloride and 30 grains of chloral hydrate, we obtain the cessation of the paroxysms. Only when the paroxysms are very frequent, does the author use chloroform, for half an hour or an hour before the morphine has acted. While the author does not deny the value of the artificial induction of labor in eclampsia, this procedure should be, in his opinion, resorted to most exceptionally, only with a live

child and a dying mother. The next remedy of importance in eclampsia is the injection of a saline solution by the rectum. A litre should be retained in twenty-four hours, or more if necessary. The action of the heart and lungs should be carefully watched, and all sources of irritation should be removed. The position of the patient, the cleansing of the mouth and nose, and the cessation of all unnecessary examinations should be the physician's care in these cases, and oxygen for inhalation, as well as stimulants, may prove of great value in severe cases. The excellent results as regards the child which have been obtained by the author's mode of treatment lead him to regard with disfavor all operative interference with the fetus in eclampsia. The organism in eclampsia is the seat of an infectious process, and morphine and chloral, by removing the symptoms of the infection, the convulsions, place the organism in the best possible condition for resisting the infection. The same is true of the process of delivery, and it may be remembered that delivery assists in overcoming other infections, as typhoid fever, pneumonia, etc. The treatment pursued by the author for the past five years, and outlined here, gives him the assurance that there are few diseases in which medicines can do more good than in eclampsia. His conclusions are as follows: (1) Eclampsia is an independent disease, possessing its own definite anatomopathological and clinical picture. (2) The fetal origin of eclampsia is not by any means demonstrated, and in general contradicts many phenomena of the disease. (3) The uræmic theory of eclampsia is contradicted by the most recent researches more than by the older ones. (4) The infectious, and not the toxic theory of eclampsia explains the phenomena of the disease with more logic and probability. (5) The data of literature and clinical observation support the infectious theory only, on thorough study. (6) The isolation of eclampsia cases in the Lying-in Institute was followed by a diminution in the number of autochthonous cases, developing in the institute. (7) In lying-in institutions eclampsia develops far more frequently than in private dwellings. The author's method of treatment with chloral and morphine, and with normal salt solution, as well as with acceleration of labor if need be, gives very favorable results and deserves the widest possible application.

DISEASES OF CHILDREN.

A Contribution to the Surgical Treatment of Anomalies of the Anus and Rectum.—Dr. Paolo Ferraresi (*Riforma Medica*, June 10th) reports seven cases of anomalies of development of the anus and rectum, in six of which successful surgical treatment was applied. The cases reported included congenital absence, imperforation, and malformation on the anus and rectum. The prognosis of these defects varies with the anatomical nature of the malformation. In the simplest cases, when the anus is imperforate and simply closed by a membrane, a simple incision suffices to restore the normal course of the fæces. In the grave forms, however, the defect is such that the intestine is closed over a considerable portion of its course, and there are cases in which an anomaly of the rectum is accompanied by other anomalies of the digestive tract. In the cases in which there is a communication between the rec-

tum and some other canal, as the vagina, the life of the newly born child is not immediately threatened, for the fæces, being fluid, may easily escape through the opening. But the danger comes when the child grows and the fæces become hard and dense. The fæces are incompletely voided, gradually accumulate in the lower part of the rectum, and dilate the gut. Finally, there is a group of cases in which there is a communication with the bladder, producing an infection of the urinary passages in the course of time. The treatment varies with each case, and often plastic operations must be specially devised to meet the conditions present. When there is an abnormal communication between the anus and the bladder or the posterior urethra, it may be possible to construct an anus in the normal position. Although the results are not always good in such cases, it must be borne in mind that the little patients often die of urinary infection if no relief is given, as the fistula rarely closes of itself. In other cases the fistulous communication with the rectum takes place through the perineum in males, or through the lower part of the vagina in females. In such cases the best method is that devised by Dieffenbach, modified by Nélaton, and practised successfully by Rizzoli. The rectal ampulla is completely dissected away from its connections with the surrounding parts, and the rectum is drawn down and sutured with interrupted sutures to the perineal incision in the position in which the anal aperture is normally found. A fistulous tract then remains which leads through the perineum and scrotum in males and through the vagina in females. This tract may be exposed and dissected out completely, or simply closed, thus removing any communication between the anus and the genitals.

LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

A Case of Nasal Vertigo Simulating Epilepsy. By Dr. E. Woakes (*Lancet*, August 16th).—The author reports the case of a man, aged forty years, who had suffered for eight months from fits, which were thought to be epileptic. There was a modified aura, then a period of unconsciousness with clonic spasms of the jaw, followed by gradual recovery; the patient never injured himself. The attacks occurred almost daily, the patient's memory became defective, and he wept frequently. On examination of the nose, the right middle turbinated bone was found to be greatly enlarged. It was removed with cutting forceps, and the epileptoid attacks ceased immediately. He remained well for four years, when the attacks began to recur; examination showed hypertrophy of the left middle turbinated bone, removal of which was followed by complete recovery. Three symptoms differentiated this case from one of true epilepsy and transferred it to the groups of vertigos due to disturbance of the equilibrating apparatus of nasal origin. The three symptoms were: (1) Hyperacusis, indicated by the distress occasioned to the patient by the occurrence of loud noises, and evidencing implication of the cochlear portion of the eighth nerve; (2) the tendency to uncontrollable weeping; and (3) loss of memory. These symptoms are in constant association with chronic forms of vertigo of nasal origin. They point to extension of the reflexes to the vestibular branch

of the eighth nerve supplying the end-organs of equilibration. That these symptoms were the outcome of reflex irritation, and were not due to central lesion, was evidenced by their immediate and complete cessation following on removal of the exciting cause.

Chronic Suppurative Disease of the Middle Ear. [*Concluded*].—Dr. James Kerr Love (*Glasgow Medical Journal*, August) concludes that all cases of old-standing disease of the middle ear, in which the discharge cannot be stopped by palliative treatment, should be treated by operation, and by the radical mastoid operation if necessary. In performing the mastoid operation, the routine treatment should consist of the removal of the entire posterior bony wall of the external auditory canal, splitting the soft parts into the bony wound, stitching the mastoid wound closely, and conducting subsequent dressings through the split canal. The author asserts that there is no practical advantage in skin-grafting the tympano-antral cavity, except it be unusually large, but that, in the latter case the proceeding is of great value. For rapid and certain healing, the prime conditions are removal of every vestige of disease, and the reduction of tympano-antral recesses to one plain-walled, bony cavity, every part of which is easily accessible from the split external auditory canal. The radical mastoid operation does not usually further impair hearing.

The Pathology and Treatment of Increasing Deafness. By Dr. M. V. Bogdanoff-Beresovsky (*Roussky Vrach*, July 20th).—Formerly, when otoscopic examinations were given too exalted prominence in the diagnosis of ear diseases, the investigation of the auditory function by means of tuning-forks was considered as of secondary importance. This is undoubtedly the reason why so many affections which are not apparent upon ocular examination, but which have their seat in the inner ear, were but rarely diagnosed. It is only very recently that a method has been devised whereby the slightest functional defects in audition may be detected. This method we owe to Bezold, a supporter of the Hensen-Helmholz theory of pitch perception. Bezold suggested that the ear be examined as to its receptiveness for tones in the whole range of human hearing, i. e., eleven octaves, by transmission both through the air and through the cranial bones. A number of investigations, upon both healthy and diseased ears, have been conducted with the aid of Bezold's scale within recent years. The author has examined numerous cases of deafness with this method, but reports two instances in which the defect in hearing was not due to middle ear disease, but to lesions in the branches of the auditory nerves. He compares these lesions to atrophy so frequently found in the optic nerve.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Alcohol and the Resistance of the Organism to Disease.—M. Marcel Labbé (*Presse médicale*, August 16th) concludes that chronic alcoholism diminishes the resistance of the animal organism to infection, while acute alcoholism aggravates the intensity of the infection and hastens the fatal issue. Clinical evidence agrees with experimental deduc-

tions, for both demonstrate the gravity of infections in old alcoholics. As to the therapeutical use of alcohol, the author is in doubt. At first it acts as a stimulant in the treatment of the infections, but experimentally its action is neither favorable nor unfavorable. He believes that possibly the state of euphoria aroused by alcohol in medicinal doses blinds the physician as to the real condition of the patient whose nerve centres are paralyzed by the drug. Alcohol should be rejected, therefore, in the treatment of infectious diseases, except in small doses, since it acts as other narcotics; yet the author prefers in the main to rely upon clinical, rather than upon experimental, evidence, since the two can never be entirely the same.

HYGIENE AND SANITARY SCIENCE.

The Outbreak of Arsenical Poisoning. By C. H. Tattersall, M. R. C. S. (*British Medical Journal*, August 16th).—In the author's opinion the following lessons may be deduced from the recent epidemic of arsenical poisoning from drinking poisoned beer, which occurred in Liverpool and its vicinity:

1. It has shown the great importance of some improvement being made in the arrangements for the notification to the health authorities of outbreaks of disease. An official inquiry into the cause of the outbreak should have been started long before it actually was.

2. There is great need of a public department to watch the introduction of manufactured substitutes for natural food products, and the use of preservatives in food; to investigate their action, and to have power to condemn them or to lay down absolute rules for their preparation, so as to safeguard the public health.

3. This outbreak has shown the advisability of legislation making penal such want of care as led to the outbreaks described.

4. It has also shown that an improved test for arsenic in small quantities is needed, the results of which may be relied upon when applied by the busy analytical chemist.

The Causation and Prevention of Phthisis. By Dr. B. Bramwell (*Lancet*, August 2nd. *The preceding lectures were published under Practice of Medicine*).—In the fifth and concluding lecture on this subject, the author discusses the question of the feasibility and advisability of compulsory notification of phthisis. He describes in full the New York system of handling tuberculosis, of which he speaks in the highest praise. If the public once realized the great benefits to be derived from reducing the prevalence of tuberculosis to the lowest possible attainable limit; if they once became convinced that, without the compulsory notification of the disease, it was impossible to attain this end; that it was possible to introduce a system of compulsory notification which would work smoothly and effectively in practice; in short, if the public were once convinced that the advantages to be gained from the compulsory notification of the disease were greater than the disadvantages, hardships, etc., which it would entail, then, instead of being alienated by the proposal, they would willingly submit thereto, and would agree, and in fact demand, that it be put into operation. But the willing and active cooperation of

the medical profession is a primary essential; and that cooperation has not yet been entirely won.

GENITO-URINARY DISEASES.

How to "Gargle" the Posterior Urethra (Gargarismo dell'Uretra Posteriore).—Professor Roberto Linagli (*Riforma medica*, June 19th) describes a manœuvre which was originally devised by Guyon, and termed by him "gargling the posterior urethra." It is specially useful in cases of cystitis and posterior urethritis, and is conducted as follows. The bladder is carefully washed out with a boric acid solution, through a catheter of sufficient size. Then, while the solution is still flowing out, the end of the catheter is drawn out of the bladder until the stream ceases, when we know that we are in the prostatic urethra. Now the catheter is allowed to remain in this position and some more boric acid solution is injected *à coups de piston*, as the French say (with strokes of the piston), the liquid producing a dilatation of the posterior urethra and entering the bladder. The catheter is now reintroduced into the bladder and the water is withdrawn as in ordinary lavage of the viscus. By repeating this manœuvre, one obtains what is equivalent to "gargling" in the urethra. Afterwards an antiseptic irrigation of the posterior urethra with 1:1000 silver nitrate may be used.

Treatment of So-called "Plastic" Induration of the Corpora Caverosa.—Dr. E. Galewsky and Dr. W. Hübener (*Münchener medicinische Wochenschrift*, August 12th) report the case of a man, forty-seven years of age, who had been suffering from severe pain during coitus for three years. He had a hard, dense mass in the corpora cavernosa which caused a concavity of the erect penis. Under anesthesia, this mass, consisting mainly of connective tissue, and penetrating deeply into the erectile tissue, was excised. The result was anatomically and functionally perfect, and the authors recommend the performance of the operation in analogous cases.

CUTANEOUS MEDICINE AND SURGERY.

Six Years in a Dermatological Clinic.—Dr. E. A. Fischkin (*Journal of the American Medical Association*, August 24th), in speaking of eczema, says that when the exudation is localized, *i. e.*, the eruption is papular or vesicular, the covering should consist of powder; good results also being obtained by glyceogelatin pastes, and lotions. But when the congestion becomes general, as in eczema madidans, and eczema erythematosum, the dressing must be wet and of an astringent character, for the purpose of macerating the crusts and diminishing the congestion, promoting thus the natural process of normal cornification. All these essentials are met by a preparation which is largely used in Germany. This medicament is the liquor aluminii acetici, or liquor Burowii, the preparation of which, under the name of liquor aluminii acetatis (N. F.), is given by the *United States Dispensatory*. It is used in the proportion of from two to three tablespoonfuls in a glass of sterilized water. As a substitute one may use

℞ Alum	5	parts:
Lead acetate	10	parts:
Distilled water	500	parts.

The author does not rely on arsenic as a specific against psoriasis. He does not begin the treatment with arsenic, and he discards it after two weeks when there is no improvement to be noted. Chrysarobin and other strong skin stimulants awaken and support the natural tendencies to heal, but when there is no such natural tendency no stimulant will avail. Leave all vigorous medication alone when the disease is in the stage of evolution, viz., when the patches are succulent and the base hyperæmic and raised. Use, then, indifferent or mild remedies, as sulphur or salicylic acid in weak percentages. Retain chrysarobin only in chronic cases and disseminated eruptions. In all cases be careful in giving the prognosis.

PHYSIOLOGY AND PATHOLOGY.

The Enumeration of White Blood-cells. By Dr. Guglielmo Memmi (*Riforma Medica*, May 20th).—The author reviews the research work of Poggi, who proved how inaccurate were the figures obtained by the Thoma-Zeiss hæmatocytometer so universally employed. It is more difficult to obtain accurate counts for white cells than for red cells, on account of the smaller number of leucocytes, rendering the proportionate error greater in counting. The author has used for three years a modification of Thoma's instrument made by Zeiss according to Friedländer's directions, and described by Friedländer in the *Deutsche medicinische Wochenschrift*, 1897, p. 497, and he finds that Friedländer's instrument gives far less marked errors than Thoma-Zeiss's. The difference between the two apparatus is that the squares of Friedländer's apparatus are much larger than those of Thoma's. Consequently, the observer needs to count fewer squares and to multiply by a smaller factor, to get the number of cells in a cubic millimetre. The smaller this factor of multiplication, the less liability to error. The same mixing pipette was used as that employed with the Thoma-Zeiss apparatus, and the diluent preferred by the author was one-per-cent acetic acid, the pipette being shaken for fully five minutes after the measured blood and the diluent had come in contact. The dimensions of Thoma's counting chambers are: Depth 0.1 millimetre; area of each square, 0.0025 sq. mm.; length of each square, 0.05 mm.; capacity of each square, 0.00025 cub. mm. On the other hand, Friedländer's apparatus has a counting chamber measuring 0.22 mm. in depth; 0.3 mm. to each side of a square; 0.09 sq. mm. area of each square; and 0.0198 cub. mm., capacity of each square. The capacity of the Thoma-Zeiss chamber is, therefore, 1/4000 cub. mm., while that of Friedländer has a capacity of 1/50.5 cub. mm. In other words, the number of cells in the chamber must be multiplied by 4,000 in order to obtain the number of cells in one cub. mm. by the Thoma-Zeiss method, while, with the Friedländer method this number need only be multiplied by 50.5. The author made a large series of double observations with each instrument, i. e., he counted the cells in a cub. mm. of blood taken from the same patient twice at intervals of a few minutes for the Thoma-Zeiss chamber, and again twice for the Friedländer chamber. He found that the difference between two determinations in the same person at the same time was greater in the Thoma-Zeiss chamber than in the Friedländer cham-

ber. In 20 double counts the average errors in the use of the Thoma-Zeiss chamber were from 1.79 per cent. to 36.20 per cent., with an average of 11.855 per cent. With Friedländer's chamber, 20 double counts gave from 1.32 to 12.16 per cent., with an average of 4.295 per cent. The author concludes that for counting white cells Friedländer's chamber is superior in the accuracy of the results obtained and in the convenience of counting, to the Thoma-Zeiss hæmatocytometer.

Agglutination of the Pest Bacillus.—Dr. Aladar Aujesky and Dr. Johann Wenhardt (*Berliner klinische Wochenschrift*, August 11th) conclude from their experiments that the serum of a healthy horse can cause agglutination of the pest bacillus in a dilution of one to ten. Pest serum is capable, in a dilution of one to five, of agglutinating, not only the pest bacillus, but other bacteria as well. The blood of healthy persons or of tuberculous persons with a febrile movement, causes no agglutination, but it may produce clumping if the individual has been immunized with pest serum. While the blood serum of healthy rabbits will cause no agglutination, that of those which have been immunized with the pest-serum will exceptionally do so. The urine of healthy persons will not bring about a clumping, but that of an immunized person may do so. The authors found that even the immunizing serum of Haffkine can be used for agglutination tests, but the reaction with living bacilli is more active.

Observations upon the Diagnostic and Prognostic Value of Ehrlich's Diazo-reaction. By Dr. Antenore Nizzoli (*Riforma Medica*, May 22nd, 23rd).—The author's conclusions, based upon a research as to the presence or absence of the Ehrlich diazo-reaction in various diseases, are as follows: Although Ehrlich's diazo-reaction has not the diagnostic value which it is assumed to have by many authors, it is one which deserves widespread employment in practice. Although Ehrlich's diazo-reaction may occur in a number of different diseases it has a certain diagnostic value in typhoid fever, as it occurs constantly enough in the urine of patients suffering from this disease. It is of special value in those cases in which, owing to the absence of characteristic clinical symptoms, the diagnosis is uncertain and the Gruber-Widal reaction must be resorted to, if possible. The presence of Ehrlich's reaction indicates a rapid course and a favorable result; its absence does not permit of any prognosis, but denotes a less rapid termination.

Metastases of Primary Carcinoma of the Kidney.—Dr. F. de Quervain (*Virchow's Archiv*, May 28th) has made experiments by injection and comes to the conclusion that malignant disease of the kidney, as well as tuberculous disease, is carried to other parts of the genitourinary apparatus by retrograde transportation by the renal veins. The internal spermatic vein, having no valves, is the most frequent medium of this mode of transportation. The author is still in doubt as to whether the epithelium or the connective tissue plays the principal rôle in the formation of metastases of papillomatous growths.

The Pathological Anatomy and Pathogenesis of Syringomyelia. By Dr. P. A. Preobrachensky. (*Roussky Archiv Patologii*, June 30th).—The author has studied the pathology of four cases of syringomyelia, and has found that in all four cases that the primary cavity was formed by a dilated central canal, and in all cases an epithelial layer could be demonstrated on the walls of the canal. In gliomatous syringomyelia there is a proliferation of gliomatous tissue which fills the canal more or less completely, so that sometimes the entire lumen of the canal is obliterated, only here and there portions of the wall may be seen. This neuroglial proliferation cannot be regarded as a tumor and identified as a glioma, for there are important clinical and pathological differences between the two. The initial stages of syringomyelia are very insidious, and the disease may remain latent for years. That is why the causes of syringomyelia do not always appear clearly, as they may have been brought into play long before the disease sets in. A true syringomyelia cannot be conceived without anomalies or the participation of the central canal, only with the formation of cavities as a result of gliomatous softening.

Ectodermal (Dermoid) Cysts in the Broad Ligament, on the Spermatic Cord and the Epidymis of the Fœtus and the New Born.—Dr. Robert Meyer (*Virchow's Archiv*, May 28th) finds that in fœtuses up to the third week, parts of developed ectoderm burst from the posterior lateral lumbar region into the pronephros. From these cells arise encapsulated ectodermal cysts which are usually found to be in close relation to the rests of the Wolffian duct under the anterior layer of the broad ligament, or they are seen below or behind the spermatic plexus. The author assumes that the ruptured cell nuclei are less capable of development than the unruptured ones deposited in the same place, since the former do not attain to the size of the latter in the course of development. The author denies Bandler's assumption that so-called dermoids (teratomata) of the sexual glands can arise from such ectodermal cells as have ruptured in the manner described.

The Alleged Toxicity of Tuberculin and Mallein in Frogs, and on the Toxicity of Phenol and Phenolcamphorate in Frogs and Guinea-pigs.—Gaetano Angelici (*Riforma Medica*, May 28th) finds experimentally that tuberculin and mallein in solutions in distilled water do not give convulsive phenomena or other characteristics of poisoning. Phenol, on the other hand, produces such phenomena when given in the smallest possible doses. The same is true of frogs deprived of the liver, in which, however, phenol is very highly poisonous. The author did not succeed in accustoming frogs and guinea-pigs to phenol, nor was he able to produce phenol poisoning in frogs by imbibition, *i. e.*, by the subcutaneous injection of the poison in frogs in whom the heart's base had been ligated. Camphor cannot be regarded as a general antidote against phenol. Camphor-phenol is a good antiseptic, because it is not at all irritant, but it is just as poisonous as phenol in frogs and warm blooded animals (guinea-pigs).

The Question of Selfintoxications. By Dr. V. V. Vladimiroff (*Roussky Archiv Patologii*, June 30th).—The author has performed a series of experiments with the vaginal secretion of pregnant animals in order to solve some of the questions connected with the subject of selfintoxication. He finds that the reaction of the vaginal secretions of pregnant animals always remains alkaline. Pyogenic germs can live as saprophytes in the vaginal canals of pregnant animals without losing their virulence. If pyogenic microbes are introduced into the vaginal canals of pregnant animals these carry their living offspring to term, if the introduction is not accompanied by tamponing, and thus hemming in the secretions. Pyogenic microbes develop very rapidly in the vaginal canals of pregnant animals immediately after labor, but their number soon diminishes. The stimulus for development after labor evidently depends on an improvement in the nutrient medium by the admixture of blood. There is a possibility of selfinfection by means of the pyogenic cocci living in the vaginal canal after labor, but this rarely occurs, and account of the phagocytosis which takes place under these conditions.

A Contribution to the Study of Gliomas of the Brain. By Dr. W. A. Mouratoff (*Roussky Archiv Patologii*, June 30th).—The author reports a case of glioma of the frontal lobes with degeneration of the anterior commissure. The patient was a woman, aged thirty-three years, who presented the history of a tumor in the frontal region of the brain. The onset of the symptoms was so acute, however, as to make one think of the possibility of an acute encephalitis. The lesion was localized in the frontal lobes, as the patient showed a marked depression of mentality, amaurosis and optic neuritis, without paralyses and aphasia. The author calls attention to certain pathological analogies between encephalitis and gliomas of the brain. In both there is a tendency to neuroglial proliferation and to hemorrhages.

Culture of Tubercle Bacilli in the Sputum.—Dr. Robert Königstein (*Wiener klinische Wochenschrift*, August 14th) summarizes his study by saying that Heyden's agar and Heyden's bouillon are the elective substances for making cultures of tubercle bacilli. Cultures can be made from the sputum with regularity, but all bacilli in the sputum are not capable of reproduction. The addition of human blood to the culture medium does not influence the development of the tubercle bacilli. Mucus is, however, a favorable factor in the culture of the bacilli of the sputum on Hesse's culture medium. These conclusions are in contrast to those of Hesse, published in 1899.

Mixed Tumors of the Buccal Salivary Glands.—Dr. J. Steinhaus (*Virchow's Archiv*, May 28th) believes these growths to be of embryonal origin, but does not consider them of epithelial, but of endothelial nature. The tumors arise from the periosteum of the inferior maxilla, from which single groups of embryonal cells separate themselves. This occurs, usually, between the eighth and fifteenth weeks of fetal life.

Letters to the Editor.

GUNSHOT WOUNDS OF THE ABDOMEN.

209 1/2 SECOND AVENUE,

BIRMINGHAM, ALA., August 21, 1902.

To the Editor of the *New York Medical Journal*.

Sir: In the issues of the *Journal* for August 9th and 16th there appeared a very valuable article by Dr. Thomas H. Manley, of New York, on Diagnosis in Abdominal Lesions. But while the article throughout is valuable, the qualities upon which its value depends vary in the different portions; for while all those preceding it are valuable for the solid guiding matter contained in them, it seems to me that the chief value of the last division, Gunshot Wounds, lies in the fact that it returns for further discussion the vexed question of when to operate and when not to operate—a question which, it would appear from the vast amount of valuable material rendered available by the Hispano-American and South African wars and the exhaustive statistics of our well-appointed hospitals, should not be so far from a final solution.

I, for one, cannot accept as final and correct the view to which the author seems to lean, viz., a uniform expectant treatment of all penetrating or perforating injuries of the abdomen. The author quotes some statistics from Stimson, showing a mortality of sixty-five per cent. in cases operated upon, and forty-six per cent. in cases not operated upon, and also quotes some statements from Mr. Watson Cheyne's account of his experiences in the Transvaal, which, it is true, would seem to indicate that abstention is the proper course to pursue. But there are other statistics which would point out the opposite course as the correct one.

Take this paragraph from the author's own article: "Paul Reclus, in an experimental study, shot into the abdomen of eight dogs. Two died immediately from loss of blood, two sank later from bleeding of wounds, of spleen in one, and the celiac axis in another, four recovered."

The series shows a mortality of fifty per cent. Now, suppose these wounds had been inflicted upon the human, instead of upon the canine, abdomen, and had been immediately operated upon under favorable circumstances. The first two, evidently, could not have been worse off from the effects of the operation. The third and fourth cases would, in all probability, have been saved by the ligation of an artery in one case and splenectomy in the other. What would have been the outcome in the other four cases is, of course, to an extent, speculative; but judging from recent statistics, there is no reason to doubt that the issue would have been successful.

In quoting from Mr. Watson Cheyne's *résumé* of his experiences in the Transvaal, he says: "The small wound of penetration, and general non-interference, he believes, accounted for so many recoveries more than anything else."

As pointed out by Major W. C. Borden, U. S. A., in his excellent article on Military Surgery, which appeared in the *Philadelphia Medical Journal* last year, probably the principal reason for so many recoveries from gunshot wounds of the abdomen in South Africa was not so much "the small wound of

penetration and general non-interference" as the small wound of penetration and empty stomach and nearly as empty intestines, for the troops (British) were often on short rations, and often on no rations at all for twenty-four hours or more at a time.

Further on he says, quoting from the same article: "I have seen enough to show that in this matter—wound treatment—even far from reaching finality, we have hardly begun to bring modern surgery to bear on it."

The author of the article quoted (Mr. Cheyne) here, no doubt, was speaking of military surgery, in which is met with a class of wounds altogether different, and under circumstances totally different, from those met with in civil practice.

Personally, I am of the opinion that it will never be possible to formulate any hard and fast rules by which we may decide this question as to when operation is indicated and when contraindicated, in this class of wounds. So far as firearms are concerned, there are no two kinds which make identical wounds. The character of the wound and the extent of damage inflicted will vary, not only with the calibre of the missile, but also with its shape, its composition, its velocity, the range from which it was fired, etc.

If I may be permitted the simile, the passage of a bullet through (or partially through) the abdominal cavity, snugly packed, as it is, with stomach, liver, spleen, kidneys, pancreas, and intestines, to say nothing of blood vessels, is very much like the elephant in the crockery shop—he is very much more likely to bring about a catastrophe than not; in fact, we scarcely see how he can pass through without one. Furthermore, as the author himself points out, it is often well nigh impossible to know just what position a certain organ occupies, and it is, therefore, impossible to say whether or not it has been damaged, "because," to quote Dr. Manley further, "of the great frequency of deviations, lack of symmetry and definite relations, even in the healthy state; in several diseased conditions, disordered relations are sometimes so great and bewildering as to confuse any practitioner without a broad anatomical knowledge and experience."

Only a very few days ago I saw a case which offered a very strong argument against procrastination in dealing with abdominal wounds. A lad of perhaps sixteen years was playing with an old revolver, which was accidentally discharged. The ball entered the belly on the left side, about two inches and a half from and on a level with the umbilicus, and emerged on the same level about two inches more posteriorly. From the direction of the missile, the flatness of the abdomen, and the close proximity of the wound of exit to that of entrance, it was not thought possible that the bullet could have entered the peritoneal cavity, and the wound was treated by abstention. The accident occurred about three o'clock in the afternoon, and before the following morning symptoms of sepsis appeared. The lad was operated upon about the middle of the forenoon, and a nick was found in a coil of the small intestine. The wound in the gut, which was nearly an inch long, was closed, but the intestinal contents had had time to do their work, and the patient died of peritonitis.

An immediate operation could not have produced the fatal issue many hours earlier. Could it have saved his life?

But, while I believe that gunshot wounds of the abdomen, penetrating or perforating, occurring in civil practice, call for immediate operation in almost every instance (if not every one), I would not be understood as advocating a similar course in military surgery, unless a well-appointed base hospital was at hand (which is almost never), for operation in this class of cases in a field hospital is fatal folly.

J. M. LOWREY, M. D.

A SLIGHT TO THE PROFESSION.

71 CENTRAL PARK WEST,

NEW YORK, August 25, 1902.

To the Editor of the *New York Medical Journal*.

Sir: As a member of the medical profession, I believe I have a right to protest against the manner in which distinguished members of our profession are treated by the lay press. When we do anything that deserves commendation, we have a right to expect prominent recognition, and not be overshadowed by any other class of humanity. For, truly, every one admits that the medical profession is composed of the most noble, self-sacrificing humanitarians, and withal the greatest benefactors to mankind. It grieves us to see one of our members treated in a manner unbecoming his professional standing, as *Harper's Weekly*, in its issue of August 16th, treated the subject of an article entitled *The Latest Triumph of American Surgery*. A man who has discovered a cure for Bright's disease (even if it were by accident) should receive more prominent recognition than has been given to him by *Harper's Weekly*. One that has discovered a cure for Bright's disease is surely as much of a benefactor as any artist, statesman, or athlete. He should not be relegated to the back of the periodical, mixed up with the slangy Chimmie Fadden, Williams's Shaving Soap, Beeman's Chewing Gum, Angostura Bitters, etc., for to the careless observer the article entitled *The Latest Triumph of American Surgery* might be looked upon as an advertisement, which is considered by the élite of the profession contrary to the code of ethics. The picture of the discoverer of a cure for Bright's disease is entitled to a full front page. If *Harper's Weekly* was not philanthropic enough to publish such a photograph and article gratuitously, it should have been well paid for, so that the article would have a better chance to call the world's attention to the great discoverer and to his most noble efforts toward relieving suffering humanity. The position occupied in *Harper's Weekly* by the picture of Dr. Edebohl's and the article *The Latest Triumph of American Surgery* is another illustration of the fact that the medical profession is not appreciated.

EDWARD WALLACE LEE, M. D.

The Virtues of a Holiday.—The *British Medical Journal* for August 16th winds up an editorial on *The Physiology of the Holiday* as follows: "Therefore in the halcyon weeks we ought to take our rest and our change as a natural phase of our lives—like men who give themselves to sleep, perchance to dream. There is something in the idleness of a holiday that is not mere fatigue, and in its sight-seeing something that is not mere self-culture."

Book Notices.

Diseases of the Intestines: Their Special Pathology, Diagnosis, and Treatment. With Sections on Anatomy and Physiology, Microscopic and Chemical Examination of the Intestinal Contents, Secretions, Fæces, and Urine. Intestinal Bacteria and Parasites; Surgery of the Intestines; Dietetics; Diseases of the Rectum, etc. By JOHN C. HEMMETER, M. D., Philos. D., Professor in the Medical Department of the University of Maryland, etc. In Two Volumes. Volume I. Anatomy, Physiology, Intestinal Bacteria, Methods of Diagnosis, Therapy and Materia Medica of Intestinal Diseases, Diarrhœa, Constipation, Enteralgia and Enterodynia, Meteorism, Dysentery, Enteritis, Colitis, Dysentery, Intestinal Ulcers, Intestinal Neoplasms, etc. With many Original Illustrations, some of which are in Colors. Philadelphia: P. Blakiston's Son & Company, 1901. Pp. xvi-17 to 742. (Price, \$5.)

The excellence and popularity of Hemmeter's *Diseases of the Stomach* would naturally lead one to look for a work of equal merit in the present treatise. Fortunately, we are not disappointed in our expectation. In addition to an attractive exterior, there are evident throughout the same care in the preparation of the text, the same familiarity with the subject matter under discussion, the exhaustive study of the literature, and a most comprehensive and interesting style of presentation.

We find the volume divided into three parts. Part I is devoted to the consideration of the anatomy, histology, physiology, and bacteriology of the intestines and the physical methods of examination; Part II, to the discussion of therapy and materia medica; and Part III to the presentation of the "intestinal clinic." This arrangement is a natural and logical one. Three chapters of the first part are the work of special collaborators. These are the sections on the Anatomy and Histology of the Intestines, by Dr. J. Holmes Smith, on the Examination of the Fæces and Urine, by Dr. Harry Adler, and on the Intestinal Bacteria, by Dr. William Royal Stokes. It may be said of these special contributions that, like the main body of the work, they demonstrate most thorough familiarity with the subjects discussed, and that they are highly instructive. The section on Intestinal Bacteria, in particular, is very complete and is one of the most interestingly written chapters in the book. Another interesting chapter is that by the author himself, on Duodenal Intubation, which details his former and present well-known views.

Part II is taken up with the discussion of dietetics, including extrabuccal feeding, and with a description of the mineral springs (with brief but valuable suggestions regarding some American resorts), the medicinal agents, intestinal autointoxication, massage, hydrotherapy, and electrotherapy. Part III, as already stated, has to do with the clinical details of the intestinal affections.

Although the researches and scientific contributions of European authorities have been extensively recognized, throughout the book the labor and results of American and English writers and clinicians have received the fullest recognition and consideration. In addition a number of original methods of

diagnosis, chemical researches, and histological studies are described for the first time. There are also frequent references to and citations of the author's former original publications. The book, which even without the second volume (soon to appear), is the largest work on intestinal diseases in the English language, is throughout well written and in a style that holds the attention and interest. In its voluminousness and minutiae lies perhaps the one weakness of the book—it cannot be a ready reference work for the busy practitioner. For the specialist, the purely scientific worker, and for the man who has ample time, it is the most complete work yet produced.

Both author and publishers are to be congratulated upon the general appearance and typographical work. The binding is plain and neat, the paper heavy and of excellent quality, and the type large and clear. There are numerous illustrations, including some in colors and a number of full-sized plates; these are all very good, greatly elucidate the text, and enhance the value of the book.

On Disorders of Assimilation, Digestion, etc. By Sir LAUDER BRUNTON, M. D., D. Sc., LL.D. (Edin. and Aberd.) F. R. S., F. R. C. P., Foreign Honorary Member of the American Academy of Arts and Sciences, etc. London and New York: The Macmillan Company, 1902. Pp. xx-495. (Price, \$4.)

This latest book of Sir Lauder Brunton's, besides dealing with the ailments mentioned in its title, also treats of various other branches of medicine. It is a collection of essays and lectures written during a period of twenty-eight years, and is mainly clinical and practical in character.

In many of the papers the leading idea is the action of enzymes and zymogens, and the author lays great stress upon their importance as agents in the products of tissue metabolism. In the paper on Diabetes he attempts to show that solid organs, other than secreting glands, contain a ferment by the action of which tissue metabolism is carried on within the body. In three of his papers the author describes his endeavors to isolate a glycolytic enzyme in muscle which has the power of destroying sugar during its passage through the muscle. And from his experiments he concludes that such an enzyme is certainly present, "though it is of such a delicate nature that we have not been able to isolate it without destroying its power." Working on the theory that such a ferment exists in muscle he fed patients upon raw meat, and this he maintains, was the first attempt at rational organotherapy.

In the article on the Use of Atropine in Cholera, the writer states that years ago he pointed out the similarity of the symptoms of Asiatic cholera and those of poisoning with muscarine, and suggested that the administration of atropine might prove of use as a means of combating the poison of cholera, just as it would the poison of muscarine. Upon this theory he treated several cases of Asiatic cholera with atropine, and, although he does not allege positive results, yet marked improvement was noticed in those patients in whom the intestinal discharge was scanty and the vascular symptoms were pronounced.

Throughout the entire book the same minuteness

of observation and careful attention to detail are displayed as in the author's earlier writings. This is especially noticeable in the article Forms of Alcohol, in which the injurious effects of various alcoholic liquors on the different parts of the general system are described. The work is replete with valuable hints and suggestions set forth in a charming and entertaining manner. The Cavendish Lecture On Elimination and Its Uses in Preventing and Curing Disease and The Medical Treatment of Disease afford the best illustrations of this. Not only is the reader entertained by the author's delightful and anecdotal style, but he is also astounded by his profundity and breadth of knowledge, which reminds one forcibly of Carlyle.

The reader will be amply repaid by the perusal of this book, no matter in which branch of medicine he may be interested.

Human Embryology and Morphology. By ARTHUR KEITH, M. D. (Aberd.), F. R. C. S. (Eng.), Lecturer on Anatomy, London Hospital Medical College, etc. Illustrated. London: Edwin Arnold, 1902. Pp. x-324.

The author of this very valuable work has certainly carried out well his notion that to become a good anatomist or comparative anatomist, one must know embryology. It was with this purpose in mind that he transcribed his lectures at the London Hospital, for he believes, as do all teachers to-day, that anatomical lesions cannot be properly comprehended unless embryological knowledge is used as a basis. In connection with the morphological data which Dr. Keith has traced from the developmental point, he has considered the more common errors of development, such as hare-lip, cleft-palate, urogenital and rectal malformations, and the like.

The text is excellent throughout, and is thoroughly consonant with the most modern views and discoveries in embryology. It is probably the first book of its kind which in so short a compass embraces both the ultrascientific statements of embryology and their ultrapractical application. It is a fine book for the student and will prove an excellent manual for the practising physician who takes a little more than passing interest in his cases. The illustrations, a great many of them original, are very well executed, and the book is very handsomely printed.

Text-book of Anatomy and Physiology for Nurses. Compiled by DIANA CLIFFORD KIMBER, Assistant Superintendent, New York City Training School, Blackwell's Island, N. Y. New York: The Macmillan Company, 1902. Pp. xvi-276. (Price, \$2.50.)

We have stated before that, in our belief, the time of nurses in the training schools is too much occupied with the study of the minutiae of subjects which neither their professional duties demand nor their previous education fits them to assimilate. They remember some of the names of nerves and muscles long enough for examination day, but have in their minds a confused jumble of neurones and nervousness, Falloppian tube and Eustachian tube, flexors and extensors. The system is wrong and is also injurious.

As far as the book under consideration goes, it is a most excellent compilation; the text and the illustrations are borrowed from good and reliable sources, and the whole is well put together. But what are our overworked nurses going to do with "cytoplasm," "hæmoglobin," "infundibulum" and "endothelium"? It is enough for them to know the femur from the humerus.

Obscure Diseases of the Urethra. By E. HURRY FENWICK, F. R. C. S., Eng., Surgeon to the London Hospital, etc. With Special Chapters on Urethral Carcinoma and Calculus, by J. W. THOMSON WALKER, M. B., Edin., F. R. C. S., Eng. London: J. and A. Churchill. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. v-154. (Price, \$2.60.)

A great many unusual conditions of the urethra are set forth in this instructive monograph. The author emphasizes at every turn of the page the use of his aërourethroscope in bringing to light these obscure conditions. Notwithstanding this undercurrent, the clinical aspects of these affections are very lucidly set forth, and it is evident that an extensive experience has been put to excellent use. Urethral pain, urinary stammering, "Cowperitis," urethral polypi, casts, new growths, and calculi are a few of the rarer affections treated of, and in each instance the literature pertinent to these is appended.

In the lessons herein taught we have sufficient material to clear up the diagnosis of many a rebellious urethral complaint, whence it follows that with the due appreciation of just these niceties in diagnosis these obscurities will pass into the realm of the commonplace. It is in the expectation of encountering the unusual that the urethral endoscope finds the strongest indication for its application.

The Medical Student's Manual of Chemistry. By R. A. WITTHAUS, A. M., M. D., Professor of Chemistry, Physics, and Toxicology in Cornell University Medical College, etc. Fifth Edition. New York: William Wood & Company, 1902. Pp. xi-678. (Price, \$3.25.)

This well known manual has been subjected to a very thorough revision, and in the present fifth edition the study of chemistry in its application to medical science is brought fairly down to date. In keeping with its growth in importance and the numerous recent acquisitions to our knowledge of physiological chemistry, this subject is properly and adequately treated in a section by itself. Although clearness is occasionally sacrificed to brevity in the condensation to which certain sections have been subjected—as, for example, in paragraphs descriptive of the ionization hypothesis—the essentials of the science of chemistry are given in adequate measure, the definitions being sufficiently full and clear, while the explanation of theories is in every case admirable. The requirements of the student of medicine, particularly, are considered, and whoever of this class masters the contents of this manual will be assured of the possession of a knowledge of more than the mere essentials of that department of chemistry which is of practical interest to the medical practitioner.

We have noticed little to call for criticism. The

author errs, we think, in describing ichthyol as the sodium salt of sulphonic acid, for the ichthyol of the market consists of ammonium ichthyolsulphonate, a fact which has more than once been disagreeably brought to the attention of prescribers who have overlooked the chemical incompatibility between the substance in question and certain of the supposed inert ingredients ordered in combination with it in pill form—e.g., magnesium carbonate. Although the chemical nature of the active principles of such drugs as rhubarb, senna, and cascara sagrada are sufficiently indicated in the light of recent knowledge, we find no reference to the purgative properties possessed by phenolphthalein in the paragraph devoted to this body.

In an appendix the author gives the rules adopted by the American Association for the Advancement of Science for the spelling and pronunciation of chemical terms, rules which he himself adheres to closely in the text of his work, though, as is well known, these rules have not been generally adopted by other writers and are even ignored in such semi-official works as the *United States Pharmacopæia*. The new spelling differs so radically from the old in the case of the alkaloïds, active principles, and elements that it is certain to give rise to considerable confusion when a student extends his studies to other works.

The manual is crowned by a very complete and satisfactory index, in which reference to the principal or important descriptions or definitions is facilitated by printing the page numbers in heavy-faced type. Notwithstanding a considerable addition of new matter, the bulk of the book has not been increased to an unwieldy size.

Diseases of Women. A Manual of Gynæcology designed especially for the Use of Students and General Practitioners. By F. H. DAVENPORT, A. B., M. D., Assistant Professor in Gynæcology, Harvard Medical School. Fourth Edition, Revised and Enlarged. With 154 Illustrations. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. xv-17 to 405. (Price, \$1.75.)

Dr. Davenport's little book has certainly merited success. Beginning, in its first edition, as a small manual for the student, it is now a veritable small textbook of gynæcology, with this advantage, that only those therapeutic and surgical methods which have found favor with the author are included. There are, here and there, points upon which the authors differs with others; but all his teaching is sound, and one cannot go astray if he follows it. The book is evidently filling a space in medical literature.

Veneral Diseases. A Manual for Students and Practitioners. By JAMES R. HAYDEN, M.D., Chief of Clinic and Instructor in Venereal and Genito-urinary Diseases at the College of Physicians and Surgeons, Columbia University, etc. Third and Revised Edition. Illustrated with 66 Engravings. Philadelphia and New York: Lea Brothers & Company, 1901. Pp. 5 to 301.

But few changes in the last edition of this very excellent manual on the symptoms, complications,

and treatment of gonorrhœa, stricture, chancroids, and syphilis were needed to bring it up to date. Brief chapters on herpes progenitalis and vegetations have been added.

No less than the author's insistence upon prolonged and thorough treatment in syphilis is to be commended his conservatism in the management of gonorrhœa, buboes, and chancre, a conservatism that is based upon a very thorough knowledge of the so-called radical methods. The text is very concise and very clear; and the author's statements show a dispassionate freedom from "fads." His advice is none the less at all times unequivocal, though not dogmatic. Both in its clinical descriptions and as a guide to treatment, Hayden's *Veneral Diseases* will be found an instructive manual and a valuable work for quick reference.

BOOKS, ETC., RECEIVED.

A Manual of Practical Medical Electricity. The Röntgen Rays and Finsen Light. By Dawson Turner, B. A., M. D., F. R. C. P. Ed., M. R. C. P. Lond., Lecturer on Experimental Physics, Surgeons' Hall, Edinburgh, etc. Third Edition, Revised and Enlarged. New York: William Wood & Company, 1902. Pp. xix-396. (Price, \$3.)

The Theory and Practice of Infant Feeding, with Notes on Development. By Henry Dwight Chapin, A. M., M. D., Professor of Diseases of Children at the New York Post-Graduate Medical School and Hospital, etc. With numerous illustrations. New York: William Wood & Company, 1902. Pp. ix-326. (Price, \$2.25.)

Psychopathological Researches. Studies in Mental Dislocation. By Boris Sidis, M. A., Ph. D., Director of the Psychopathological Laboratory. With Text Figures and Ten Plates. Published under the Auspices of the Trustees of the Psychopathic Hospital, Department of the New York Infirmary for Women and Children. New York: G. E. Stechert, 1902. Pp. xxii-329.

A Physician's Practical Gynecology. By W. O. Henry, M. D., Professor of Gynecology in the Creighton Medical College, Omaha, Nebraska. With Five Full-page Illustrations and Sixty-one illustrations in the Text. Lincoln, Nebraska: The Review Press, 1902. Pp. 9 to 229.

The Principles and Practice of Bandaging. By Gwilym G. Davis, M. D., Assistant Professor of Applied Anatomy, University of Pennsylvania, etc. Illustrated from Original Drawings by the Author. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xi-17 to 246. (Price, \$1.50.)

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VIII. Pediatrics and Orthopaedic Surgery. July, 1902. Chicago: The Year Book Publishers, 1902. Pp. 5 to 231. (Price, \$1.25.)

Photographic Atlas of the Diseases of the Skin. A Series of Eighty Plates, comprising more than One Hundred Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A. M., M. D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York, etc. Part XIV. Philadelphia and London: J. B. Lippincott Company, 1902. Pp. 183 to 196.

Massage and the Original Swedish Movements. Their Application to Various Diseases of the Body. By Kurre W. Ostrom, Royal University of Upsala, Sweden. Fifth Edition, Revised and Enlarged, with One Hundred and Fifteen illustrations. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. viii-9 to 181. (Price, \$1.)

The Pharmacopœia of the German Hospital of the City of Philadelphia, including Formulas for all Stock Preparations and the Average Doses of all the Drugs, Chemicals, and Preparations usually Dispensed at the German Hospital Pharmacy. Philadelphia: Compiled for and Published by the Board of Trustees, 1902.

Le traitement médical des inflammations du cœur. Typhlie, pérityphlie, appendicite. Par le Dr. Bourget, Professeur de clinique médicale à la Faculté de Médecine de Lausanne (Suisse). Genève: C. Eggimann et Cie, 1902. Pp. 67.

La longévité ou l'art de prolonger la vie. Par le Dr. L. de Plasse, Ex-prosecteur d'anatomie à l'Université de Louvain, etc. Préface par Auguste George, Professeur à l'École Supérieure de Filles de la ville de New York. New York: Louis Weiss & Company, 1902. Pp. 5 to 206.

Transactions of the American Association of Obstetricians and Gynecologists. Volume XIV. For the year 1901.

Report of the Minister of Agriculture for the Dominion of Canada. For the Year ending October 31, 1901.

Reports of the Medical, Surgical, and Pathological Registrars of the Middlesex Hospital. For the Year 1900.

Miscellany.

Is the Anopheles the Exclusive Agent in Trans-mitting Malarial Disease?—Montoro de Francesco (*Semaine médicale*, May 14th; *Medical Review*, July) during the last malarial season visited the provinces of Cantanzaro and Cosenza, where malaria flourishes in 225 out of 303 communes. A series of elaborate investigations led him to the following conclusions:

Malaria exists in localities absolutely free from anopheles. (2) The coexistence of these insects with malarial patients does not necessarily imply the diffusion of the disease. (3) Anopheles, like the culex—and doubtless many other insects—may play a part in the transmission of malaria, but other causes, notably damp air full of exhalations, play a more important part. The soil is the real domicile of the hæmatozoa. While guarding against mosquito bites it is still more important to avoid exposure at sunrise and sunset. Quinine should be taken and the rules of general hygiene observed.

The Regulation of the Use of White Lead in France.—According to the *Gazette médicale de Paris* for July 26th, the French Consultative Committee of Public Hygiene, recognizing the gravity of the diseases among painters occasioned by the use of lead bases, recently decided entirely to prohibit their use. It was subsequently, however, considered sufficient to lay down a legal requirement of precautions to be observed, and the following edict has consequently just been passed: Art. 1. White carbonate of lead (*céruse*) may only be employed in the state of paste in the house-painter's work. Art. 2. The use, directly with the hand, of preparations having a lead base is forbidden to house painters. Art. 3. Dry scraping and dry pumicing with lead is forbidden. Art. 4. For wet scraping and pumicing, and generally for all painter's work with lead, overseers will supply their workmen with overalls exclusively appropriated to the work, and will insist on their use. They will also see to the good condition and frequent washing of these garments. The necessary apparatus for preserving cleanliness will be supplied to workmen at their place of work. Apparatus and tools will be kept in a proper state of cleanliness; their cleansing will be effected without dry scraping. Art. 5. The overseers are charged to affix the text of the present decree in all places where workmen are employed and paid.

The Conditions of Permanence for Medical Methods.—Dr. H. Lewis Jones (*Clinical Journal*, April 2nd), in an address before the British Electro-Therapeutic Society, has some remarks in reference to the reasons of the survival or disappearance respectively of certain electrical methods of treatment, which, *mutatis mutandis*, may be aptly applied to all new methods for effecting something which can be well effected by existing means. Dr. Jones says that at the time that he entered upon his special work "the treatment of uterine fibroids by electricity, after Apostoli's method, was on trial. The treatment of urethral stricture by electrolysis was in the same stage. Dr. Steavenson, my predecessor at St. Bartholomew's, had just published some admirable papers on the electric bath. To-day, the electrical treatment of fibroids and of urethral strictures has practically disappeared. The electric bath, on the other hand, has established its claims to recognition, and now holds a stronger position than it did then. It is useful to consider for a moment why this is so.

Electric methods of treatment, to succeed, must not only be able to achieve a successful result, they must do it more easily or more certainly than the other competing methods. Merely to do as well does not compensate for the introduction of the electrical apparatus, and the time and trouble in learning how to handle it. Apostoli's method failed, not because it was useless, but because it was unable to compete with other established procedures. The same is true of the electrolysis of stricture of the urethra."

Prostatectomy by the Perineal Route.—Dr. Parker Syme (*Annals of Surgery*, April) in a paper read before the New York Surgical Society, reiterates his opinion expressed three years previously before the same society that prostatectomy performed through the perineum and without opening the bladder suprapubically is safer than the procedures which do involve suprapubic cystotomy. He then proposed as a modification of Alexander's operation that one should do a laparotomy just above the bladder fold but not opening this organ, whereby one might push the prostate, bladder and all, toward the perineal wound and proceed with his bimanual enucleation. This suggestion Syme has never put into practice, but in October, 1899, Dr. Alexander Johnson originated and employed an important modification of it. He obtained his means of pressing the prostate down by making an opening into the prevesical space below the peritoneal fold, whereby he could introduce his finger without opening the bladder. Dr. Johnson and others have used this method with satisfaction and success. Syme now desires to call attention to a bladder retractor consisting of a rubber tube, calibre .38 French scale, having a rubber bulb attached to one end, which can be dilated when it is introduced into the bladder.

With the aid of this instrument, the operation is performed as follows: The patient is placed in the lithotomy position, under ether narcosis; a median perineal section is made extending from the bulbous portion of the urethra as far back as is safe without injuring the rectum. The membranous urethra is exposed by dissecting backward until the

tip of the prostate is reached; an opening about an inch in length is made in the membranous urethra, a staff having been introduced into the bladder; the bladder is now carefully irrigated, the prostatic urethra is dilated, and then the rubber retractor, collapsed, is introduced through this opening in the membranous urethra so that the bulb is well within the bladder; then this bulb is dilated to a diameter of two inches and a half by injecting two and a half ounces of water through the tube by means of a piston syringe; the tube is then clamped to prevent the escape of the water; firm traction is made on this tube, and then it is turned well up over the perineum and held there by an assistant; it will not be in the operator's way, and this traction holds the neck of the bladder and the prostate from receding, and gives the requisite fixation to enable one to enucleate the diseased lobes. Now the capsule of the gland is entered and the lobes are enucleated by the index-finger; in this enucleation Syme believes the prostatic urethra will be torn through quite frequently; he has done this in several instances, but without prejudicing the final result of the case. In some instances the enucleation will be accomplished with comparative facility, though it must not be assumed that prostatectomy is ever an easy operation. In some cases of small obstructing prostate enucleation may be most difficult, but so far I have always been able to remove the obstructing mass.

Syme also calls attention to Dr. J. W. S. Gouley's prostate depressor for perineal prostatectomy, which is like a double-curved bladder staff with an expanded flat distal extremity. It is introduced through the opening in the membranous portion of the urethra into the bladder, and is used for making counter-pressure from within. It will undoubtedly be found to be a valuable aid in many cases.

The after treatment of perineal prostatectomy is very important, but is very simple. A drainage tube is introduced through the opening into the membranous urethra into the bladder, and is retained in place by one stitch. All the wound is carefully packed around this tube, the bladder is kept scrupulously clean by repeated washings, and is emptied by continuous drainage; on the fourth or fifth day the gauze packing is removed, and on the fifth to seventh day the drainage tube is removed. Sometimes the drainage tube is replaced with one of small size on the fourth or fifth day. The author's patients have been out of bed beginning anywhere from the seventh to the tenth day. During the healing the anterior urethra must be irrigated frequently, and as soon as the wound has begun to fill up with granulations, a full-sized sound should be introduced through the urethra into the bladder,—at first every three days, and later at longer intervals until healing is complete. This will take from three to six weeks. Some patients will have control of the bladder as soon as the tube is removed; usually this is not the case, and there will be leakage for a variable period. In three of Syme's patients there persisted incontinence of urine after complete healing,—in two of the cases for a few weeks, and in one of the cases for about three months, but finally these men have all regained control. In none of his cases, nor in any that have come to his notice, has there been any such thing as stricture following this operation.

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THE DIAGNOSTIC AND THERAPEUTIC VALUE OF URETERAL CATHETERIZATION: WITH REPORT OF A CASE.

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Diagnosis, the precursor to intelligent and successful treatment, has made brilliant strides in bladder, ureteral, and kidney work, and the results now obtainable are, without doubt, due more to the methods of detection by cystoscopic examinations and ureteral catheterization than to improvement in operative technique. The advancement has led to investigation into other channels, and ureteral catheterism has also secured its well-earned place in therapeutics.

For diagnosis, we were formerly dependent upon subjective symptoms and mechanical means, which have proved fallacious. Pain, supposed to be characteristic, is very deceptive and has been present on the right side when the left kidney was diseased and vice-versa. In three of L. Herschel Harris's (1) fourteen cases of stone in the kidney and ureter, there was pain on the side opposite to that on which the calculi were found, and, in a fourth case, calculi were present in each kidney, though the patient described the pain as existing on one side only. Cachexia is present in a pyonephrosis as well as in a malignant kidney growth. There are many cases of cystitis with acid urine, and plenty of cases of pyelitis with alkaline urine; brown urine has been regarded as indicating kidney bleeding, red, bladder bleeding; yet blood flowing slowly may form clots in the bladder, and be discharged as brown urine after many days, while the bleeding may be so profuse from a ureter that it will immediately color the fluid injected into the bladder. The injection of a solution of potassium iodide into the bladder and the examination for its presence in the saliva was once supposed to indicate the source of the bleeding—if found there, the bladder was the origin, if not found there, the kidney; yet it has been proved that the iodide is absorbed by a normal bladder wall as well as an ulcerated one. Epithelial cells, of the

character of those found in the pelvis of the kidney, are also found in almost all of the deeper layers of the whole genitourinary canal. In stone there may be profuse bleeding without muscular effort, while from a growth hæmorrhage may be slight and occur only at long intervals after muscular exertion. There may be pain in a pyelonephrosis as well as in stone. In pyelitis, the amount of pus is supposed to be greater than in cystitis, yet, in diverticula of the bladder, there may be an enormous excretion of pus. Pasterau and Vanverts (2) have found increased heat and tenderness on the left side while cystoscopy revealed blood coming from the right ureter, which was the seat of the trouble. From this we can glean that we must look to other sources for a means of positive diagnosis.

The objections advanced by some against ureteral catheterization are danger of infection and traumatism. Albarran has catheterized about 1,000 ureters and Caspar a like number, and these investigators have never met with a case where changes in the urine indicated an ascending infection. Caspar (3) says, *vis medicatrix nature* plays an important part in preventing an ascending infection of the kidney. Urine that is voided in the bladder at regular intervals removes all germs of infection that may possibly have entered the ureters, avoiding their taking hold. Kümmell (4) says that, with the use of sterile instruments, he considers this procedure almost free from risk; that the dangers are all exaggerated, usually by those who have not the skill or who draw their conclusions on a theoretical basis. Kolischer (5) says: "I never, not even after long observation, was able to prove that the patients suffered any harm through catheterization of the ureters, even not when the sounds remained for a longer time, although I have performed this manipulation in more than 500 cases."

Landau (6), with his vast experience, says he has never seen any infection or danger by the use of ureteral catheterization. I have catheterized about 75 ureters and have never seen any infection. As a preventive measure against infection, in a septic case, the ureters can be irrigated with a weak solution of silver nitrate or copper sulphate.

Traumatism of the ureters occurs to the novice but not to those who have attained a knowledge of its use. As with instrumentation of the urethra and bladder, slight bleeding may be seen.

The three cardinal principles in cystoscopy likewise apply to ureteral catheterization. First, the urethra must have a sufficiently large calibre to permit the passage of the instrument. Second, the bladder must have a capacity and tolerance of at least from two to five fluid ounces (60 to 150 grammes), although Brown (7) reports a case where he catheterized the left ureter in a bladder that was capable of retaining an ounce and a half. Third, the fluid in the bladder must be transparent. Even when these conditions are fulfilled, there are times that extra, and intravesical growths, or displacements of the uterus may so distort the base of the bladder as to render the introduction of the catheter impossible; there are also times when the mouths of the ureters cannot be found, due to a displacement or to their being in a measure occluded by a thickening of the wall; but if one patiently waits, he will soon be rewarded by seeing the whirling of the urine with its expulsion from the ureter. Sometimes the ureter secretes slowly, a condition avoided by having the patient drink large quantities of water before the examination. Fenwick suggests that, should this fail, the staining of the urine with fuchsin, 1 to 1½ grain, given to the patient an hour or two before the examination, will cause a delicate tinted urine to issue from the orifices of the ureters; or methylene blue may be administered before the examination, when the ureters can be recognized by the greenish tinted urine whirling therefrom. Rarely are the openings of the ureters so small as not to allow the introduction of the smallest of catheters.

Diagnostic Value.

The most important indication for catheterism of the ureters is the differential diagnosis between diseases of the kidney and bladder. Oftentimes, cystoscopy will give us a diagnosis. Caspar (8), Meyer (9), and Albarran (10) have diagnosed tuberculosis of the kidney from injection about the ureteral meatus. A swelling of the lips of the ureter, and the orifice surrounded by marked ulceration, while the remainder of the vesical mucosa is normal, is almost invariably significant of tuberculosis of the kidney of the corresponding side. If by watching the stream as it is discharged by the ureters, you are unable to discern the clearness or cloudiness of the urine, then the catheter must be introduced. At times, the catheter may be caught in a fold of mucous membrane, which impediment may be overcome by withdrawing the catheter slightly and then introducing it further, or by twisting and turning it; or clots of blood or plugs of descending pus may fill its lumen and obstruct its flow. If aspiration does not relieve the obstruction, the catheter may be drawn back into the bladder and washed out with distilled water or boric

acid solution, and reintroduced into the ureter. Meyer (9) followed this manoeuvre four successive times before the catheter would drain the ureter.

The presence or absence of a kidney, as well as its functional capacity, is a question of vital importance. Statistics show that the absence of a kidney is not uncommon. Ballowitz (11) and Maniewicz (12) have gathered 232 cases of single kidney, and Caspar and Richter (13), in segregating them, have shown that in 215 cases one ureter only was present. In one of the cases where there was a second ureteral opening in the bladder the sound could only be passed up one or two centimetres; farther up, the ureter was obliterated. In 74 cases there was no trace of a ureteral orifice. In De Jong's (14) statistics of 81 deaths in 197 nephrectomies, 2 cases were found with absence of a second kidney, 9 other patients died because the second kidney was so diseased as to be unable to carry on the functions of the other kidney. Maitland (15) reports a case of the removal of a kidney on the right side for calculi. There was complete destruction of the kidney by a hydronephrotic sac. Death occurred in two days from complete suppression. On autopsy the other kidney was found to be simply a pus sac containing several calculi, with no kidney substance left. Buss (16) reports a case of a young girl subjected to a laparotomy because of the absence of the vagina and the presence of a tumor in the pelvis, which was thought to be a hæmatometra; an artificial vagina could not be made, therefore an operation was undertaken to remove the ovaries and prevent further menstruation. Death followed seven days after the operation. On autopsy it was discovered that there was neither right ureter, kidney, nor ovary present. The tumor removed was the only kidney. Schütz (17) also reports a case of dystopia. These statistics demonstrate the great danger underlying kidney operations, when, previously to the surgical interference, no inquiry is made, not only as to the presence of each kidney, but also as to the functioning capacity of the other. That this great danger and defect in renal surgery has been appreciated and almost every means has been utilized to remedy it, is shown by an investigation into the different methods of obtaining urine separately from each kidney. It is not within the domain of this paper to discuss the means of studying the functional activity of each kidney. Suffice it to say that, in the surgery of the kidneys, ureteral catheterization takes the chief place for accuracy and safety, enabling us to study the functional capacity of each kidney, to determine with exactitude which kidney is affected and the condition of each.

By cystoscopy we can tell if there are two ureteral openings present, yet there are times when cysto-

scopy and ureteral catheterism can lead us into error, as in cases of a single kidney with two distinct functioning ureters entering the bladder in their normal situations. Should a kidney of this character be removed, uremia and death would be the inevitable result, yet there is comparatively little danger of removing the kidney, except in a case of renal stone, with the kidney secreting a normal urine. Even then, that would indicate a nephrotomy, not a nephrectomy. Should the single kidney, with the two distinct functioning ureters, secrete abnormal urine, the surgeon, unaware of the presence of one kidney only, would by catheterization of the ureters discover the presence of the abnormal condition of the urine from both ureters—a contraindication for operation. In those cases where there is some doubt, probably Schmidt and Kolischer's (18) method, of introducing a catheter filled with lead and skiagraphy of the same, will give us a clue to this fortunately rare condition. They make no mention of its use for this particular condition. There may also be horseshoe kidney with two ureters. Förster (19) reports a case where the ureter was doubled upon itself, the right ureter on the left side and vice-versa. Catheterism of the ureter in a case of this kind would also lead to error, but this condition is also a rare anomaly of development. In conjunction with Mrs. Fleischman-Ascheim of the E. Fleischman x-ray laboratory, of this city, I am investigating the use of ureteral catheters filled with bismuth and other substances impervious to the rays, with the catheter *in situ*. It is too early to make a report at present. Munro (20) reports a case of double ureter, one of which became infected, while the other one remained healthy. On catheterizing the ureter, turbid urine was drawn, but on milking the tumor in the iliac fossa, thick pus escaped from the ureteral opening around the catheter. It was supposed at the time that it was too thick to enter its lumen. The catheter tapped the healthy ureter beyond the junction of the two ureters. Summers (21) reports a case of double ureter in a child. If there is a secretion of urine from both ureters, we can certainly say that there are two functioning kidneys present; an examination, then, of the separated urine, will reveal the capability of each kidney to do its work.

The ureteral catheter is also an excellent means to discover obstacles in the ureter, either by stones or strictures. Sometimes cystoscopy will reveal a stone, should it be near the vesical end of the ureter. Freyer (22) detected the lower end of the right ureter prolapsed into the bladder, in shape and size like the nipple of a woman's breast. At the bottom of the dimple, in the centre, a dark gray speck was seen, which was diagnosed as a stone and veri-

fied and removed by a suprapubic cystotomy. Caspar has been able to diagnosticate the exact location of stones within the ureters, which is so important to the surgeon. In a case of partial or complete anuria, the ordinary ureteral catheter or one tipped with a metal end strikes against an impediment, and, no urine flowing from the catheter, we can with almost absolute certainty conclude that a stone is situated in that ureter. If we now mark our catheter as it projects externally from its groove in the cystoscope, then withdraw the catheter slowly and, as it emerges from the ureter and slips into the bladder, place another mark on the catheter, by measurement we can with certainty say, the stone is situated so many centimetres from the ureteral orifice. Knowing the length of the ureters (in the female 23 cm., in the male 24 to 25 cm.), the information gained by such a proceeding indicates to us the distance of the stone from the pelvis of the kidney.

Somewhat more difficult of diagnosis are strictures; yet, if we pass a catheter and find an obstruction which can be overcome whereupon urine immediately flows, we can be certain of the diagnosis of a stricture. These strictures are usually situated near the pelvis of the kidney and as shown by Caspar and Sudeck, are the cause of hydronephrosis and pyonephroses. Spasms may simulate strictures, yet, by the use of large catheters and cocaine, the diagnosis is usually cleared.

Ureteral catheterism is also diagnostic of ureteral fistula. By cystoscopy and watching the openings of the ureter we can discern the urine as it whirls into the bladder; but, as the ureter is slow in functioning, we can introduce the catheter and discover exactly at what height the fistula is situated.

Meyer (9) has proved by seven cases the feasibility of catheterism in diagnosis. Kelly (23) located by means of the ureteral catheter a pyoureter due to a gonorrhœal stricture at the vesical end, and passed a metal catheter through the tortuous stricture, after which 150 c.c. of pus escaped. He also discovered the infection in a tuberculous pyoureter where the pus had accumulated above a stricture near the brim of the pelvis; he also located a pocket above the stricture in the upper third of the ureter. He also found that the use of the catheter might bring down a little black débris which sank to the bottom of the vessel. This should always be examined, as it is a suspicious sign of stone. Kelly (24) also describes a method of coating the catheter with a mixture of two parts of dental wax and one of olive oil, which, when introduced into the ureter, will be scratched by contact with the stone. The scratch marks may be seen by examining the catheter with a low-power lens. This is only applicable with his instrument, which means in the female

only. Caspar (25) reports two cases where tubercle bacilli could not be found in the bladder urine, but were discovered in the urine taken directly from the kidney, due, as he thinks, to the fact that in the smaller volume of urine their presence is discovered more readily. De Illyès (26) combines ureteral catheterism with skiagraphy. In one of his cases the shadow cast by the stone was so faint that it did not attract attention until the skiagraph showed that the tip of the catheter was abruptly arrested at this point. In another case the catheter was arrested close to the kidney, no fluids escaped, and there was no evidence of retention in the pelvis. These findings indicated to him that the tumor palpated was really in the kidney, and that the catheter was arrested by the mass of neoplasm. Another case in which it proved of value was a tumor in a young pregnant woman, which was situated in the right hypogastrium and was as large as a fist. It was held firmly by an assistant, and a skiagraph of the catheter in the ureter showed that it passed directly into the tumor, which was thus differentiated as a movable kidney. Albarran (27) diagnosticated, in one case, stricture of the ureter; in a second case, floating kidney with pyonephrosis, in which there was also a stricture of the ureter; in a third case, hydronephrosis in a floating kidney. In another case he diagnosticated hæmatonephrosis, in another a beginning one-sided tuberculosis of the kidney and also, by examination of the urine from the other side, found an excretion of normal urine. He says that it has often proved an indication and contraindication for a nephrectomy. Newman (28) reports three cases, in the first of which the patient had pain and tenderness in the right lumbar region, there were hæmaturia, renal swelling on the left side, blood and albumin from the right kidney only. A diagnosis was made of calculus in the pelvis and atrophy of the right kidney; the enlargement on the left side was due to compensatory hypertrophy. In his second case there were enlargement of both kidneys and frequent micturition, with pus, albumin, tubercle bacilli, and hyaline casts in the urine; there was spinal curvature of old standing, with recently healed sinuses in the back. On catheterization, the urine from the right kidney contained albumin and hyaline casts only; the left kidney urine, in addition, contained tubercle bacilli and pus, showing that both were amyloid; the left was the seat of a tuberculous lesion; there was no operation; the subsequent history confirmed the diagnosis. In his third case there were sudden severe and prolonged attacks of renal colic, with suppression of urine; sudden relief was followed by a recurrence in three weeks; calculi were found by the ureteral catheter, one third of an inch from the vesical opening of the ureter. Gagen-Torn (29) reports a number of cases of

renal diseases, observed at Guyon's clinic in Paris, demonstrating the value of ureteral catheterization. He reports two cases of one-sided, and a third case of double renal tuberculosis, also a case of pyelonephrosis of the right kidney, where the ureteral catheter served as a drain to carry the urine off from the kidney, thus preventing the urine from coming in contact with the wound. Caspar (30) reports a case which was diagnosticated as echinococcus of the liver, but which proved to be a sacculated pyonephrosis. He details his method of proving the presence of sacculations and says: "The manner in which the urine flows out and the manner in which the liquid that is injected into the catheter flows in, shows with absolute certainty if there is a sac or not. In the former case, the urine will flow continually—until the sac is empty—and in a greater amount, while in pyelitis the amount of urine, and the way the latter flows out of the catheter will be the same as in a normal kidney or pelvis. If the renal pelvis is not dilated the patient will feel pain as soon as a small amount of liquid—30 to 50 grammes—is injected. If there be a sac, large amounts can be safely injected, according to the size of the pouch." Brown (31) has gathered 67 cases from Pawlick, Caspar, Brown, Meyer, Albarran, Kelly, Zuckerkandl, Imbert, Rubeska, von Fedoroff, Shoemaker, and Hirst, and from many of his own cases, and demonstrates the great value of catheterism of the ureter as a diagnostic factor.

Therapeutic Value.

The following case, occurring in my own practice, demonstrates the great value of ureteral catheterization as a therapeutic factor:

R. P. Thirty-three years old. Gonorrhœa three times; last one a year previous. Diagnosis, chronic gonorrhœa with prostatitis. Massage of the prostate followed by albargin intravesically and later by instillations of a one-per-cent. solution of silver nitrate. The prostate assumed its normal character five weeks afterward, but the urine still remained cloudy and filled with pus. Thinking the bladder or kidneys might solve the problem of this persistence of pus, the cystoscope was used, and on examination the region of the right ureter was found injected, with the trigonum reddened. Watching the ureters, I could discern the right one discharging a cloudy urine while that from the left was clear. Catheterization of the ureters two days later gave the following result: Urine from the right ureter, cloudy, pus cells, no gonococci, no tubercle bacilli, few epithelial cells. The urine from the left kidney was normal. With these facts I made a diagnosis of *pyelitis of the right kidney, left kidney normal*. The treatment consisted of irrigations into the pelvis of the kidney with 10 grammes of a 1:1,000 nitrate of silver solution. The same solution was also instilled into the bladder. Pain was very slight. A second irrigation into the pelvis was made four days later. No pain. Third irrigation, four days later, with same results. Urine clearer, fewer pus cells,

some epithelium. The same procedure with the same interval of time elapsing was continued ten times in all. After the tenth time the urine was clear, there were no pus cells, no epithelium. Two weeks later the same procedure; urine normal. The next month it was repeated twice with the same results. Discharged as cured.

Caspar (32) reports a case of complete anuria of 34½ hours' standing. He discovered a calculus 5 cm. from the orifice of the ureter by the ureteral catheter, which was readily felt by pressing the catheter against the calculus. He tried to loosen it by means of the catheter, but was not successful, so he injected, according to Kolischer, 50 grammes of hot oil, with much force through the catheter, with the catheter held tightly against the stone. Within a half-hour the patient began to pass his urine, and, within a period of two weeks from this time, a stone of the size of a pea was removed from the bladder. In this case there was double-sided anuria. In a second case there was a right-sided pyonephrosis, and he could inject 150 c.c. of sterile water into the pelvis without pain or sensation of pressure. He injected 150 c.c. of a 1:1,000 silver nitrate solution into the pelvis without reaction, fever or pain; within twelve days he made four injections without reaction, then a pause of sixteen days, then two injections within three days—six days later he found the urine perfectly clear. The case was under observation for six months thereafter, and he always found urine clear, free from albumin and pus. In a third case, there was a tumor on the right side, with fever and headache; the urine contained pus in large quantities, albumin, no tubercle bacilli; there was tenesmus, no pain on urination. Urine from the right kidney was cloudy, filled with pus and albumin. Pressure on the tumor caused a greater flow of urine than when there was no pressure. This showed its sac formation. Three days later, the same ureter was catheterized and the tumor became much smaller. Three hundred c.c. was injected, which was permitted to flow out, after which 300 c.c. of 1:1,000 silver nitrate solution was injected, and by massage was emptied out. Two days later injection was again practised and some of the silver nitrate was left in. The left kidney was also catheterized, and the urine found normal. As the patient was not doing well, a permanent catheter was placed in for three days. Each day 300 c.c. of silver nitrate solution was injected. Within a month, the urine was perfectly clear. The patient was seen every fourteen days and within two months free from all symptoms.

Stockmann (33) reports five cases, the first of which was one of left-sided pyelitis with chronic gonorrhœal cystitis; a cure was effected after fourteen washings of the pelvis, at end of the ninth injection the urine was clear. The second case was

one of right-sided chronic pyelitis and cystitis; eleven injections were given and in five weeks the patient was cured. The third case was one of left-sided pyelitis. Injections of one-per-cent. silver nitrate were given; the first three injections were so painful that this treatment was discontinued and a two-per-cent. copper sulphate solution substituted. Thirty-eight injections in all were used—in three-quarters of a year the patient was cured. In case 4 there was cystitis with chronic left-sided pyelitis. Twenty injections were given without reaction. The patient was cured. In case 5, on the right side there was slightly cloudy urine, with many leucocytes and some epithelium. Pelvic washings with a one-per-cent. silver nitrate solution were instituted. The first two injections caused some burning, the third caused no pain at all; two more injections were given and there was no more pain. Stockmann says in conclusion that in all cases of chronic pyelitis one should use ureteral catheterization and not attempt operation until this is done.

Dührssen (34) says that catheterism of the ureter was used in a case where there was total extirpation of the annexa for carcinoma, and that the tumor was so near the ureter that, were it not for the catheter, he would have cut through the ureter. In another case, due to gonorrhœal disease of the annexa and where total extirpation was done on the right side, there was a long tumor which was supposed to be the appendix. On ureteral catheterism the supposed tumor was found to be a thickened ureter. In conclusion, he says that in many cases of total extirpation where carcinoma has involved the parametrium, he finds ureteral catheterization of great advantage. He also says that he finds it of great help where he ties the ligamentum latum, in order to be certain of the exact position of the ureter.

Landau (6) reports a case of a woman who had a bladder fistula, which closed by scar formation, and which caused a traction stenosis about 1.5 cm. from the ureteral opening of the bladder, causing a hydronephrosis which was diagnosed by ureteral catheterism, and treated by passing bougies into the ureter. He also introduces the catheter into the ureter, to guide him in operations on the uterus for carcinoma; also in hysteromyomectomy, in order to avoid cutting or sewing up of the ureters, a condition that has occurred. In conclusion, he says that ureteral catheterism is for us a diagnostic means *par excellence*, and in many cases an important therapeutic agent.

Albarran (27) reports a case of lumbar fistula, caused by a previous nephrectomy, which would not close until a permanent ureteral catheter drained the kidney. Another case he saw was that of a hydro-nephrosis, which was cured after the sac was

emptied. Before operations on the kidney for pyonephrosis and hydronephrosis, he introduces a catheter into the ureter for guidance as to the position and nature of the impediment; in one case, with the help of the catheter, he could feel a stricture very near the pelvis. In two cases of nephrotomy he drained the kidney simultaneously through the lumbar wound and the ureter. Shortly after the lumbar drain was removed, the fistula was cured. Albarran (35) read an article before the Thirteenth International Congress of Medicine, on The Ureteral Catheter à Demeure in Preventive and Curative Treatment of Renal Fistula, in which he says: "As a preventive measure he introduces a large catheter into the ureter at the time nephrotomy is performed, having the upper end in the pelvis and the lower extremity passing out of the meatus. Having incised the kidney he passes a small catheter up the ureter, bringing it up to the kidney. When the renal pocket is opened, he uses this catheter as a guide over which he passes a 10 or 11 catheter from above downward. While the kidney is in place the kidney is drained as ordinarily by the lumbar wound. On the following day lavage of silver nitrate or boric acid may be done through the catheter and the drains.

"The lumbar drain is removed on the average after a week, and after a few days the urine passes by the catheter, which also serves for lavage, and may be removed a few days after the flow from the lumbar wound ceases. He has operated by this means on seven cases of pyonephrosis, and obtained complete cure without fistulæ after three or four weeks.

"When a urinary fistula is already present he introduces a 6 or 7 catheter as far as the pelvis. Often from the first day all the urine will pass through the catheter. Some days later a larger catheter replaces the first; this he introduces with a stylet, gradually increasing the size up to No. 12. After the lumbar wound is well cicatrized, he removes the catheter. In this way he has succeeded in curing a fistula in two cases in from 15 to 20 days. In two others the fistula closed well, but withdrawal of the catheter was followed by renal retention, demanding a ureterorenal operation. Ureteral drainage will not succeed unless the catheter can be made to penetrate as far as the interior of the pelvis. It fails further if the ureter is inserted too high above the renal pocket."

Kelly (36) says: "The ureteral catheter is valuable in two ways in operating for renal calculi, first, to thoroughly irrigate and wash out the pelvis of the kidney, in this way distending the pelvis; second, to be used after washing out the pelvis to leave it *in situ* and then expose the kidney by lumbar incision. Before incising, however, fluid is forced rapidly into the renal pelvis so as to distend the

pelvis and cause the kidney to swell up, making prominent certain surface landmarks which serve as a guide for correct incision into the organ. If the kidney is grasped in the full hand during the distention the exact position of the calices can be detected as it alternately swells and collapses. The labules of the kidney are made prominent and the vascular septa between them are readily distinguished when the kidney is distended. If the kidney is cut into in this distended state, there is less injury to the cortex and the operator is at once made aware of the opening into the pelvis by the sudden gush of water. A small stone is sometimes washed out in this way, saving a painstaking search and further cutting."

It must not be forgotten that the cases of pyonephrosis that are to be cured by irrigation into the pelvis are those in which the pus cavities have direct communication with the pelvis, so that the solution of silver nitrate may come in direct contact. Should the pus, through its thickness, be unable to pass through the catheter, it can be thinned by means of distilled water or boric acid solution.

In conclusion, the following deductions may be made:

DIAGNOSTIC VALUE.

To determine.—1. Whether the bladder or the kidney is the seat of the affection.

2. The presence or absence of a kidney.
3. Which kidney is involved.
4. The site of the lesion.
5. The functional capacity of each kidney.
6. The presence of a calculus in the ureter or pelvis of the kidney and its exact location.
7. The presence of strictures in the ureter and their exact location.
8. The diagnosis and site of ureteral fistulæ.
9. The presence of a pyoureter.
10. A differential diagnosis between diseases of the kidney and the surrounding organs.
11. At times a tuberculosis of the kidney.
12. The diagnosis of pyelitis, pyelonephritis, pyonephrosis, hydronephrosis, movable kidney, neoplasms of the kidney, renal lithiasis.
13. Abnormal congenital conditions of the ureter.

THERAPEUTIC VALUE.

1. To cure pyelitis and certain cases of pyonephrosis and hydronephrosis.
2. To drain pocket formations.
3. To dilate strictures of the ureters.
4. To dislodge small calculi of the ureter.
5. To drain the kidney after nephrotomy.
6. To prevent injury to, and stitching together of, the ureter in certain operations.
7. To prevent and cure renal fistulæ.
8. As a guide to certain operations on the pelvis of the kidney.

There is comparatively little or no danger of infection if one carefully disinfects his instruments and thoroughly irrigates the urethra and bladder.

The fact that it takes practice and skill, should not discredit the method, considering its importance as a therapeutic and a diagnostic factor.

771 SUTTER STREET.

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WHAT MEANS, OTHER THAN OPERATIVE, HAVE WE FOR PREVENTING AND COMBATING INFLAMMATION OF THE MASTOID CELLS?*

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In attempting to answer the question, What means, other than operative, have we for preventing and combating inflammation of the mastoid cells? I shall have nothing to say regarding the application of cold to the mastoid process or concerning the local abstraction of blood, first, because I have had little experience with the former procedure—never having been greatly inclined to it—and with the lapse of time find myself less and less disposed to resort to the latter, and, next, because almost every otologist is familiar with these measures, and doubtless has a definite opinion of his own as to their value. What I shall speak of mainly is the employment of constitutional remedies for the purposes indicated, since in this direction I have had considerable experience, and, furthermore, it is a matter, it seems to me, to which otologists may with profit devote more consideration than they commonly do.

Twenty years ago I wrote a paper, which was published in the *Medical News*, upon "The Use of Constitutional Remedies in the Treatment of Ear

* A paper read before the American Otological Society, July 15, 1902.

Diseases."¹ In this paper I contended that in the treatment of aural affections too great reliance was placed upon local remedies and too little thought given to internal medication. In support of this view I pointed out how little was said upon the subject of constitutional remedies in the text books of that day upon ear diseases, and cited especially the description of the treatment of inflammation of the mastoid cells given by the various authors quoted.

In the interval which has elapsed since then, if any change of moment in this regard has taken place, it certainly has escaped my observation, and, it seems to me, whatever warrant there was for the criticism in the paper referred to exists as well at the present day. To anyone inclined to call in question the correctness of this opinion I would suggest a perusal of what is said upon the treatment of mastoiditis interna in the text books of Politzer, Buck, Bacon, Dench, Hovell, Bishop, McBride, and Gradle and by the several authors who treat of this subject in the *American Text Book of Diseases of the Eye, Ear, Nose, and Throat*.

Indeed, I think, one may go further and say that the otologist of to-day—and the observation applies with even greater force to the general practitioner—has less knowledge of the value of constitutional remedies and is less familiar with their proper administration than was his predecessor of the generation that has passed, or is passing, away. As a therapist, I venture to assert, the physician of to-day is not the equal of the practitioner of a quarter of a century ago; and because he does not know when and how to administer drugs he is becoming increasingly skeptical as to their value.

If there is one branch of medicine in which, more than any other, the efficaciousness of constitutional treatment is made manifest, it is ophthalmology. The ophthalmic practitioner who is skeptical upon this point must, indeed, be a poor observer. And herein, I would suggest, lies the one advantage which the otologist who is also an ophthalmologist has over his purely otological brother—he is more familiar with and more ready to employ constitutional remedies; he has seen what mercury, the iodides, the salicylates, quinine, iron, and strychnine are capable of accomplishing in inflammations of the eye, and he is, therefore, more inclined to turn to them when he encounters like conditions affecting the auditory apparatus.

What I have to say regarding non-operative measures for the prevention of inflammation of the mastoid cells it will be convenient to divide into what pertains to mastoiditis occurring as a consequence of chronic inflammatory processes of the ear and to that occurring as a complication of otitis media acuta.

In regard to the first mentioned class of cases, the indication, of course, is to control the inflammation in the tympanum and so do away with the risk of its extension to the antrum and mastoid cells; and my experience is that usually this is not difficult of accomplishment.

The chief suggestion I have to offer here is that, in addition to building up the system by suitable tonics and eliminating habitual constipation if it is present, we should find by trial the antiseptic solution which exerts the most effective control over the suppuration, and that, having found this, instead of compelling the patient to depend upon the surgeon for its application—of which sooner or later, he is sure to tire—we should teach him to use it himself—to syringe or douche the ear as often or as seldom as may be required to keep it clean and dry. And here I may state, in parenthesis, that the view I remember to have heard expressed at a recent meeting of this society, that this plan of treatment is impracticable and inefficacious, I know, from abundant experience, to be without justification.

The antiseptic agent which I have found most generally useful for this purpose is the bichloride of mercury; the next most useful, boric acid. The former I have employed in solutions of from 1 to 8,000 to 1 to 4,000, the latter in saturated solution. Except when the discharge is very profuse, a daily syringing suffices, and after a short period of treatment it is usually possible to increase gradually the interval to a week or more. After these longer intervals an occasional inspection of the ear by the aurist is desirable, as it enables him to decide whether the effect is all that is expected, whether the suppurative process is being kept completely under control. The small tablets of bichloride of mercury furnished by the manufacturing druggists—one tablet in a pint of water giving a strength of 1 to 4,000—afford a convenient means of making the requisite solution, and for domestic use the rubber bulb syringe has been found most satisfactory. A combination of the phosphates of iron, quinine, and strychnine² is the tonic which I have learned to place the greatest confidence in, and for habitual constipation aloin, in doses of a tenth to a fifth of a grain, given every night for as long a time as may be required, has proved very efficacious.

A weekly or fortnightly syringing of the ear by the patient is no great hardship, and if it were necessary to continue it indefinitely would be but a small price to pay for the comfort and safety which it insures; but, as a matter of fact, the cases in which this is required are the exception, and the

² The elixir of the phosphates of iron, quinine, and strychnine made by Wyeth and Brother is especially to be commended, as it contains two grains of iron and one grain of quinine to the drachm, more than four times as much as do some preparations called by the same name.

¹ *Medical News*, February 4 and 18, 1882.

rule is that after the suppuration has been checked for a few weeks the ear remains for weeks or even months without requiring further attention.

To avoid implication of the mastoid cells in *acute* inflammation of the middle ear, energetic measures should be employed to control the otitis and, if possible, to abort it in its incipience; and here again constitutional as well as local treatment is called for. How far we are likely to be successful in accomplishing this will depend largely upon the cause of the attack—the nature of the infection—and the stage which the otitis has reached at the time the case comes under observation. When we have to deal with a streptococcus or a pneumococcus infection, our efforts are less likely, of course, to prove successful; but if we see the case in its incipience, I believe I am not too optimistic in saying that, as a rule, we should be able to cut short the attack and prevent its reaching the stage when a spontaneous perforation may be expected or an incision of the tympanic membrane be required.

Some excellent otological authorities hold that in otitis media no good is accomplished by the application of anodyne solutions to the ear. Upon what grounds they base this opinion I do not know; but, at all events, my experience leads me to hold a distinctly different view. In my own mind there exists no doubt whatever that the solution of cocaine and atropine which I have commended upon several occasions not only alleviates or relieves the pain of middle ear inflammation, but exerts a definitely favorable influence upon the inflammatory process. The prescribing of this solution is therefore, a matter of routine with me in every case of otitis media which I encounter.³

I have also an abiding faith in the antiphlogistic value of energetic purgation, especially when calomel, in liberal proportion, forms an ingredient of the purgative employed. Unless, therefore, there is some distinct contraindication, the local treatment is usually supplemented by one or two doses of calomel, scammony, and rhubarb,⁴ a combination for which I have inherited a predilection from my grandfather, the late Professor Nathan R. Smith.

Another remedy as to the value of which in otitis media I have no misgivings is the pyrophosphate of sodium. Like many other useful drugs—the salicylate of sodium for example—if given in small doses it is entirely inefficient, but when administered in

liberal doses—twenty grains every two hours for an adult or ten to fifteen grains as often for a child—it unquestionably exerts a controlling influence upon suppurative processes, whether they are located in the ear or in some other part of the body. When, therefore, the otitis does not yield so promptly as expected to the purgative and the atropine and cocaine drops, the pyrophosphate of sodium, in the doses indicated, is prescribed.⁵ Usually no noteworthy effect follows its administration other than its beneficial influence upon the inflammation, but occasionally some loosening effect upon the bowels or perhaps a little nausea is observed.

If an otorrhœa exists or becomes established through Nature's efforts or through surgical intervention, the ear is syringed, not usually more than two or three times a day, with a saturated solution of boric acid, which, after three or four days, is put aside for a 1 to 8,000 solution of bichloride of mercury, if the improvement expected—a diminution in the amount and a change for the better in the character of the discharge—is not observed.

Since the purpose of this paper, as indicated in the title, is to deal with non-operative means for the prevention and cure of inflammation of the mastoid cells, I have said nothing of the indications for incising the drum head. It is, of course, a measure of the utmost value, but it is one, I believe, which is often resorted to unnecessarily. To neglect to perform this simple operation when it is clearly called for—when the pent-up products of inflammation are demanding evacuation—is doubtless more reprehensible than to perform it unnecessarily; but, while this is true, it is also true that there is a stage—at the outset of even well marked cases of otitis media—in which it is not good surgery to resort to it, in which there is little or no accumulation of fluid in the tympanic cavity, and, therefore, nothing to be gained by piercing the membrane; and it is in this stage that the local and constitutional remedies I have described should be employed. Although, in itself, a trivial procedure, the making of an opening in the drum membrane unquestionably affords, notwithstanding every possible antiseptic precaution, a fresh avenue for bacterial invasion, and every aurist knows how quickly, as a rule, the serous discharge which usually escapes when the membrane is incised assumes a distinctly purulent character. Having in mind this aspect of the matter, it seems well worth while that remedial measures which, to say the least, very often render unnecessary the use of the knife should not be neglected.

That the mastoid cells or, at all events, the antrum, are much more frequently implicated in otitis media

³ The formula is:

Atropine (alk.), 2 grains;

Cocaine (alk.), 4 grains;

Oil of sweet almonds, $\frac{1}{2}$ fluid ounce.

M. Six to ten drops, warmed, to be poured into the ear three or four times in 24 hours.

⁴ Two grains each of calomel and powdered scammony and six grains of powdered rhubarb is a suitable dose for a child from five to fifteen years of age, and for an adult the calomel may be doubled in amount and the rhubarb increased by three or four grains.

⁵ It should be prescribed in solution, and, as it is not very soluble, one should not order more than twenty grains to the half ounce of water.

than was formerly believed to be the case is now very generally conceded; so that when we suppose we are treating an inflammation of the tympanum only, it often happens that we are, in reality, dealing with a mastoiditis interna as well. Whether other definite signs of mastoid implication, apart from the profuseness of the otorrhœa, supposing a discharge from the ear to have become established, shall manifest themselves or not depends largely, first, upon the sufficiency of the drainage from the antrum and other involved cells and, second, upon the intensity of the inflammation in these cells—whether this has assumed the character of a periosteitis or whether it is only a catarrhal process of their lining mucous membrane; for it is to be borne in mind that the membrane which lines the cells of the mastoid process is at once a mucous and a periosteal membrane, and may, therefore, be the seat of inflammation differing very materially in type and in intensity.

With retention of inflammatory products in the cells, pain in the mastoid region, and probably over the side of the head, is almost sure to manifest itself, and with the development of internal periosteitis, not only pain but tenderness of the mastoid process to pressure, followed sooner or later by redness and œdema, are to be expected. Another sign of mastoid involvement, to my mind almost as characteristic as the copiousness of the discharge and the bulging of the superior and posterior wall of the auditory canal, which becomes evident later, is the sodden and altered appearance of the tympanic membrane—that condition of the membrane which prevents even the expert from distinguishing any of its features, which, indeed, makes it almost or quite impossible for him to tell what is and what is not membrane. If an approximation to this condition occurs in inflammation limited to the tympanum, it is, at all events, evanescent.

When any of these definite indications that the mastoid cells are implicated in the inflammatory process manifest themselves in the course of an otitis media, what measures, other than operative, can we take to combat them? First, let me qualify the expression "other than operative" by excepting incision of the drum membrane, for, unquestionably, whenever mastoiditis exists this step is demanded, unless nature has already provided an opening large enough to afford efficient drainage.

In describing the treatment which has been found efficacious in controlling inflammation of the middle ear, all of the remedial measures which I would commend in the early stages of mastoiditis interna, except one, have been mentioned. If active purgation is indicated in the former condition, it is more urgently demanded in the latter, and the same observation applies to the liberal administration of the pyrophosphate of sodium. The same antiseptic so-

lutions for cleansing the ear are called for in each condition, though in the latter, owing to the profuseness of the discharge, more frequent irrigation is required. The atropine and cocaine drops will also be found useful in alleviating the pain, though their action must be more carefully watched when a perforation of the drum head exists, since they may find their way through the Eustachian tube into the throat and so impress the system.*

The one remedy which I have not mentioned is mercury—mercury given, not as a cathartic, but to produce its specific effect upon the system. Bearing in mind what has been said as to the peculiar characteristics of the membrane which lines the mastoid cells—that it is a periosteal as well as a mucous membrane—it should not be matter of wonderment, it seems to me, that in inflammation involving the walls of these cells, especially in its early stages, before the actual formation of pus, mercury, of all remedies, should prove efficacious. That when given in proper doses and in suitable cases it is efficacious there can be no question whatever. That it is not indicated in mastoiditis occurring in cachetic individuals, in distinctly strumous subjects, goes without saying, of course; but in fairly robust individuals, whether adults or children, and especially when the mastoiditis is dependent upon an acute middle ear inflammation, it is a most valuable agent, and should be administered without hesitation if the remedies already described have proved ineffectual or, if the symptoms are urgent, without waiting to try other less potent drugs.

There are various ways, of course, in which the system may be brought under the influence of mercury; but if, as is usually the case, prompt results are demanded, small doses of calomel frequently repeated, a quarter or a half of a grain every hour or every two hours, supplemented by inunctions of mercurial ointment, and, if necessary, guarded by opium in sufficient quantity to prevent purgation, afford the most convenient way of accomplishing the desired end. In adults, when urgency is not demanded, the biniodide of mercury, given in full doses, answers an excellent purpose.

In my paper upon the use of constitutional remedies in the treatment of ear diseases, to which reference has been made, I quoted from Dr. Buck's excellent treatise upon diseases of the ear a description of an interesting case of very severe acute, bilateral otitis media in a child six years of age, in which, with a pulse of 140 and a temperature of 105° F., delirium was present. In spite of a free incision made in each tympanic membrane by Dr. Buck, the condition of the child continued to grow worse, and

*One of the advantages of using an oily solution of these alkalis is that this is less likely to happen than when a watery solution is employed.

on the following day partial coma was present, the pulse and temperature showed no change for the better, and there was no discharge from either ear. Dr. Markoe and Dr. James R. Wood were now called in consultation, and at their suggestion "mercury was administered: internally, in the form of calomel, in small doses; externally, in the form of inunctions of the oleate of mercury (10 per cent.), frequently repeated. Bromide of potassium was also given, in conjunction with the calomel." The next morning, Dr. Buck goes on to relate, the child was "very much better, an active discharge having established itself in both ears during the night;" and "from this time on," he tells us, "she made a rapid recovery, and regained her hearing almost perfectly."

I allude to this case again, not only because it affords such a striking example of what mercury, when properly administered, is capable of accomplishing even under most unpromising conditions, but because, in addition, it illustrates so well the therapeutic methods of the medical men of that day, the men of a quarter of a century ago, who, I have had the temerity to declare, were better therapeutists than their successors of to-day.

The measure of success which is likely to attend our efforts to combat inflammation of the mastoid cells by the non-operative means which I have described will, of course, depend largely upon the stage at which the treatment is begun. When their employment is too long delayed, not much can be expected of them; but, in view of the frequency with which the mastoid process is opened, without pus being found, we should be cautious, I would suggest, in concluding too hastily that the period is past when a trial of these measures is justifiable. To attempt to lay down hard and fast rules bearing upon this point would be impracticable, and, furthermore, would be in effect, to open up the whole vexed question of the indications for operating upon the mastoid process, and this is not my present purpose.

A NEW METHOD OF STAINING THE MALARIAL PARASITES, WITH A DESCRIPTION OF THE STAINING REACTIONS.

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Many and various have been the methods proposed for staining the parasites of malarial fever. As is well known, these organisms stain with the basic aniline colors, but not with the acid. The most common method of staining has been the employment of solutions of methylene blue and eosin, sin-

gly or combined in different proportions. Most of these methods are excellent from a purely diagnostic standpoint, but until Romanowski perfected his method of staining, no method had been devised showing the finer structure of the parasites clearly. Romanowski's method is well known and will not be described here. It consists in the employment of an old solution of methylene blue added to a solution of eosin. By this method the chromatin of the nucleus stains a deep violet and is very distinct in well prepared specimens. It requires considerable practice, and disappointment is often the result. Various improvements upon it have been made, the most important of which is that of Nocht. This method, known as the Nocht-Romanowski method, is a modification of the original Romanowski method, and gives very beautiful preparations as a rule. In both these methods, however, the specimens have to be stained for a considerable time, in the latter good specimens being obtained only after twenty-four hours staining.

The method of Jenner is also a most excellent one, but the process of preparing the staining materials is a very complicated one and not practicable, except by one who has abundance of time and laboratory facilities.

Nearly all these stains can be bought already prepared, but I have never been able to get the same results with such commercial preparations as with preparations made personally.

The following method of staining the parasites of malaria was discovered accidentally while preparing specimens for preservation. In staining these specimens I unwittingly used a solution of methyl violet instead of methylene blue, but, upon examination of the specimen after the use of eosin, I was surprised to find that the parasites had stained in a very distinctive and beautiful manner. Further experimentation has enabled me to perfect the method, and I believe that it will prove of great value, not only as a diagnostic resource, but as an aid in the study of the finer structure of the parasites.

Description of the Method.—Two solutions are employed as follows:

Solution A. A saturated aqueous solution of methyl violet B (Dr. G. Grubler & Co., Leipsic). This solution should be prepared with distilled water and should be at least three weeks old.

Solution B. A five-per-cent. solution of eosin (Dr. G. Grubler & Co., Leipsic).

The method pursued in staining specimens is as follows: Very thin blood smears are made upon perfectly clean cover glasses. These smears are hardened in absolute alcohol for from five to ten minutes. They are next carefully dried and stained with solution A for ten seconds; then thoroughly washed in water and stained with solution B for from three

to five seconds. The specimens are finally carefully dried and mounted in Canada balsam. As will be seen, the time for staining is very short, which is an improvement over the valuable methods which have heretofore been proposed.

Precautions to be Observed.—1. Both staining fluids should be prepared with the colors made by Grubler & Co. 2. The methyl violet solution should be at least three weeks old. 3. The smears should be thin and the blood evenly distributed over the cover glass. In thick smears the coloring is very diffuse and the distinction between the corpuscles and parasites nearly obliterated. 4. The methyl violet solution should not be allowed to act for longer than twenty seconds at the most, otherwise the staining is too intense. 5. The eosin solution should not be allowed to act for more than five seconds, for the same reason. 6. The specimens should be thoroughly dried before mounting, and thoroughly washed and dried between the application of the stains. If these precautions are observed carefully, good specimens are very easily obtained, and the staining reactions are very distinct. In my experience this method gives more uniformly good results than any other method with which I am acquainted.

Staining Reactions.—The staining reactions of the parasites are very distinctive, the finer structure of the organisms standing out beautifully, as well as the red and white blood corpuscles. One of the most valuable features of the stain is that it gives a peculiar and distinctive coloring to the infected red cells, which enables one at once to pick them out from the others. This is especially valuable in the case of the *æstivo-autumnal* parasites, which are small and not easily distinguished. I have been unable, as yet, to try this method with the *quartan* parasite, but have had opportunity to employ it in staining specimens obtained from *tertian* and from *æstivo-autumnal* malaria.

This stain colors the red blood corpuscles a beautiful uniform dark blue. The protoplasm of the multi-forminuclear leucocytes stains a delicate pinkish violet, the nucleus staining much more intensely, the color being a dark violet. The granules of the eosinophiles stain a dark red, the nucleus a bright blue. The protoplasm of the lymphocytes, both large and small, stains a crimson violet, the nucleus a pale blue. The smaller lymphocytes often show a lighter colored protoplasm, being often pink, and the nucleus a very delicate blue.

Reactions with the Tertian Parasite.—The young forms of the *tertian* parasite stain very distinctly, the red corpuscles staining a dark blue, the young amœboid or ring-shaped *tertian* parasites staining a very delicate blue, showing within the red corpuscles very distinctly. There is always noticed a pale, hardly staining portion at the centre of the rings,

and a dark violet chromatin granule lying at some portion of the periphery between the dimly staining area and the blue ring. The dimly staining area represents the nutritive vacuole, the dot of chromatin indicates the position of the nucleus.

Cells containing the halfgrown *tertian* parasites stain a dark lilac, much lighter in color than the uninfected red cells. This enables one at once to pick them out. The parasites stain a lighter lilac, the chromatin staining in clumps a very dark lilac. In these halfgrown parasites the nucleus is very easily distinguished from the surrounding protoplasm, which is stained much darker. The chromatin stains very distinctly, and the pigment, always collected outside the nucleus, in the protoplasm, takes a peculiar bright brownish red color. In those parasites showing amœboid movement, the amœboid processes are very distinctly differentiated; the red corpuscles in such cases often appearing to be infected with more than one parasite owing to the delicate protoplasmic connections of the amœboid processes not staining.

In those parasites which have approached maturity, a short time prior to segmentation the nucleus is not so sharply distinguishable, the parasite staining more uniformly a beautiful bluish lilac with sharply differentiated chromatin granules and rods, which take a very dark lilac color. Just prior to segmentation the infected corpuscle takes a still lighter tinge, the parasite staining pretty uniformly throughout, the dark lilac granules being scattered apparently through the protoplasm. As segmentation continues, it is noticed that the chromatin granules collect in small bunches corresponding to the segments, each segment being composed of a dark lilac bunch of chromatin, surrounded by a very delicately staining portion of protoplasm, of a blue color. No stain which I have used has shown the arrangement of the chromatin so beautifully in the segmenting bodies as does this. The pigment is collected toward the periphery or the centre of the parasite and is stained a brownish red.

Reactions with the Æstivo-autumnal Parasite.—The small ring forms of the *æstivo-autumnal* parasite stain very distinctly; the red corpuscle being a bluish lilac color, the parasite staining a paler shade of lilac, with generally a single dark granule of chromatin showing at some portion of the ring, as a rule in the enlarged portion. The centre of the ring stains hardly at all, the ground color of the corpuscle showing dimly through it.

The larger forms of the *æstivo-autumnal* parasite in which pigment is formed, stain a pale bluish lilac, with dark lilac chromatin lying within some portion of them and a few granules of pigment. The infected corpuscle takes a bluish lilac tinge and is easily distinguished from the uninfected corpuscles.

I have been unable, as yet, to try this stain in the fully grown and segmenting forms of the æstivo-autumnal parasite.

Staining Reactions of Crescents.—No stain with which I have had experience gives such good results with crescents as I have obtained with this. Crescents, as a rule, stain very intensely. The protoplasm takes a dark violet, which is considerably lighter than the red corpuscles, which stain of a more bluish color. In most of the crescents a very dimly stained area containing dark violet chromatin granules is noticed, either at the centre or toward one of the extremities, surrounded by the pigment. The chromatin generally appears to be in the form of small granules, although often rod-shaped particles can be seen. The surrounding envelope formed by the red corpuscle stains a violet considerably lighter than the crescent itself, and is very distinct. This envelope, including the so called "bib," is very beautifully differentiated in specimens stained by this method. Very often the envelope is found broken in places, and a few crescents do not show it at all. The pigment in the crescents appears of a very dark greenish brown color. Some crescents stain uniformly, not showing the chromatin granules or nucleus. Others stain a lighter violet, an almost blue color, with peculiar violet shading, the extremities staining more intensely than the centre. The nucleus of the crescent is often very clearly differentiated, being round or oval in shape and staining hardly at all, the darkly stained chromatin granules lying within it. In crescents which have been injured during the preparation of the smears, or which are showing degenerative changes, the staining is not very distinctive, being almost uniformly throughout of a dark reddish violet color. The pigment is generally arranged within the crescents in a perfect wreath; often, however, it is arranged in a bunch at some portion, generally the centre, and rarely it is seen scattered throughout the crescent or in the form of a double wreath. The pigment is generally in the form of short rods, or round or irregularly shaped granules.

Reactions of Flagellated Parasites.—This staining method I have found to be very valuable in staining the flagellated organisms. They stain very quickly and intensely and the flagella stand out very distinctly. In the parasites just prior to flagellation, the protoplasm takes a dark bluish stain, the dark violet bunches of chromatin being distributed at intervals around the border of the parasite. From the study of numerous flagellated organisms, I have found that the chromatin is generally collected at the portion of the parasite from which the flagellum emerges. In those organisms which have already flagellated, the protoplasm stains a dark blue, the dark violet chromatin being present either at the base

of the flagellum or distributed along it as a narrow threadlike band inclosed in the more dimly staining protoplasm of the flagellum.

Conclusion.—From the foregoing description it will be seen that this stain differentiates the malarial parasites very beautifully, both in the younger stages and in the segmenting and crescent stage. From a diagnostic standpoint the method is valuable, in that the staining of the parasites is so distinctive. However, it cannot replace the examination of the fresh blood for this purpose, and I believe that no method ever will do so. For the diagnosis of the malarial parasites there is no method so sure, so simple, and so scientific as the examination of the fresh blood. For the study of the finer structure of the parasites, however, this method is, I believe, a most valuable one, as it differentiates so distinctly the protoplasm, nucleus, and chromatin. The method is easy of application, rapid, and the results obtained are very uniform. It will be found, I believe, to be a valuable addition to our staining methods for the malarial parasites.

OVARIAN TUMORS: SUPPURATION AND MALIGNANT DEGENERATION.*

By G. E. CRAWFORD, M. D., AND
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Having for some time been more and more impressed with the great frequency of both suppuration and malignant change occurring in ovarian tumors, and also by the not infrequent occurrence of both conditions in the same case, we were led to examine the tabulated work of other operators of greater experience; and with the following conclusions: that from eight to twelve per cent. of ovarian tumors suppurate, and that from sixteen to twenty-five per cent. are malignant.

The common occurrence of both these conditions has long been well known, but we are confident that their frequency and dangers are not fully appreciated by the profession at large, and not at all by the laity.

The idea quite prevalent among general practitioners is, that an ovarian growth which is small and has not attracted the attention of the patient by its size and rapid enlargement is innocent, and best let alone. And in fact such tumors are generally overlooked except by gynecologists.

It is only a matter of time for a simple ovarian cyst to prove fatal, and the strong tendency of all ovarian growths to suppuration and to consequent

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formation of serious and often intractable pelvic abscesses, and the still greater tendency to malignant change, prove the supposed conservatism to be both mistaken and dangerous.

Suppuration comes about directly from the entrance of the pathogenic organisms into the wall or cavity of the tumor. These micro-organisms may proceed from the blood; in other cases they are conducted through the newly formed lymph channels in the false membrane, the adhesions, from the bowel into the cyst; and in other cases, which must be the most common, the pathogenic organisms appear from the genitalia themselves, the vagina, uterus, and tubes.

As pus-producing causes in most cases have been observed the gonococcus, the staphylococcus, the streptococcus, and the *Bacterium coli commune*, in perhaps about this order of frequency; and in rare cases the typhoid bacillus.

Suppurating cysts adhere to other surroundings when adhesions are not previously existent, and are liable to rupture into any of the cavities; also into the retroperitoneal connective tissue with the production of suppurating cavities there.

In a recent personal communication from Dr. Charles P. Noble, he gives the record of 205 consecutive cases of ovarian cyst operated upon by him at the Kensington Hospital for Women. Of these 205 cases, 26 had suppurred; 12.6 per cent. The mortality in these suppurative cases was very high, 27 per cent., which was five times as great as that in the remaining 179 cases free from suppuration, although many of them were associated with various other complications.

The very highly organized and complex cell-activity of the ovary is probably largely accountable for the strong tendency to malignant change.

Schauta says, "Ovarian cystomata possess a great tendency to malignant degeneration. They resemble in this respect all the adenomata with which they must be considered."

Gebhard says, "Every benign ovarian tumor can become malignant." There is a time in the history of every malignant growth when the first epithelial cell breaks through its basement membrane, and the process of malignant proliferation begins.

According to Gebhard, "The disposition to degeneration varies with the form of the tumor, in the following order: most frequently the papillomata; then the cystadenomata serosa invertentia; next the pseudomucous cystadenomata, and least frequently the dermoids." "Glandular cystomata themselves, in which the epithelium begins to grow and form in several layers, and epithelial plugs, can degenerate into carcinoma."

Schröder found among 600 oophorectomies 100 malignant cases.

According to Leopold, of Dresden, malignant ovarian tumors occur in 22.4 per cent. of all cases.

Flaischlen found, among 102 ovariectomies, 13 with carcinomatous and sarcomatous change; and adding to these the papillomatous cystomata, which, if not anatomically, are clinically malignant, on account of their inclination to metastasis and recurrence, there were, in the 102 cases, 20 malignant tumors. Gebhard, than whom there is no higher authority on gynecological pathology, says that one half of all papillary cystomata are carcinomatous.

Pfannenstiel found, in 400 ovariectomies, 22 sarcomatous ovaries.

Schauta found, among 198 cases, malignant degeneration 29 times.

Dr. Howard Kelly gives an analysis of 138 cases of ovarian tumor which were verified microscopically, as follows: adenocystoma, 60; adenopapilloma, 27; adenocarcinoma, 9; sarcoma, 2; fibroma, 4; dermoid cysts, 26; parovarian cysts, 10; showing 9 per cent. of cancer and sarcoma. And counting the papillomas there were, in the 138 cases, 38 malignant growths, or 27.5 per cent.

In a personal communication, we have a report of 701 cases of ovarian tumor occurring in Dr. Kelly's clinic at Johns Hopkins Hospital. Of this number 65 were carcinomas; 18, sarcomas; 57, papillomas, showing, without the papillomata, 11.7 per cent., and, with them, 20 per cent. of malignant tumors. Deducting as incidental from the 701 cases, 128 Graafian follicle cysts, of small size, the percentage of malignant growths in the remaining 573 cases is 14.6 per cent. without, and 24.5 per cent. with, the papillomas. And as this series, the report states, had been "classified according to the diagnosis made at the time of operation, and not yet corrected by the pathological reports, the number of malignant changes will doubtless be considerably increased," and the percentage of malignancy will probably be brought up to about the same as in the series quoted above.

Our own experience, while too limited to be of much value in the way of statistics, coincides with the authorities quoted, or rather shows a larger percentage of malignancy, since we have made a careful histological examination of every tumor.

The histological study of a series of ovarian growths is certain to bring surprise to one who makes it for the first time.

As it is only a matter of time as to when a simple ovarian or parovarian cyst will undermine the health and destroy life; and in view of the very grave dangers attending ovarian tumors of all kinds, from the strong tendency to suppuration and malignancy, whereby the mortality of operation is greatly increased and death inevitable without operative intervention, it is the one point and object of

this paper to emphasize the importance of their early recognition and removal, under which circumstances mortality is almost *nil*.

There is nothing better as a working principle than that laid down by Dr. Kelly: "From a practical standpoint all ovarian tumors must be considered malignant until removed and proved otherwise."

The two following cases are common illustrations of these conditions, and the importance of early operation:

CASE I.—Mrs. M., age thirty-seven years, married fifteen years; mother of five children; no miscarriages. Last confinement, April 10, 1899. Before her last pregnancy she complained of pelvic pain and discomfort, and the left ovary was tender and somewhat enlarged. There had been some injury to the soft parts and the vaginal walls were much relaxed. An operation was about to be performed, when she became pregnant, and it was necessarily postponed. During the two years that intervened between the birth of her last child and the operation, her health was not very good. She could not be on her feet with comfort and she had more or less pelvic pain. During this period she had several attacks of fever lasting for a few days, accompanied with pain in the pelvic region; and the pelvic tumor became more and more palpable. An operation was urged to which she would not consent until the baby was older.

She came to St. Luke's Hospital May 8, 1901. The following are the notes of the final examination made the day before operation:

"Examination revealed lacerated and relaxed perineum with rectocele and cystocele. Cervix normal. Right appendages healthy. In the left side is palpable a movable hard mass, of the size of the fist, intimately connected with the uterus, and reaching apparently from about the internal os to three-fourths of an inch above the fundus, and outward to the pelvic wall." She was prepared for section, and on the following morning, May 9th, we operated.

Before opening the abdomen the womb was curetted, and anterior colporrhaphy and perineorrhaphy were done. The tumor was extracted with great difficulty owing to its being partly intraligamentous, and to extensive adhesions to the bowels and lateral uterine wall. In breaking up the adhesions the tumor was ruptured and some pus escaped, but was well walled off and caught on sponges. So intimately was the tumor connected with the uterus that in loosening it with the scissors the parametrium was extensively opened. The bleeding was checked with No. 3 catgut mattress sutures, and the ligamentum latum closed over with continuous catgut. The cavity was carefully wiped out, and the abdomen closed in the usual way. She made a good recovery and has been in better health than for several years.

It is a question whether this was true pus or a softening and breaking down of the interior of the tumor. The microscope showed few leucocytes and no organisms. A histological examination of this tumor shows it to be malignant; a diffuse carcinoma. It is not certain that this patient is cured. She is in good health now after a year, but metas-

tasis may have taken place, to be manifested later; or recurrence may take place in the old site of the tumor or an adjacent organ to which it was attached. It should have been removed much earlier.

As illustrating the disastrous termination of these tumors when neglected, we will briefly relate another case with which we were connected only at the very last.

CASE II.—Mrs. S., aged forty years. Mother of two sons twelve and sixteen years of age respectively. A large fine-appearing woman, a perfect model of robust health until a year ago last Christmas, when she was taken suddenly with pelvic pain and inflammation. The early history of her trouble is very meagre from the fact that, being inclined towards Christian science, so-called, she was under the care of that medical cult during the first months of her sickness. It is said that one of their popular healers sat by her bedside constantly for a month or more but she continued to get worse. She then came into the hands of a physician who is averse to surgery, and a purely expectant plan of treatment was continued.

A surgeon was called in consultation, who made a diagnosis of pyosalpinx, which, while not correct, was sufficiently near for practical purposes, and recommended an operation, which was opposed by the physician in charge. Had an operation been done, even at that time, it would probably have been successful. But she went from bad to worse, became extremely emaciated, and from a person weighing 160 or 170 lbs. she became a mere skeleton.

Finally a so called magnetic healer took charge of her for a time, and proceeded to rub and knead the abdomen vigorously every day, avowedly to rub away an hypothetical "affection of the sigmoid flexure." She was finally prevailed upon to go to St. Luke's Hospital, and came into our hands for surgical treatment. Her condition was as extreme as could be imagined. She was having septic chills, high temperature, and excruciating pain. The abdomen was tense and distended, and so tender that she would scream at the slightest touch. Above the left groin the tissues were boggy, inflamed, and showed marked signs of pointing externally. The left side of the pelvis was full of pus. She was very prostrate and the pulse was feeble, from 130 to 140 per minute.

Any operation other than drainage was not to be thought of. She was anesthetized and vaginal incision and thorough drainage were quickly and readily made. It was then discovered, for nothing could be outlined by previous examinations, that it was a suppurating ovarian tumor. It drained out nicely, and she was much relieved. The fever subsided, pain was much lessened, and her appetite improved. Great hopes were entertained for her recovery and she doubtless would have recovered had the tumor been benign. But, notwithstanding the fact that for several weeks she took nourishment freely, she became more and more emaciated and cachectic, the eyelids puffy and the feet swollen, and the stomach finally showed signs of involvement, and in the eighth week she died of sheer asthenia.

A post-mortem sufficient to examine the pelvis only was permitted. A hard tumor shell of about the

size of the fist occupied the left side of the pelvis, adherent to all the adjacent structures. It had opened into the pelvic cavity, and was also connected with the bowel.

Sections of the tumor were taken and histological examination showed it to be a papilliferous cystadenoma with carcinomatous degeneration. The symptoms of the last few weeks indicated metastasis to the stomach, liver, and various digestive glands; but these organs were not examined. This tumor doubtless existed in easily palpable size before the patient's sickness a year ago last Christmas. That was probably the beginning of the inflammatory and suppurative stage. When the malignant degeneration began, we cannot tell, but probably previously to these acute symptoms.

A recognition of this growth at the beginning of those manifestations, and an immediate operation would doubtless have saved to her family and friends a most estimable woman. She was a sacrifice to superstition and ignorance.

THE IDENTIFICATION OF HUMAN BLOOD.

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Among many of the questions, particularly those of a medicolegal nature, that the chemist is called upon to answer is that of the identification of human blood. Whether a certain liquid or stain is *blood* has been frequently answered in testimony, but when we are called upon to reply to the question Is it or is it not human blood? our responses heretofore have always been vague, thus surrounding a valuable point in evidence with doubt and uncertainty.

Blood is a viscid liquid that circulates in the blood vessels of animals. Its reaction is always alkaline, no matter from what source the blood has been obtained. This alkalinity, however, sensibly diminishes after blood has been drawn some time out of a blood vessel. Normal blood, as it circulates in the blood vessels, consists of plasma and corpuscles; the plasma is a liquid holding divers salts and fibrin in solution. Blood outside its circulatory apparatus is an entirely different substance; briefly, it consists of a solid portion, the clot, which is composed of coagulated fibrin and the blood globules, and a liquid portion containing salts and certain other bodies of which we will speak later on.

An analysis of the blood in its entirety reveals many interesting substances, but nothing upon which the identity of the blood can be affirmed. The present means for the detection of blood are based almost exclusively upon certain properties of the blood globules or reactions of bodies contained in, or de-

rived from, these cells; the plasma and the serum are rarely called upon to furnish evidence.

The blood of almost all animals is opaque and of a red color. The opacity of blood is due to the globules; these latter bodies compose about one half the total amount of the blood. The red color of blood is occasioned by a substance called *hæmoglobin* which usually resides in the blood corpuscle. For the detection of blood based upon reactions offered by the blood corpuscles, three properties must be interrogated, viz., form, size, and constituents of the globule. It is of course understood, when speaking of blood corpuscles, that we mean the red globules only, for a consideration of the different blood globules as revealed to us by modern histology would be entirely beyond the scope of this paper. In general, the blood of mammals can be easily distinguished from that of fowls, fish, and reptiles, provided the specimen is fresh, by the form of the globule and the presence or absence of a nucleus. The blood globule of mammals is round and non-nucleated, while the corpuscle of other animal species is oval and nucleated. To these rules there are, however, a few exceptions; among the mammals there are two species, the camel and the llama, that possess oval globules, but aside from this the blood of these animals is identical with that of man. Upon the other hand, the blood globule of the lamprey eel is round, and in size of about the same diameter as that of the human corpuscle; it is distinguished, however, by a distinct nucleus. As I have just said, these descriptions refer to fresh blood. In blood that has stood for some time or in an old blood stain, the corpuscle is quite different; it is shrunk in volume and its contours are crenated or serrated. Upon treating dried blood with physiological salt solution the globules again assume their round shape, but they never regain their original size; oval globules become round, but can easily be distinguished by their nucleus. Perhaps it might be of interest to note that blood spots left by fleas and bed bugs contain neither fibrin nor corpuscles, though sufficient *hæmoglobin* is present to give a spectrum. A normal human red blood globule is a round and perfectly homogeneous body, weighing about eight hundredths of a milligramme; it presents neither granules nor a nucleus. The human blood corpuscle has never revealed the presence of an investing membrane, but its elasticity and the persistency with which it retains its biconcavity point strongly to such an envelope. The average diameter of a human blood corpuscle is variously given by authorities as ranging from 1/2000 to 1/4000 of an inch, with an average of 1/3500. An eminent and distinguished chemist of this city once undertook a very careful and painstaking research upon the diameter of blood corpuscles, by making measurements of the blood

globules of several different species of animals. These measurements were made from fresh specimens and also from globules that had undergone prolonged drying. From a series of observations this scientist drew the conclusion that the average diameter of a human red blood corpuscle was $1/3350$ of an inch, and based upon this result a scheme for the identification of human blood, but was conservative enough in concluding his thesis to add this clause: "Although it is not possible, as the result of a microscopical examination, to affirm positively that a stain contains human blood, it is quite possible to differentiate it to such an extent that by a process of elimination other sources are practically excluded." Upon the other hand, a large majority of histologists, biologists, pathologists, and physiologists deny the possibility of expressing even an opinion upon the source of a specimen of blood, when that opinion is founded upon a measurement of the diameter of its corpuscles. Furthermore, since the study of the blood has occupied the attention of so many experimenters, who have collected a mass of data upon the subject of the form, structure, and functions of blood globules, taken from almost every species of animal, man included, and have recorded such wide variations in form and size of the blood globule in the blood of the same species, a system of identification, having the diameter of the corpuscle as its starting point, certainly falls to the ground. As directly bearing upon human blood, it has been observed that the corpuscle varies in diameter and form in many diseases, and that, in a muscularly weak human subject, the average diameter of the blood globule is much larger than in one that is active. Finally, inasmuch as many of us are not expert microscopists—at least not expert enough to perform the delicate manipulation of measuring a large number of blood globules, so as to arrive at results even that would only be one point in a "process of elimination," and could not be considered evidence, let alone proof—I am forced to the opinion that we are fully justified in abandoning the measurement of the diameter of certain blood corpuscles as a means for the exclusion or identification of human blood.

We now come to the contents of the blood corpuscle. Besides containing certain salts and several organic bodies, they consist chiefly of a substance called globulin; nine tenths of this globulin is made up of hæmoglobin, a body that is of the greatest importance in leading to the detection of blood. Hæmoglobin is the substance which gives the red color to blood; it is present in the blood of all vertebrata, with the exception of two species of fish, and in many of the invertebrata. As I have just stated, hæmoglobin usually resides in the red globules, but among many of the lower animals it is not inclosed

in the corpuscle, but circulates free in the plasma. The physiological function of hæmoglobin is to carry oxygen, because from a chemical point of view it readily unites with that element to form oxyhæmoglobin. Owing to the great affinity that hæmoglobin has for oxygen, the resulting oxyhæmoglobin has been more thoroughly investigated than the former body; the results, however, apply equally to both substances, except in this one relation toward oxygen. One of the principal constituents of hæmoglobin is a large percentage of iron. This element, which is an essential ingredient of hæmoglobin in the blood of the vertebrata, is supplanted by copper in many of the lower animals. In this case, the copper performs the function of carrying oxygen, for, like the element iron, it is organically combined and undergoes oxidation and reduction. This substitution of copper for iron in the blood corpuscles seems to have no effect upon the spectrum, for the spectra of these different bloods are quite similar. So far as the decomposition products of hæmoglobin and their different spectra are concerned, we can dismiss them, as being contributors towards the identification of blood as blood, but as giving no direct information as to the origin of the blood. One substance, however, a derivative of oxyhæmoglobin, has been studied particularly with the view of establishing the presence of blood. This is hæmatin, a very stable body, rarely crystalline, and capable of being extracted from old blood stains. Hæmatin is not decomposed under a temperature of 180° C. and is not destroyed by caustic alkalis at the boiling point or by nitric or hydrochloric acid in the cold state. Hæmin crystals can be obtained from hæmatin by treating this latter substance with common salt and glacial acetic acid. These reagents, when applied to a suspected specimen of blood and giving as a result the hæmin crystals, point directly to the presence of blood. This is indeed valuable information, for owing to the resistance that hæmatin offers toward destructive agents, putrefying processes included, there is hope of obtaining these crystals from very old blood stains, and, too, from blood that may have fallen upon almost any sort of material. I can call to mind having obtained hæmin crystals from a piece of cotton cloth that had been stained with blood almost two years before. There is still another test for blood, which consists in the production of a blue color when tincture of guaiacum is mixed with the suspected substance and this mixture is treated with a solution of hydrogen peroxide. This reaction, though open to many criticisms, yet adds weight to the other tests.

Therefore, to sum up, we have at hand four reactions that offer themselves as a means for the detection of blood. 1. The microscopical examination of the corpuscle, whereby we are able to distinguish

the blood of mammals from that of other animal species, but cannot identify the specimen as human blood. 2. The production of hæmin crystals, by which we can identify blood as blood, without any indication whatsoever of its source. 3. The spectroscopical examination of a solution of blood or its derivatives. This test is exceedingly important from a medicolegal standpoint, for by this means we are able, with the aid of certain reagents, to distinguish blood from stains made by fruit, paint, dye stuffs, iron rust, etc. 4. The guaiacum test, a reaction so untrustworthy that we are not able to tell the difference between blood and milk, yet a valuable test when taken into account with the results obtained from the three others. By the foregoing means we can say that a certain liquid or stain is blood, or even that it is or is not the blood of a mammal, but from this point our evidence becomes obscure and we pass into uncertainty and conjecture.

Thanks to the light that modern research has shed upon this question, we can now start from results that have demonstrated the presence of the blood of a mammal, and go a step further and say, this is or this is not human blood, thereby excluding all other animal species, and thus completing many histories that would otherwise remain unwritten. Investigation in biological chemistry has opened an entirely new field for observation. Here are new bodies and new reagents that can be applied for their detection. It is in this department that we find the means for identification of human blood.

If an animal is vaccinated by injecting under its skin, into its veins, or into the peritoneal cavity a microbial toxine or any other similar body, like abrine, ricine, etc.; or if the inoculation is made with the bodies of microbes that have been disembarassed of their toxine; or if, instead of these measures, the injection consists of animal cells, for example, blood corpuscles; then the organism of the vaccinated animal will react, and there will be produced and found, according to the character of the substance injected, in the serum of that animal an antitoxine, a hæmolysine, a cytotoxine, a precipitin, an agglutinin, a fixator, etc.; all these bodies are, however, only different members of a class, the antibodies. In this list there is one substance that is of particular interest to us, as having a major importance in regard to the subject of which we are treating—this body is the precipitin. The reaction this substance produces was first observed by Tschistovitch. Later on, Bordet and Gengou widened the observation and applied it to the detection of human blood. A history of the experiments and observations that have led up to this valuable discovery and of their important applications would be entirely beyond the compass of this communication; but, in order to make myself clear it will be necessary to give a few details.

It was observed by several of the early experimenters upon this question that the serum of a rabbit that had received several injections of the serum of the eel caused a precipitate when mixed *in vitro* with eel serum, whereas the serum of a rabbit that had not been vaccinated with eel serum gave no precipitate when added to eel serum. It was also noticed that when the normal serum of a horse was mixed with normal rabbit serum, no cloudiness or precipitate was formed, but when a rabbit had been vaccinated with horse blood, the serum of the rabbit thus treated gave an immediate precipitate when mixed with normal serum of the horse. Rabbits, when injected with the blood of chickens, furnished a serum that gave a precipitate with chicken serum. Uhlenhuth injected into the peritoneal cavity of a rabbit 10 c.c. of defibrinated ox blood. After five or six injections he obtained a serum from this rabbit that remained clear when serum from the horse, donkey, pigeon, turkey, goose, chicken, dog, cat, deer, hare, rabbit, pig, sheep, guinea-pig, mouse, rat, and man, was added; but a few drops of a one-per-cent. solution of ox serum caused an immediate precipitate. The importance of this reaction came into view when rabbits were vaccinated with human blood, for it was found that the serum of these animals would only give a precipitate when mixed with human serum. The blood of forty-six different animals, which number includes a majority of the commoner animal species, has failed to give this reaction when the serum is derived from an animal vaccinated with human blood. Therefore, this reagent is selective and only reacts with the serum of the animal that furnishes the blood for vaccination. Now, since the scope of these observations has been extended by experimenters over such a large variety of animal species, the following law has been deduced: The normal serum of one animal, when mixed with the normal serum of another animal of a different species, usually remains clear and transparent, but when the serum of an animal that has been vaccinated with the blood of an animal of a different species, is mixed together with the normal serum of an animal of that species, there will result a cloudiness, and, later on, a more or less heavy precipitate. This precipitate can only form in the serum of the species of animal that supplied the blood for vaccination when mixed with the serum of the animal that was injected. It is very easy to see how this law can be applied to a method for the identification of human blood. Directions for making a serum that contains the special precipitin for human blood are extremely simple. The most convenient animal is the rabbit. From four to six injections of 10 c.c. each of defibrinated human blood should be made into the peritoneal cavity of the animal, at intervals of one week or ten days between injections.

The serum of the prepared animal must be drawn off a week or ten days after the last injection. This serum can be kept in sealed tubes or closely stopped bottles for a long time, or a few drops of chloroform may be added as a preservative. By prolonging the vaccination process, that is to say, by giving twenty or even thirty injections of 10 c.c of blood at intervals of three or four days, a serum can be obtained that is sensitive to a dilution of one part of blood to 50,000 of salt solution. This exceeding delicacy is, however, rarely necessary, and the former process of vaccination is the one recommended.

Now with a little physiological salt solution wash the suspected spot; centrifuge this solution in order to free it from blood globules and other débris, then add a few drops of the serum of the rabbit that has been vaccinated with human blood and set aside in a warm place. The formation of a precipitate after twenty-four hours indicates the presence of human blood. To make the assurance doubly sure, add a few drops of ammonia to the precipitate, and should it dissolve, no further doubt can be entertained. This reaction can be applied to the identification of human blood that has fallen upon wood, metals, or cloth, and even after months of drying. Nuttall has obtained positive reactions from human blood that had become putrid and from human blood serum dried for two months on filter paper, glass, wood, etc.; also from blood that had been preserved by the addition of chloroform.

Finally, in order to detect blood, we must resort to the four cardinal tests, namely, the production of hæmin crystals, the spectrum of hæmoglobin, the guaiacum test, and the microscopical examination of the blood corpuscles. But, to identify this blood as human blood, it must excite the formation of a precipitate when mixed with the serum of an animal that has been vaccinated with human blood.

Before terminating this communication, I should like to cite a few extracts from two letters that have a direct bearing upon this reaction. In January of this year there was sent to our laboratory a piece of common Manila paper stained with what was supposed to be blood. The request that accompanied this specimen was that the stain be identified as to whether it was human blood. The circumstances of the case, as we shall see in a moment, related to the search for the body of a hunter lost in the Adirondack Mountains. One of the searchers found some blood-stained snow and gathered it up on the piece of paper sent to us for identification. After an exhaustive examination, we satisfied ourselves that the stain was human blood and reported accordingly. The following extract will make the matter clearer:

"The report sent by you is such a surprise to me

that I feel I must consult you again. The case is the loss of my son in the forest. One of the fifty-five men who were searching for him kicked up snow with blood on it, which was put in the paper which was sent to you for analysis, but I expected it would prove to be deer blood. If it is human blood it is a direct proof that my boy was shot. . . . We have had searching parties organized three times and made efforts to find the boy, but the snow hinders. . . . We had thought perhaps he slipped on the ice at the crossing and was now under the ice in the water, but if the blood is human blood, then we know that his body is on land. Do not think this a sign of a lack of confidence in your ability to properly report on the matter, but I am so anxious not to have any error, as it means so much to me." The date of this letter is January 22, 1902. Another letter dated June 27, 1902, gives the sequel.

"On the supposition that the blood, as reported, was human blood and almost of a certainty proved that my son was injured, we organized a party of forty-five men and searched the territory very thoroughly in April, after the snow was gone, but nothing could be found of the body. We came home and his wife and I increased the reward to \$300.00 for the recovery of the body. With the reward in view, two woodsmen went to searching, and on June 2nd his body was found some little distance from where the blood was found that was sent to you for analysis. We found no positive evidence of his having been shot; his neck and upper part of chest was eaten out by worms, so that it was impossible to tell if he had been shot there, but the appearances and circumstances all lead me to think he was mistaken for a deer and shot."

Comment upon the circumstances detailed in the foregoing quotations is quite unnecessary, except perhaps to state that had we been requested to determine the kind of blood that furnished this stain, without any particular animal being named, we should very naturally have declined the task of groping around through the grand division of mammalia, in order to find a particular precipitin that would react with the blood under examination.

Arrested for Failure to Report Smallpox Case.

—A Brooklyn physician has been arrested on the charge of returning a false death certificate in the case of a child who died of smallpox. The death certificate stated that the child had died of an intestinal disorder. The day after the interment the health authorities learned of the presence of several cases of smallpox in the house in which the child had died, and after an investigation, the body was exhumed and the fact ascertained that the death was due to smallpox and not to an intestinal disorder as stated.

A CASE OF "BLACK WATER" FEVER FROM THE PHILIPPINES.

By FREDERICK M. HARTSOCK, M. D.,

FIRST LIEUTENANT AND ASSISTANT SURGEON, U. S. ARMY.

The following case is of interest because of the comparative rarity of the disease in these islands.

The condition is described as found in southern latitudes of temperate climates, but it is questionable if the "bilious malarial fever," well known in our southern states, is not confounded with "black water" fever, the hæmoglobinuric fever of West Africa being an entirely different disease in its pathology and certainly in its prognosis.

The ordinary "bilious remittent," dependent on the æstivoautumnal parasite, never manifests the urinary symptoms common to the "black water" fever; at least the types met with in these islands fail to show the typical urine, and in recent work by Craig there is no mention made of this.

In an article in the *Journal of Tropical Medicine* for February 15, 1902, Cook makes the distinction very clear, the two diseases being seen side by side with great frequency in the great lake region of central Africa.

The history of the case is as follows:

G. H., soldier, aged twenty-two years. White. Company D, 11th Infantry. Admitted to Cebu, Cebu, base hospital, May 27, 1902. Complained of having had a slight chill the night before and has been feeling badly for over a week. Residence in Philippines twenty-seven months, no other foreign service. For this period has been in good health with the exception of "chills and fever" three or four times, about one year ago, for which he took quinine with prompt relief and has been free from malaria since.

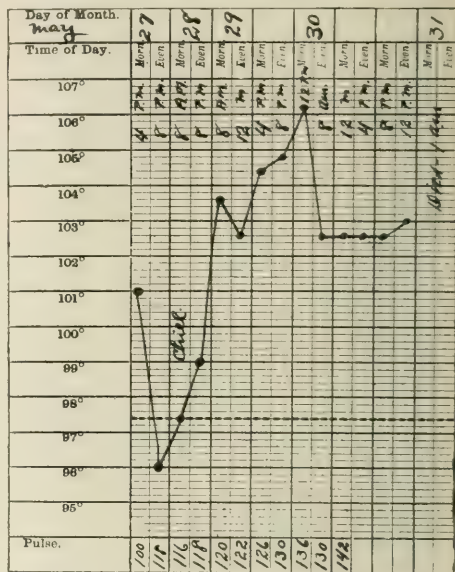
Examination of the patient shows: The patient is a fairly well nourished, light haired youth of robust frame. General condition good. Temperature 102° F. Pulse 100. Does not appear very sick. Digestive system in good shape, and bowels slightly constipated. Stools are formed and contain no amœbæ dysentericæ. Liver slightly tender on pressure but not enlarged. Spleen enlarged to costal border and tender on pressure. Examination of urine, negative. Blood contains one small motile intracorporeal hyaline body, in appearance like the æstivo-autumnal parasite unpigmented. No leucocytosis, no pigment in the blood, but the red cells are rather large and pale. No other objective or subjective symptoms.

On May 27th, at 8 a. m., he began to complain of pain in the loins and chilliness; as seen by the chart the temperature rose steadily during the day. The blood failed to reveal the presence of parasites and there was no leucocytosis.

May 29th.—The patient very ill. At 8 a. m., temperature 104.6° F. He is in a profuse perspiration. Skin and scleræ have assumed a decided icteric tint. He complains constantly of headache and pain in the loins and is continually nauseated and restless. A loud hæmic murmur heard over whole heart area.

The urine is dark port wine color, typical "black water" urine, almost solid with albumin; contains hæmoglobin, no corpuscles or casts. No bile pigment.

May 30th.—By 12 o'clock, the temperature had dropped to 103.6° F., but the general symptoms were much worse. The spleen was felt three fingers' breadth below the costal border and was very tender. The amount of urine passed in twenty-four hours



was thirty-six ounces, and it was of the same character as stated before. He vomited constantly and was slightly delirious toward evening. Blood examination for parasites at 9 and 12 a. m. and at 4 p. m., was negative in result. After 8 p. m. the same day the patient fell into a comatose state. At this time the vomiting had ceased and the icterus was very marked. Death took place at 1 o'clock a. m.

Treatment.—Calomel, grains iii., administered upon admission, resulted in five normal stools. The following day one gramme of quinine was administered in acid solution broken doses. May 29th.—Quinine 0.325, in solution, every four hours. May 30th.—Quinine hydrochloride 0.325, and strychnine 1-60 of a grain every two hours hypodermically.

I add briefly a few notes of autopsy nine hours after death.

Body deeply jaundiced. Rigor mortis marked. Small intestines deeply congested and full; large, slightly so and empty. Liver one pound and a half over weight; dark, soft, deeply congested. Gall bladder normal, but contains about one ounce of concretions. Spleen four times the normal size, very soft, of a deep chocolate color. The pericardium contained two ounces of hæmoglobin-stained serum. Heart pale, otherwise normal apparently. Kidneys, swollen, deeply congested; capsule strips easily. Brain, intense venous congestion of the pial vessels.

Blood from spleen, liver, mesentric veins, brain, and kidneys failed to reveal the presence of malarial parasites. Cultures from the same gave negative results.

The diagnosis in the case was made on the general symptoms, rapidly developing icterus, absence of bile pigment in the urine, and hæmoglobinuria.

As stated, no parasites were found after the first day; Manson especially states that they are generally absent in this type of fever. The absence may be accounted for by the administration of quinine on May 28th, but it is common here in æstivoautumnal fever to find parasites after institution of the quinine treatment.

As to whether quinine is the exciting cause of many cases of true hæmoglobinuric fever, it is agreed by tropical practitioners that the spontaneous malarial hæmoglobinuria, the quinine hæmoglobinuria, and "black water" hæmoglobinuria, have a different ætiology.

It is specially interesting to note in this case, as agreeing with the statements of Manson and Bigami, that quinine had no influence on this disease.

CEBU, CEBU, PHILIPPINE ISLANDS.

THE LOGICAL STATUS OF VACCINATION: AND THE EXCLUSION OF UNVACCINATED CHILDREN FROM THE PUBLIC SCHOOLS.

By ALFRED W. HERZOG, Ph. B., A. M., M. D.,
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It is not the purpose of this paper to argue, either for or against the merits of vaccination, but to consider the logic of the State law excluding children from the common schools until they are vaccinated. For this purpose we will assume that the claims of the vaccinationists are well founded and that vaccination is a protection against smallpox.

Let us then consider that in a certain school room no children are admitted who are not vaccinated; smallpox is thereby excluded, is it not?

If you will grant me an affirmative answer to this question, then let me go a little further and ask you what would happen if children not vaccinated should enter this same schoolroom and mix with the children who have all been vaccinated?

If none of the children, vaccinated or unvaccinated, have been exposed to the smallpox infection, of course nothing would happen. Let us presume, however, that all the children, both vaccinated and unvaccinated, have been exposed to the smallpox infection without knowing it, as, for example, in the street cars or at the butcher's or baker's—and are carrying the infection with them in their clothes? What then will or might happen?

According to the views of the vaccinationists, surely nothing at all can happen to the children who have been vaccinated, for, although they may carry the germs of smallpox in their clothing, and may transfer those germs to others, and in this way cause smallpox in unvaccinated persons, these germs surely are innocuous to those vaccinated and thus protected.

Again, let us consider that the unvaccinated children have also been exposed to the smallpox infection, what will the consequence be?

They surely can do no harm to the vaccinated children—for have not those been protected against smallpox? The only harm they can, therefore, do to anybody, is to others, like themselves, unvaccinated.

So, I think it must be admitted that the exclusion of the unvaccinated children from the public schools is either in the highest degree illogical, or must be considered as an admission of the insufficiency of vaccination as a safeguard against the smallpox infection.

154 EAST THIRTIETH STREET.

Therapeutical Notes.

Injections for Gonorrhœa.—Professor Gilbert (*Journal de médecine interne*, August 1st) gives the following formulæ:

(1) Lead and bismuth:

R Solution of lead subacetate. . . 1 gramme (15 minims)
Bismuth subnitrate. 2 grammes (30 grains)
Distilled water. 100 grammes (3 ounces)
M. ft. injectio.

(2) Zinc and bismuth:

R Zinc sulphate. } of each from 0.50 to 1 gramme
Bismuth subnitrate. } (7½ to 15 grains)
Distilled water. 100 grammes (3 ounces)
M. ft. injectio.

(3) Zinc and lead:

R Zinc sulphate. } of each 0.50 gramme
Crystallized lead acetate. } (7½ grains)
Distilled water. 100 grammes (3 ounces)
M. ft. injectio.

(4) Compound copper injection:

R Aluminum sulphate. }
Zinc sulphate. } of each 0.50 gramme (7½ grains)
Copper sulphate. }
Ammonium chloride } of each 0.10 gramme (1½ grain)
Potassium nitrate. }
Distilled water. 100 grammes (3 ounces)
M. ft. injectio.

(5) The "three sulphates" injection:

R Zinc sulphate.
Copper sulphate. } of each 0.25 gramme (3¾ grains)
Iron sulphate. }
Mucilage. 10 grammes (150 minims)
Distilled water. 90 grammes (to 3 ounces)
M. ft. injectio.

The Water of Pagliari is a preparation much employed in France as a hæmostatic in hæmorrhages accessible from without, as in the skin, the mucous membranes, nose, mouth, etc. Professor Gilbert (*Journal de médecine interne*, August 1st) gives the formula as follows:

R	Crystallized alum.....	10 grammes (150 grains)
	Gum benzoïn.....	5 grammes (75 grains)
	Distilled water.....	100 grammes (3 ounces)
M.		

To Administer Castor Oil.—A "Medical Philosopher" gave the following "tip" in the *Midland Medical Miscellany* for May, 1882. Ancient as it is, it is not very well known, and as the writer has seen it successfully employed, it may be worth resuscitating. "Mix a slice or two of well-browned toast or pie crust with some strong meat extract or gravy; add pepper, salt, and herbs, and heat the whole so as to produce an aromatic and flavorful dish. Then mingle the oleum ricini therewith, and administer the combination at an appetent moment. Do not reveal its medicinal character; but merely describe it as a 'meal' that the doctor has ordered. By the adoption of this plan, a patient may be induced greedily to devour castor oil, and to declare through the mouthfuls that castor oil is one of those disgusting things that he never could and never will take."

Cactus Grandiflorus in Circulatory Disorders.—Thaddeus von Zelenski (*Klinische therapeutische Wochenschrift*, June; *Rivista critica di clinica medica*, July 12th) has studied the action of this drug in a large number of cases in which digitalis was not suitable, and his conclusions are very favorable. The dose in which the fluid extract may be used, Zelenski finds to be even greater than that recommended by others. It is necessary to give at least thirty drops for a dose, three times daily, to obtain its effects. In this manner, and even by exceeding this dose, the author has observed that, even if phenomena of intolerance appear, the appetite remains intact, there is no nausea or vomiting, while, if the administration of the remedy is protracted through many days in succession, no cumulative result appears.

The frequency of the pulse does not undergo any noteworthy modification; very often there is a slight acceleration accompanied by greater fulness of the pulse; so far no action on the respiration has been noticed. No noxious action on the kidneys has been observed; on the contrary, in all cases of heart trouble and of pleural exudation the amount of the urine in twenty-four hours has been markedly augmented, but it is difficult to decide whether this result is due to a true diuretic action, or to the improved functional action of the heart.

The best results have been obtained in disease of the aortic valves, during the period of compensation. The author confirms Myer and Wilcox's previously recorded observations on this point. Dyspnoea, arrhythmia, oedema of the extremities and ascites, which nearly all their patients present, disappear speedily under the use of fluid extract of cactus; and at the same time the dimensions of the heart undergo a noteworthy diminution and marked improvement in all respects is evidenced.

In mitral troubles the benefits are less clear, while dyspnoea is lessened and the quantity of urine increased, the surprising results of digitalis are not attained; but cactus may be advantageously employed as a substitute for digitalis during intermissions in its use. In pleural exudations accompanied by cardiac debility, cactus, by improving the functions of the circulatory centre and favoring diuresis, appears clearly indicated, and for the same reasons it is of service in infectious diseases in which the heart is more or less compromised.

Potassium permanganate and Thymol Lotion.

—Professor Gilbert (*Journal de médecine interne*, August 1st) recommends the association of thymol with potassium permanganate in antiseptic lotions, especially when used as local applications in cases of viper bite. He gives the following formula:

R	Potassium permanganate....	10 grammes (150 grains)
	Thymol.....	5 grammes (75 grains)
	Distilled water.....	1 litre (34 ounces)
M.		

Alimentary Treatment of Intractable Vomiting of Pregnancy.

—Dr. Gros (*Province médicale; Revue médicale du Normandie*, August 10th) adds to his previous communications the case of a woman in the third month of pregnancy, who suffered from incessant vomitings which nothing seemed to allay. After one day in which she vomited more than twenty times, alimentation was first reduced to half, and then replaced by five rectal nutrient enemata composed as follows:

R	Bouillon.....	150 grammes (4½ ounces)
	Yolk of eggs.....	no. 4
	Sodium chloride.....	1 gramme (15 grains)
	Laudanum.....	4 drops
M.	ft. enema.	

Vomiting continuing the next day, mouth feeding was entirely suspended. The vomiting then disappeared completely, and on the fourth day the enemata were discontinued, while progressive mouth feeding with small quantities of milk was returned to. The vomiting did not reappear. Mixed feeding does not give the best results, mouth feeding must be entirely suppressed. Patients have been nourished entirely by the rectum for six, seven, and even fourteen days, without notable loss of weight or strength.

Olive Oil in the Treatment of Lead Colic.

—M. Duplant (*Presse médicale*, August 20th) in a recent communication to the Medical Society of Lyons reported a case showing the value of olive oil in lead colic. A man, forty-five years of age, had suffered from violent colics for six days, and no measures afforded relief; constipation particularly resisting all efforts to overcome it. When M. Duplant saw the patient he found him in the knee-chest position, crying out constantly and vomiting incessantly. Ice, chloroform water, and other measures were without effect. M. Duplant caused the patient to drink olive oil in quarter tumblerfuls. He vomited only once afterward, and two hours after the commencement of the treatment was greatly relieved. In the evening he had one stool. In the night a return of the pain was rapidly relieved by the oil.

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BELLEVUE HOSPITAL.

We do not recall having seen in print before quite such a vivid portrayal of the utter unfitness of the Bellevue buildings for their purposes as is given in the report of the Trustees of Bellevue and Allied Hospitals for the five months ending on June 30th, for advance proof sheets of which we are indebted to the president of the board, Dr. John Winters Brannan. Few old residents of the borough of Manhattan need to be told of the grotesque inadequacy of these wretched old buildings, but the hospital's fame as a teaching institution and its excellent record in relieving the sick and injured poor have doubtless given many members of the medical profession throughout the country the impression that its physicians and surgeons are provided with facilities that compare favorably with those of other great hospitals. We need only mention some of the salient facts brought out in the report to disabuse our readers of any such conception, and thereby lead them to a deeper realization of the worth of the services rendered by the medical staff under difficulties, we venture to say, that are unmatched, nay, unapproached, in any other hospital of a renown at all commensurate with that of Bellevue.

The main building, which contains 718 beds, was used as an almshouse from the time of its erection, in 1817, until the year 1846, since which year it has served as the chief public hospital of New York. It is overcrowded, ill ventilated, badly lighted, unsafe as regards fire, destitute of decent provisions for privacy, and probably even pathogenic, besides being revolting from the propinquity of its antiquated water closets, corroded in their metallic parts and sodden with accumulated filth in their wood work, to the patients and their food. Few indeed, we fancy,

are the infectious diseases that a Bellevue fly could not convey.

The present governing board was not organized till last February, and during the brief period of its authority it has succeeded, although having at its disposal far too little money, in accomplishing some measure of relief from these intolerable conditions, but for the most part it has been compelled to confine itself to halfway expedients. It has achieved decided reforms in the conduct of the pavilion for persons alleged to be insane, it has much diminished the danger of a disastrous fire, it has improved the nursing service, and it has alleviated the lot of the employees. It has gone as far as it can, we should say, under its present limitations. What is really needed, as the report affirms, is the total demolition of these ramshackle old buildings, which should be replaced with modern structures like those of the principal private hospitals, such as the New York, the Roosevelt, St. Luke's, and the Presbyterian. It would be far better for the patients to be cared for in tents pending the construction of proper buildings than to be kept under the present conditions. The site is a good one, and perhaps the extent of land available will answer, but the utterly abominable buildings should be destroyed. The board has shown its devotion to the interests of the institutions committed to its care, it has proved its worthiness to be entrusted with hospitals appropriate to the wealth and progressiveness of a great city, and it may be looked to to manage them wisely and to the greater welfare of the people.

THE DAY OF FEWER SCHOOLS.

The *Detroit Journal*, having chronicled the recent decision of the faculty of the Cincinnati College of Medicine to close the institution on account of insufficient patronage, says: "A common sense view of the situation must make it clear that the day of the many medical colleges has set; that the day of the few choice ones has dawned." There can be no doubt of the truth of this remark, and, far from being regrettable, the state of things denoted by it is matter for congratulation. The small colleges were doomed when there were first enacted by a State legislature laws separating the licensing power from the authority to confer the degree of doctor of medicine and requiring an entrance examination of a character determined by the State before a per-

son could engage in the regular study of medicine. They would ultimately have been doomed without such legislation, for medical teaching, with its ever growing demand for more and more costly appliances, would before long have driven the unendowed schools to the wall. Young men contemplating a medical career would not have been slow to see that it was folly to handicap themselves with defects in special education or with a preparatory education so defective as to hamper them in their technical training.

With very few exceptions, the American medical schools of twenty-five years ago were owned and managed by the members of the teaching faculty, men who, not being so fortunate as to be already professors in a prosperous school, yet deeming themselves fitted to shine in didactic if not in clinical lecturing, and bent on hewing their way to local fame and consequent success in practice by impressing students with their abilities, banded themselves together, obtained a charter, and launched their new school. Such a school commonly had no backing, aside from the contributions of its professors. Consequently it could not provide itself with the machinery absolutely necessary for the adequate teaching of medicine, machinery that was constantly demanded in greater and greater diversity and abundance. But all that was of little consequence so long as competing schools were under the same disadvantage. When, however, one school was endowed handsomely, either by direct gifts of money or by making itself an integral part of a well established university, all the other schools in the area of country tributary to it found themselves hopelessly out-matched, and the knowing ones in their faculties prepared to cut loose from them, unless indeed they saw an opportunity to remedy the disparity.

It must not be understood by the rising generation that such schools as we have depicted were altogether without merit, for some of the teaching done in them was quite on a par with the best that legislation and endowments have ever been able to provide, but it was some of it only, so that the school as a whole was generally incapable of turning out thoroughly trained graduates. Such schools served their purpose, and in many instances they served it as well as could be expected under the conditions then prevailing. A new and sparsely settled country had to be provided with physicians, and those who were not

up to the present standards observed in the great centres of population served the people, on the whole, very creditably; more than that, in not a few cases they contributed powerfully to the advancement of medicine, not by virtue of what they had been taught, but in consequence of their innate qualities, as the history of medical progress in the United States amply shows.

THE SHAPE OF THE TUBERCULOUS CHEST.

In the July number of the *Fraternal Medical Examiner*, Dr. Woods Hutchinson returns to this subject, his first communication on which was made to the British Medical Association in 1899, and published a few months later in the *British Medical Journal*. Dr. Hutchinson is satisfied—and the data he gives in support of his opinion are of great weight—that the tuberculous chest, “instead of being, as we have from time immemorial been assured by all authorities, both lay and professional, flat, is on the contrary, round—that the anteroposterior diameter, instead of being diminished relatively to the transverse, is actually increased.”

Dr. Hutchinson became interested in this subject six years ago while studying the differences between the human and quadrupedal chest. Examining tuberculous chests, he found to his surprise that the anteroposterior diameter was, in all cases examined, proportionally greater in regard to the transverse diameter than in normal cases. He formulated an index on the plan used in cephalic measurements, by taking the transverse diameter as equal to 100, and measuring the anteroposterior in hundredths of it. Fifty measurements in normal subjects gave him a fairly constant ratio of anteroposterior to transverse as 70 to 100. Dr. Seaver's investigations in the Yale gymnasium, in 2,300 cases, gave almost precisely the same. On the other hand, the average ratio in forty tuberculous cases was as $79\frac{1}{2}$ to 100.

Dr. Hutchinson has since strengthened his position by the addition of upwards of 120 fresh observations, all of which bear out his conclusion, namely, that the chest index is about ten per cent. greater in tuberculous chests than in normal ones, notwithstanding the universal opinion to the contrary. Dr. Hutchinson considers, since investigation shows that the round chest is the normal in infant and child life, that this chest in tuberculosis is “a persistent immature chest.” The “flat chest of tuberculosis” is based

on an optical illusion. "The flat-chested individual," says Dr. Hutchinson, "is almost invariably round-shouldered; and if you will simply take the trouble to put your flat-chested child or consumptive upon a low stool, place your knee in the middle of his back, a hand on each shoulder, and pull the shoulders back into something like their normal condition, you will at once see, on looking down the front of his chest, that the actual shape of the rib cage is rounded and barrel-like." The condition of the shoulders is due to the shape of the chest. The practical result of these considerations is that Dr. Hutchinson has "come to regard the presence, in suspicious cases of persons over eighteen years of age, of a chest index of 76 or higher as at least strong presumptive evidence of either the existence of pulmonary tuberculosis or a strong predisposition thereto." It is, therefore, of great value as an aid to early diagnosis, and we can endorse the author's suggestion "that the taking of the chest index should be made a routine part of the physical examination of school children and students." Further, a therapeutic measure is obvious in the vigorous exercise of the arm and shoulder group of muscles, to which has been due the reversal of the thoracic axes in the evolution of man from the quadrupedal condition.

THE VACCINATION OF SCHOOL CHILDREN.

In an article that we print in this issue Dr. Alfred W. Herzog says: "I think it must be admitted that the exclusion of the unvaccinated children from the public schools is either in the highest degree illogical, or must be considered as an admission of the insufficiency of vaccination as a safeguard against the smallpox infection."

Dr. Herzog, it seems to us, entirely misses the point. The vaccinated children are, it is true, protected against infection by having been vaccinated. But the one unvaccinated child runs the risk of being subjected to mediate infection through the vaccinated, and as a great public teacher, the public school system is bound to set an object lesson in the proper protection of the community, even against its own ignorance. It is impossible to consider this question, as Dr. Herzog proposes to do, apart from the efficiency or inefficiency of vaccination as a preventive against smallpox. For without wishing to infringe on the liberty of the individual in the adult, the State claims the right to protect children, at any rate, against the ignorance, wilful or otherwise, of their natural guardians, just as it would protect them against danger to life from neglect and starvation; and the admission of unvaccinated children would certainly fail in this direction. We can-

not eliminate, in social communities *all* avenues of infection, as by things that are handled by the multitude, or by personal contact in public places; but that does not obviate the duty of closing every avenue that can be closed.

The immense value of vaccination has been so repeatedly and so incontrovertibly proved that no harm can result from its being questioned to any extent by those who argue honestly and intelligently. It is with entire honesty and intelligence that Dr. Herzog has approached the subject, but we think he has overlooked the point we have mentioned.

A SINGLE MICROORGANISM ANNOUNCED AS THE CAUSE OF INFANTILE DIARRHEAL DISEASES.

It is announced in press dispatches that two medical students, Mr. Bassett and Mr. Duval, working during the summer under the direction of Dr. William H. Welch, the eminent pathologist of the Johns Hopkins Hospital, Baltimore, have discovered a germ which they think is the one *contagium vivum* of the diarrheal diseases of infants commonly grouped under the title of "summer complaint." It is said to bear a close resemblance to the germ of the acute dysentery of adults, if it is not identical with that organism. It is further announced that Dr. Welch feels convinced that his two pupils have indeed made a most important discovery. While it is to be hoped that such is the case, we must wait for Dr. Welch's formal statement of facts before we can comment intelligently on the announcement.

THE SUPPRESSION OF STREET NOISES.

Boston is a fortunate city. It has succeeded in getting confirmed by the Superior Court a judgment holding the Elevated Railway Company responsible for abating the nuisance of noise, as well as other nuisances occasioned by such structures. No doubt the elevated railways are a great convenience, and doubtless, also, the general advantage often demands that individuals must put up with necessary and inevitable inconveniences. But is the noise—such maddening, distracting noise as we in New York endure, for instance—an inevitable inconvenience of an elevated railway? That is where monopolies do harm. In any unprotected enterprise run in open competition every incidental inconvenience as soon as recognized will at once stimulate efforts between the competitors to find a means of overcoming those inconveniences; but when a corporation is protected by an exclusive franchise, all incitement to improvement which does not directly increase the earning power of the concern is lost. The suppression of the soul-racking noises of the New York streets would be, not only an aesthetic, but a sanitary measure of incalculable value.

Obituary.

RUDOLF LUDWIG KARL VIRCHOW.

The death of Professor Virchow, which occurred in Berlin on September 5th, had for some months been not unexpected, for his vital powers had during that time been gradually failing, the initiative of the decline following close upon an injury of some severity received in a street car accident. Though it came not without warning, Virchow's decease will be none the less heavily felt wherever science is cultivated, for of all the members of the medical profession of whom persons now living can have any personal remembrance, he was beyond peradventure the foremost, whether we regard the profundity of his researches, the lucidity of his expositions, or the diversity of his achievements in science.

Virchow was born in the village of Schivelbein, in Pomerania, in the year 1821. Hardly had he received his medical degree when, as Froriep's assistant in Berlin, he entered upon pathological investigations of such brilliancy that very speedily, in 1847, he found himself so highly appreciated by his professional brethren as to be able, in conjunction with Reinhardt, to establish a new journal, the *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*. Reinhardt died in 1853, leaving Virchow to conduct the new journal alone, which he did up to the time of his death. Of late years it has been customary to speak of it as Virchow's *Archiv*. It has always occupied in our periodical literature a singularly high place in the appreciation of the medical world; a set of it is almost a library in itself. That one man should have been its editor for so many years—more than half a century—and kept it unswervingly true to the labor of achieving real progress in medicine, never misled by false ideas, however alluring, never according to the plausible weight that properly attaches only to the tried and proved, is a monument to the severity tempered with tolerance, with which Virchow rated men and their doings.

His early career was checkered by the part he played in the political disturbances of 1848. In consequence of his having proclaimed himself a Democrat, he was forced from his position in Berlin and betook himself to Würzburg, where he was

made a professor. It was not until several years later, in 1856, that he was recalled to Berlin, and even then it was only the determined interposition of various medical organizations that led to his recall. He was then made professor of pathology in the University of Berlin, and it was not long before he made himself felt in politics in spite of his previous disfavor with the government. He was one of the founders of the Progressive party, and for years he was an active participant in the deliberations of the Landtag and the Reichstag, besides contributing materially toward bringing about municipal improvements in Berlin.

Though he did not often contribute to his own journal, Virchow was a copious writer. Doubtless his most important work was *Die Cellularpathologie*, which appeared in 1858. Chance's English translation came out in 1860, and Picard's French version in 1861. The theory enunciated in this great work was the nucleus around which the substantial progress made in pathology during the second half of

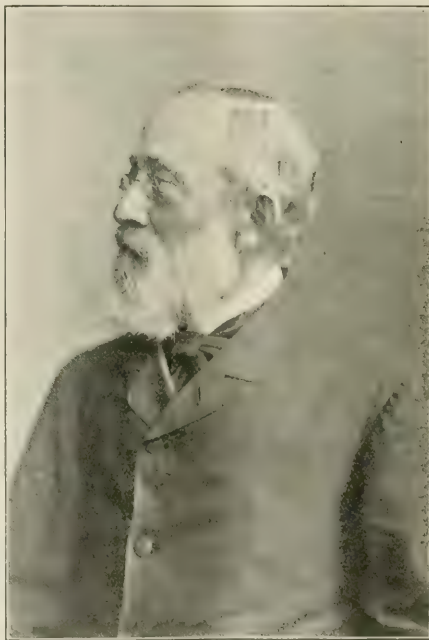
the nineteenth century crystallized. A less striking work, but one of enduring value, was his *Die krankhaften Geschwülste*, published in 1863-'67.

Virchow's industry was no less remarkable than his versatility, whether investigating leprosy for the Norwegian government, studying an epidemic of typhus in Upper Silesia, or subjecting Schliemann's discoveries to analysis, he was always at work. Probably it was the very diversity of his pursuits that preserved his intellect unimpaired to the last. He was seventy-one years old when his *Crania ethnica americana* appeared, and even later than that, in his *Archiv*, he gave a masterly exposition of his antagonism to the new spelling that, according to his view of the matter, the schoolmasters had sought to impose upon the German people.

But it was not in criticism or investigation alone that Virchow was

strong. His oral teaching, continued for so many years, gave to many a man the mental cast that enabled him to work at his best.

The master works through his pupils as well as in his own acts, and Virchow had been the master of a multitude of those who afterward contributed notably to the increase of our knowledge. His personality, too, counted for much, as anybody who ever came face to face with him will testify. Indeed, medicine has lost a giant.



Professor Virchow.

News Items.

Society Meetings for the Coming Week:

MONDAY, September 15th.—New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, September 16th.—New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Kings, N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, September 17th.—Woman's Medical Association (New York Academy of Medicine); Medical Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

THURSDAY, September 18th.—New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, September 19th.—New York Academy of Medicine (Section in Orthopaedic Surgery); Clinical Society of the New York Post-Graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynecological Society.

The Surgeon-General of the Army.—On September 6th Brigadier General William H. Forwood, Surgeon-General of the Army, having reached the age limit, was retired by operation of the law. He is succeeded by Surgeon Robert M. O'Reilly, who was appointed several weeks ago, in anticipation of the retirement of General Forwood.

The Death Rate of Boston.—The total number of deaths reported to the board of health for the week ending September 6th was 204, against 216 for the corresponding week last year, showing a decrease of 12 deaths, and making the death rate for the week 18.14.

The number of cases and deaths from infectious diseases reported last week was as follows: Diphtheria, 30 cases and 2 deaths; scarlatina, 6 cases and 3 deaths; typhoid fever, 21 cases and 5 deaths; measles, 3 cases and no death; tuberculosis, 11 cases and 2 deaths; smallpox, 8 cases and 2 deaths.

The deaths from pneumonia were 12; whooping-cough, 5; heart disease, 13; bronchitis, 3, and marasmus, 4. There were 7 deaths from violent causes.

The Gallia County, Ohio, Medical Society.—The regular monthly meeting was held in Gallipolis, Ohio, on September 2nd. The President, Dr. C. G. Parker, read his inaugural address, in which he urged that harmony and organization should be the watchwords of the Society. Dr. T. L. Chadbourne, Resident Pathologist of the Ohio Hospital for Epileptics, presented a specimen from a case of diaphragmatic hernia in which the patient, an epileptic, had died unexpectedly after a few hours suffering from abdominal pain and distension following the ingestion of a large amount of unripe fruit. The stomach, transverse, and portion of the ascending colon, all greatly distended, were found in the left thoracic cavity, protruding through a hernial ring in the diaphragm. Death was ascribed to the pressure of the distended intestinal viscera upon the heart and lungs. The case was discussed by Dr. Ohlmacher, Dr. Alcorn, Dr. Williams, Dr. Lupton, and Dr. Parker.

New Orthopædic Hospital for Philadelphia.—Work has been begun on the new buildings at Seventeenth and Summer streets. They are to include a five-story and basement hospital building, 108 feet 2½ inches by 42 feet 7 inches, on the north side of Summer street, west of Seventeenth street, a one-story power house, 53 feet 5 inches by 38 feet 10 inches, on the south side of Winter street, west of Seventeenth street, and a basement kitchen, 27 feet 9 inches by 56 feet, on the south side of Winter, west of Seventeenth street. All will be of brick and will cost a total of \$150,000.

The Death Rate of Chicago.—Statement of mortality for the week ending September 6, 1902; compared with the preceding week, and with the corresponding week of 1901: Estimated mid-year 1902 population, 1,820,000:

	Sept. 6, 1902.	Aug. 30, 1902.	Sept. 7, 1901.
Total Deaths; all causes.....	524	534	413
Death Rate per annum in 1,000.....	15.00	15.30	14.32
By sexes:			
Males.....	293	293	256
Females.....	231	241	227
By ages:			
Under 1 year.....	120	135	139
Between 1 and 5 years.....	70	75	59
Over 60 years.....	66	67	80
Principal causes of death:			
Acute intestinal diseases.....	102	115	115
Apoplexy.....	4	11	9
Bright's disease.....	16	30	23
Bronchitis.....	5	4	6
Consumption.....	39	46	29
Cancer.....	23	20	31
Convulsions.....	14	12	16
Diphtheria.....	10	7	4
Heart diseases.....	33	24	30
Nervous diseases.....	31	26	23
Pneumonia.....	23	25	34
Typhoid fever.....	55	51	15
Scarlet fever.....	2	2	2
Suicide.....	9	0	0
Violence (other than suicide).....	36	42	19
Whooping-cough.....	10	11	8
Measles.....	4	1	..

The New York State Nurses' Association.—The next quarterly meeting will be held in Rochester, on October 31, 1902. The aim of the association, which was organized in this city two years ago, is to raise the standard of nursing in New York State, and it is expected that definite results will be accomplished at the forthcoming convention.

It has always been understood that the work of a State society of nurses is to secure laws which will establish a uniform and definite basis for the practice of medicine, and although not stated in so many words in the constitution one object of the New York State Nurses' Association, as stated at every meeting and in every announcement, is to work for legislation as a means of raising the standard. The object of the legislation which the association is seeking is to prevent nurses who have not received professional training and are not graduates from reputable training schools from posing as such. It is not desired to prevent unqualified persons from nursing, but to prevent them from representing themselves to be professional nurses. The association also aims to receive more thorough and uniform. The bill to make the training and instruction the nurses

which the association purposes to present to the legislature this autumn will provide for State registration of trained nurses and for the regulation of training schools. Many of the best hospital training schools in the State are extending the two-year course to three years, and it is proposed to limit the registration of nurses to those who are graduated from a reputable school after a two- or three-year course in general training.

Bellevue Hospital.—The following report on the conditions existing in the hospital has been made to Mayor Low by the Trustees of the institution: Sir:

"At the time of presenting our estimate of the amount of money needed to maintain the hospitals for the current year, we drew your attention to some of the conditions existing in Bellevue Hospital. We referred particularly to the inadequate facilities for the reception and examination of patients, the overcrowded sleeping rooms of the house staff, the dark and unwholesome quarters of the employees, the indecent conditions in the prison wards, the unsatisfactory methods of cooking and serving the food of the patients, and the antiquated and unsanitary character of the plumbing throughout the hospital.

"Some of these conditions we have been able to improve; others in spite of all our efforts, remain practically unchanged. They can only be remedied, in our opinion, by the erection of an entirely new Bellevue Hospital in the place of the collection of buildings that has borne that name for so many years. This opinion we believe to be justified by the facts about to be presented in this report. The main structure, which contains 718 of the 939 beds in the whole hospital, was erected in 1817, eighty-five years ago. It was used as an almshouse until 1846, when the paupers were transferred to new buildings especially planned for them on Blackwell's Island, leaving this old building to serve as the chief public hospital of New York City. This it has done to this day, and has never been remodeled nor substantially altered from its original design. All the patients must still be received and examined in the one room in the basement, with its poor light and bad ventilation. There are between eighty and one hundred applicants for admission a day, and men, women and children are received into the same room, there being no other available. All varieties of disease and injury follow each other in rapid succession throughout the day and night, and must often be transferred to the wards before a proper diagnosis can be made. During the past five months, upwards of 4,118 ambulance cases alone were brought to the door of this room. Here may be seen the very sick, the intoxicated, the insane, and even those who are fatally injured. Under such conditions the quiet and privacy necessary for a proper and thorough examination are impossible. Bathtubs have, however, been attached to the reception room, so that patients are no longer taken to the wards unwashed and with their clothes perhaps filled with vermin.

"The rooms available for the house staff remain as before insufficient in number, there being but 16 rooms for the 43 physicians. The duties devolving upon these young men are greater and more complex than in any other hospital in the city. In addition to caring for the patients in the 32 wards of the main hospital, they are responsible for the service in

the reception office, the prison wards, the alcoholic pavilion, the erysipelas pavilion, the Emergency Lying-in Hospital, and finally the regular ambulance service of this large hospital. When they are obliged to sleep three and four, and, as in one case, even five in a room, it is impossible for them to secure the rest needed to fit them for these important duties. There is also no sitting room in which they may assemble in the intervals of their exacting labors. We have as yet been unable to provide more space for them in the building, and it will be necessary for some of them to find rooms outside of the hospital grounds.

"The quarters provided for the employees or 'Hospital Helpers' are dark and badly ventilated. The great majority are in the basement under the wards of the hospital with no sunshine at any hour of the day. One dormitory for women is 45 feet long by 36 feet wide, and contains thirty-one beds, giving 418 cubic feet of air per bed. A smaller room adjoining this with fifteen beds has but one window, and that is to the north. The women have no sitting-room. On a Sunday afternoon in March these poor creatures were found spending their leisure time sitting on the edge of their beds, with folded hands, gazing at the floor. There was not a chair in the room. At that time their clothes were left at night in pine boxes under the bed. The men have no smoking or lounging room, and, when not at work, stand about in the doorways or in the yard surrounding the hospital. We have provided chairs and other conveniences and painted some of the dormitories, so that they are not quite as cheerless as before. The crowding, however, and other unsanitary features remain the same.

"Not only are the employees wretchedly housed, they are also poorly paid, the women receiving but \$10 and the men \$12.50 per month. As a result of these conditions, the class of help obtained is inefficient and untrustworthy, as a rule. From forty to fifty per cent. are discharged each month for incompetency or drunkenness and their places filled by others equally unfit.

"Plans have been prepared for making over the old Bellevue Hospital Medical College building into a dormitory for the female helpers, an issue of bonds having been approved by the Board of Estimate and Apportionment for this special purpose. The building will be fireproof, and quarters will be provided for about one hundred and twenty-five women in well-ventilated, well-lighted rooms, containing from five to seven beds each. There will be three sitting-rooms, one on each floor, as well as ample bathroom and toilet accommodations. As soon as this work is completed we shall be able to provide decent quarters for at least the women employees of the hospital.

"We have been urged to set aside a part of this building for the emergency maternity service of the hospital, but this has not proved practicable. At present the maternity cases are received in a building in Twenty-sixth street, formerly an engine house and now known as the Emergency Hospital. This structure, though only a makeshift like so many others in the Department, seems to serve its present purpose better than any other to which it can be put by us. We have renewed the plumbing throughout and made other needed improvements. During the past five months eighty-four mothers have been confined there, with but one death, figures which bear

witness to the skill and devotion of the medical and nursing staff in charge of the hospital.

"The prison wards remain a disgrace to the hospital and to the city. Both wards are in the basement. The men's ward is about 40 feet long by 20 feet wide and 8 feet high, with windows on only one side, giving about 500 cubic feet of air to each of the thirteen beds, the minimum exacted in the tenement houses by the Board of Health being 600 cubic feet. In addition, it is frequently necessary to place one or more patients upon mattresses on the floor. There is no ventilation except such as is obtained by opening a window, thus bringing a direct draught upon the patients. The watercloset, an old, corroded iron hopper, is in the open ward, screened only on two sides from the patients by a thin board partition about 7 feet high. The table at which the patients eat is within three feet of this partition. The ventilation of the closet is into the ward, there being no windows on that side. The air in this room in the afternoon after the gas has been lighted is too foul for description. In the women's prison ward the water closet is in the pantry where the cooking utensils are kept. On one of our early visits to this ward a nurse was seen warming milk in the pantry at the same time that a patient was using the closet only a few feet away. As was said by one of the trustees at the time, it is not right to subject refined women nurses to such surroundings, whatever we may think of the prisoners. But the prisoners confined there are not all criminals. Some of them, for instance, are poor unfortunates who have attempted suicide and are detained until they are well enough to be brought to trial. We have bettered matters a little by transferring the gas heating stove from the pantry to the open ward. We have also succeeded in reducing the number of patients in the wards by shortening the stay of committed cases. It has been the custom hitherto to bring prisoners back to the hospital from the courts after they have received sentence, and to allow them to remain for periods varying from one day to several weeks, though they are, as a rule, in condition to be removed at once to the institutions in the Department of Correction where they belong. Such persons are now transferred promptly to the jurisdiction of the Commissioner of Correction, who has kindly co-operated with us in bringing about this change.

"The kitchen which supplies all the patients and employees is in an isolated building 60 feet from the hospital, with no connecting corridor. The food must be carried by hand through the open air, winter and summer, into the basement, and then still by hand up the stairs to the various floors and from one end of the hospital to the other. By the time it reaches the patients it is cold and uninviting. A door is now being cut through the wall of the basement so that food cars may be wheeled directly from the kitchen into the hospital building and thence through the halls to the different wards. A covered corridor will also be built connecting the kitchen with the main building, and other measures taken to provide the patients with good, well-cooked and promptly served food.

"The plumbing of the hospital has been made the subject of a special examination by the Commissioner of Health; we shall, therefore, not undertake to comment on it ourselves, but beg to refer you to his report.

"The conditions above described were such as to be evident to the Board of Trustees on taking charge of the hospital. Soon, however, feeling the need of more expert observation, we called to our aid several of the other departments of the city, namely, the Bureau of Buildings, the Fire Department, the Department of Health, and finally, the New York Board of Fire Underwriters."

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending September 6, 1902:

DISEASES.	Week end'g Aug. 30		Week end'g Sept. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.	204	24	219	29
Scarlet fever.	83	8	96	9
Cerebro-spinal meningitis.	0	2	0	3
Measles.	59	2	44	1
Diphtheria and Croup.	186	23	176	16
Small-pox.	6	1	12	0
Tuberculosis.	227	153	199	125

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending September 6, 1902:

EWING, CHARLES B., Major and Surgeon, will proceed from Fort Preble to Fort H. G. Wright, and report for temporary duty.

GORGAS, WILLIAM C., Major and Surgeon, is relieved from duty at Havana, to take effect September 30, 1902. He will then proceed to Washington for duty.

HARTNETT, EUGENE H., First Lieutenant and Assistant Surgeon, will proceed from Fort Columbus to Fort Preble, and report for temporary duty during the absence of CHARLES B. EWING, Major and Surgeon.

MAY, JAMES V., Contract Surgeon, will proceed to Fort McHenry, Maryland, and report for temporary duty.

MC CAW, WALTER D., Major and Surgeon, is relieved from temporary duty at Fort H. G. Wright, and will return to Fort Wadsworth.

MCCORD, DONALD P., Captain and Assistant Surgeon, is honorably discharged from the service of the United States, to take effect September 30, 1902.

MC SWAIN, T. C., Contract Surgeon, is granted leave of absence for twenty-seven days.

NEWGARDEN, GEORGE J., Captain and Assistant Surgeon, is relieved from further treatment at the Army and Navy General Hospital, Hot Springs, Arkansas, and will return to his proper station at Fort Mason, California.

PEDDICORD, HARPER, Contract Surgeon, will report in person to the commanding officer of Columbus Barracks, Ohio, for duty.

RAFFERTY, OGDEN, Major and Surgeon, will proceed to Los Angeles, California, to examine into the physical condition and fitness for tropical duty of WATTS C. VALENTINE, First Lieutenant, Twenty-sixth Infantry.

ROBERTS, D. M., Contract Surgeon. The leave of absence granted him is extended one month.

STURTEVANT, CHARLES A., Contract Surgeon is relieved from duty at Fort Slocum, N. Y., and will proceed to Madison Barracks, N. Y., for duty.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending September 6, 1902:

Smallpox—United States.

California...	Los Angeles...	Aug. 16-23...	1 case.
Colorado...	Sacramento...	Aug. 16-23...	2 cases.
Illinois...	Denver...	Aug. 16-23...	2 cases.
Illinois...	Belleville...	Aug. 23-30...	1 case.
Indiana...	Indianapolis...	Aug. 23-30...	3 cases.
Iowa...	ottumwa...	Aug. 23-30...	2 cases.
Kansas...	Wichita...	Aug. 23-30...	1 case.
Maine...	Portland...	Aug. 23-30...	1 case.
Massachusetts...	Boston...	Aug. 23-30...	5 cases.
"	Brockton...	Aug. 23-30...	3 cases.
"	Lawrence...	Aug. 23-30...	1 death.
"	Somerville...	Aug. 23-30...	2 cases.
Missouri...	St. Joseph...	Aug. 23-30...	9 cases.
"	St. Louis...	Aug. 24-31...	12 cases.
Montana...	Helena...	Aug. 23-30...	1 case.
Nebraska...	Omaha...	Aug. 23-30...	2 cases.
N. Hampshire...	Manchester...	Aug. 23-30...	1 case.
New Jersey...	Camden...	Aug. 23-30...	7 cases.
"	Newark...	Aug. 23-30...	4 cases.
New York...	New York...	Aug. 23-30...	6 cases.
Ohio...	Cincinnati...	Aug. 22-29...	2 cases.
"	Cleveland...	Aug. 23-30...	76 cases.
"	Hinton...	Aug. 23-30...	3 cases.
"	Middletown...	July 12-Aug. 9...	11 cases.
Pennsylvania...	Erie...	Aug. 23-30...	1 case.
"	Johnstown...	Aug. 23-30...	12 cases.
"	McKeesport...	Aug. 23-30...	2 cases.
"	Philadelphia...	Aug. 23-30...	4 cases.
"	Pittsburgh...	Aug. 23-30...	12 cases.
S. Carolina...	Charleston...	Aug. 23-30...	1 case.
Wisconsin...	Green Bay...	Aug. 23-31...	3 cases.
"	Janesville...	Aug. 23-30...	1 case.
"	Milwaukee...	Aug. 23-30...	1 case.

Smallpox—Foreign.

Argentina...	Buenos Ayres...	June 1-30...		3 deaths.
Austria...	Prague...	Aug. 2-16...	1 case.	
"	Trieste...	Aug. 8-16...	1 case.	
Barbados...		July 12-Aug. 12...	47 cases.	
China...	Hongkong...	July 12-19...		1 death.
France...	Paris...	Aug. 2-16...		2 deaths.
Gibraltar...		Aug. 10-17...	1 case.	
Gt. Britain...	Dundee...	Aug. 8-16...	1 case.	
"	Glasgow...	Aug. 16-23...	1 case.	
"	London...	Aug. 8-16...	24 cases.	5 deaths.
India...	Bombay...	July 20-Aug. 5...	5 cases.	5 deaths.
Italy...	Palermo...	Aug. 2-9...	5 cases.	2 deaths.
Netherlands...	Rotterdam...	Aug. 16-23...	1 case.	
Russia...	Moscow...	Aug. 9-9...	1 case.	
"	Odessa...	Aug. 8-16...	2 cases.	1 death.
"	St. Petersburg...	Aug. 2-9...	4 cases.	
Spain...	Oran...	Aug. 8-16...		20 deaths.
Uruguay...	Montevideo...	July 9-23...	43 cases.	2 deaths.

Yellow Fever.

Colombia...	Panama...	Aug. 18-25...	1 case.
Costa Rica...	Port Limon...	Aug. 7-13...	1 case.
Ecuador...	Guayaquil...	Aug. 8-16...	5 cases.
Mexico...	Coatzacoalcas...	Aug. 16-23...	5 cases.
"	Vera-Cruz...	Aug. 16-30...	33 cases.

Plague.

China...	Hongkong...	July 12-19...	21 cases.	20 deaths.
Egypt...	Alexandria...	April 14-Aug. 13...	72 cases.	35 deaths.
India...	Bombay...	July 20-Aug. 5...	32 deaths.	32 deaths.
"	Calcutta...	July 26-Aug. 2...	11 deaths.	11 deaths.
"	Karachi...	July 27-Aug. 3...	12 cases.	5 deaths.
Madagascar...	Tamatave...	July 6-22...	18 cases.	14 deaths.

Cholera—Insular.

Philippine Islands...	Cebu...	July 9-20...	90 cases.	52 deaths.
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Cholera—Foreign.

China...	Hongkong...	July 12-19...	6 cases.	5 deaths.
Egypt...	Alexandria...	Aug. 5-13...	556 cases.	490 deaths.
"	Cairo...	July 22-Aug. 13...		
"	Assiut Prov. incl. Moucha...	July 15-Aug. 13...	536 cases.	434 deaths.
"	Bethra Province...	Aug. 12-13...	13 cases.	4 deaths.
"	Beni Souef...	Aug. 11...	1 case.	
"	Charkieh Province...	July 12-13...	6 cases.	5 deaths.
"	Galioubieh Province...	Aug. 6-13...	20 cases.	11 deaths.
"	Charkieh Province...	Aug. 13...		1 death.
"	Guizeh Province...	July 25-Aug. 13...	159 cases.	93 deaths.
"	Menouch Province...	Aug. 9-13...	6 cases.	6 deaths.
"	Minieh Province...	Aug. 9-13...	24 cases.	13 deaths.
India...	Bombay...	July 20-Aug. 5...	22 deaths.	22 deaths.
"	Calcutta...	July 26-Aug. 2...	21 cases.	21 deaths.
"	Karachi...	July 27-Aug. 3...		
Japan...	Osaka and Hirog...	July 20-Aug. 9...	2 cases.	1 death.
Korea...	Chungking...	Aug. 21...	Severe.	
"	North Korea...	Aug. 21...	Severe.	

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending September 6, 1902:

BRADLEY, G. P., Medical Director. Upon the completion of his duty as a member of the board for the examination of midshipmen, he is detached from the Naval Museum of Hygiene, Washington, and ordered to duty as a member of the medical examining board and naval retiring board, Washington.

DRAKE, N. H., Surgeon. Detached from the Mare Island Navy Yard, California, and ordered to the *Solace*.

DUBOSE, W. R., Surgeon. Detached from the *Solace* and ordered home to await orders.

HUNTINGTON, E. C., Surgeon. Detached from the Naval Hospital, New York, and ordered home in obedience to the order of August 15th, modified.

KENNEDY, R. M., Surgeon. Detached from the *Franklin* and ordered to the torpedo station, Newport, Rhode Island.

MARMION, R. A., Medical Director. Detached from duty as president of the medical examining boards, Washington, and ordered to duty as president of the naval medical examining board, and to duty in charge of the Naval Museum of Hygiene and Medical School, Washington.

SNYDER, J. J., Assistant Surgeon. Detached from the torpedo station, Newport, Rhode Island, and ordered to the Naval Hospital, Philadelphia.

ULSH, W. H., Assistant Surgeon. Ordered to the Washington Navy Yard for examination, and thence home to await orders.

Births, Marriages, and Deaths.

Married.

COMSTOCK—COOPER.—In New York, on Wednesday, September 3rd, Dr. George Spaulding Comstock, of Ozone Park, N. Y., and Miss Elizabeth Grace Cooper.

DIXON—MERRITT.—In Brooklyn, on Wednesday, September 3rd, Dr. Herbert Sidney Dixon and Miss Ethel Adams Merritt.

KINDIG—TYRE.—In Lebanon, Indiana, on Wednesday, September 3rd, Dr. Frank M. Kindig, of Chicago, and Miss Minnie Valerie Tyre.

TARNOWSKY—NIXON.—In Chicago, on Wednesday, September 3rd, Dr. George D. Tarnowsky, of Nice, France, and Miss Bertha Nixon.

Died.

BACKUS.—In Rochester, on Tuesday, September 2d, Dr. Azel Backus, in the seventy-fifth year of his age.

GARLAND.—In Gloucester, Massachusetts, on Thursday, September 4th, Dr. Joseph Garland, in the eightieth year of his age.

GIRDNER.—In Block Island, Rhode Island, on Friday, September 5th, John Harvey Girdner, Jr., son of Dr. John H. Girdner, in the twelfth year of his age.

SHATTUCK.—In Brooklyn, on Saturday, September 6th, Dr. Henry P. Shattuck, in the fifty-eighth year of his age.

VAN DYCK.—In Rocky Hill, N. J., on Sunday, August 31st, Dr. Edward B. Van Dyck, of Philadelphia, in the sixty-seventh year of his age.

WEBSTER.—In Concord, New Hampshire, on Sunday, September 7th, Dr. Claudius Buchanan Webster, in the eighty-sixth year of his age.

XANDER.—In Philadelphia, on Sunday, September 7th, Dr. William Oscar Xander, in the thirty-fifth year of his age.

Pith of Current Literature.

PRACTICE OF MEDICINE.

The Changes in the Spinal Cord and Medulla in Pernicious Anæmia.—Dr. Frank Billings (*Boston Medical and Surgical Journal*, September 4th), in the Shattuck Lecture, asserts that there is a well established relation of diffuse cord degeneration with pernicious anæmia. It seems highly probable that the hæmolysis and the cord changes are due to the same toxine. While the source of the toxine is unknown, the fact that gastrointestinal disturbance is so common in the disease would lead one to suppose that it is of intestinal origin. The diffuse degenerations of the spinal cord that occur in conditions without pernicious anæmia, do not appear to differ essentially from those of pernicious anæmia. It is possible that a common blood circulation poison exists, which may expend its force upon the blood in one individual, upon the nervous apparatus in another, and coincidentally upon the blood and spinal cord in others.

The Ætiology of Return Cases of Scarlet Fever. By M. H. Gordon, M. B. (*British Medical Journal*, August 16th. See also p. 428.)—Up to the present time the evidence concerning the relationship of the *Streptococcus scarlatina* and "return cases" of scarlet fever (cases caused by the carrying home of infection by patients returned from hospital) is as follows: The *Streptococcus scarlatina* may persist in the tonsillar mucus up to a period remote from the original date of attack. But it has only rarely been detected in the two discharges which are especially associated with return cases, namely, the nasal and aural discharge. The desquamating cuticle and the urine of convalescents fail to show the presence of the *Streptococcus scarlatina*. Attention is called to the possibility of infection by the mouth, either directly, as by kissing, or indirectly, by aerial convection. The *prodigious* experiments of Koeniger show how real is the possibility of airborne infection occurring indoors from the dissemination of droplets of mucus from the mouth. As the mucous discharges have fallen so especially under suspicion in reference to the origination of return cases of scarlet fever, it is clear that they are the first objects against which preventive treatment should be directed. The author's investigations go to show that in many cases of rhinorrhœa and otorrhœa following scarlet fever, the causative organism is the *Streptococcus pyogenes* and not the scarlet fever streptococcus. And the *Streptococcus pyogenes* may be present in the throat in association with the *Streptococcus scarlatina* from the beginning of the illness; so that antiseptic treatment should be applied as a matter of routine to the throat in every case of scarlet fever, from the earliest stage of the disease, no matter how mild the case may be. There is ground for supposing that if we could get efficient disinfection of the pharyngeal mucous membrane at the beginning of scarlet fever we should be able to prevent, not only rhinorrhœa and otorrhœa, but also the fatal septicæmia to which the majority of deaths from scarlet fever appear to be due; for the fatal issue in these cases has been shown to be due to a streptococcus invasion starting from the pharyngeal mucous membrane. The author has investigated the question as to how far it is possible to disinfect the mucous

membrane of the throat. He finds that the most effective disinfectants are potassium permanganate and chlorine water. Two hours after gargling with sufficiently strong solutions of either of these two disinfectants, the number of organisms in the saliva is reduced by over eighty per cent.

Three Cases of Banti's Disease. By Dr. J. Barr (*Lancet*, August 23rd).—Banti's disease may be characterized as progressive anæmia with enlargement of the spleen and secondary cirrhosis of the liver with ascites. There are frequent hæmorrhages, such as epistaxis, bleeding of the gums, hæmatemesis, and melæna. There are important pathological changes in the semilunar ganglia and solar plexus of the abdomen, and also in the ganglia of the neck. These changes consist in lymphoid infiltration of the stroma of the ganglia, fatty and pigmented degeneration of the ganglion cells, and a degeneration of the nerve fibres springing from the ganglia. The lymphoid changes are such as are usually found as a secondary sequence of anæmia. The changes in the chyle and hæmatopoietic organs (stomach, intestines, spleen, and liver) have a great influence on nutrition, thus causing the anæmia. The author reports three instances of this condition. The patients were all men aged respectively, forty-eight, forty-two, and thirty-eight years. Each one met with a more or less serious accident to his abdomen some years before the occurrence of his present disease. Family history was negative and none of the patients had been out of England. None of them gave any history of syphilis and only one of any alcoholic excess. The blood pressure was very low in all the cases, due no doubt to vasomotor paresis of the splanchnic area. This lessened peripheral resistance in each case led to more or less cardiac atrophy. The skin of the body was loose and shrivelled, the subcutaneous fat had almost entirely disappeared, and the muscles were atrophied. In each case there had been a low form of chronic peritonitis with friction fremitus, but without any febrile temperature. In two cases there were ascitic and pleural effusions. In all the cases there was marked oligochromæmia. In the early stages of the disease there was a considerable diminution of the erythrocytes without any alteration in their size and shape, and no excessive leucocytosis.

The author's view of Banti's disease is that it is probably due to a vasomotor paresis of the splanchnic area, either in whole or in part, and that this paresis arises from disease of the sympathetic visceral ganglia. As a consequence there is great engorgement of the abdominal viscera, especially of the spleen and liver, increased hæmolysis with consequent oligochromæmia and oligocythæmia. The increased blood supply to those organs eventually leads to fibrosis and lessened function. The peritoneal effusion would seem to be due to increased vascularity, rather than to portal obstruction. The paresis leads to retention of blood in the portal area with lessened supply to the rest of the body, fall in the general blood pressure with lessened work for the heart, impairment of nutrition, and muscular atrophy. The digestion is usually impaired and there is likely to be an increase of toxins in the intestinal tract, with further aggravation of the mischief. The engorgement of the viscera and mucous membranes is a frequent cause of hæmorrhage.

Splenectomy has been recommended and practised, but the author does not think it of any service. We must, as far as possible, raise the general blood-pressure, improve the nutrition, and keep the intestinal tract as antiseptic as possible. For the former purpose strychnine, digitalis, and quinine are useful; for the latter, salol, benzonaphthol, and an occasional saline purge.

Possibilities of Cure of Phthisis.—Professor von Haneemann (*Berliner klinische Wochenschrift*, August 11th) says there is no question as to the possibility of a healing of pulmonary tuberculosis, but the various types of the disease must be kept distinctly in mind. It usually begins in the apex, and if it starts elsewhere there must be some particular reason. Acute cheesy bronchopneumitis is not susceptible of cure, but in cases with cheesy hepatization small foci may become encysted if sufficient connective tissue is formed about them. Cavities may become healed by contraction of the surrounding connective tissue or by a transformation of their contained granulation into connective tissue. If the disease progresses beyond the upper lobe, cure is probably impossible. The author believes that a person who still has active tubercle bacilli which are contained in well-healed tissue, is susceptible of cure. The paper concludes with remarks on the differentiation of tuberculous and syphilitic scars.

Syphilitic Disease of the Vascular System.—Dr. S. Abramow (*Virchow's Archiv*, June 25th) describes one case of aortic syphilis and two of syphilis of cerebral arteries. He concludes that the intima and the adventitia may be independently attacked by the disease.

SURGERY AND ANATOMY.

Seventy Cases of Inguinal Hernia Treated by the Kocher-Bassini Method; with Remarks upon the Technique of the Operation. By J. L. Thomas, F. R. C. S., (*Lancet*, August 23rd).—The author thinks the combined method of Kocher and Bassini is the best for the radical cure of hernia when it can be carried out. He has performed the operation seventy times with excellent results. As regards suture material nonabsorbable ligature is the best for permanency of cure, for the very safety of the patient during coughing or vomiting immediately after an operation depends upon the approximating sutures. The author uses fine silk (No. 00) either as an interrupted or as a continuous suture. There was no drainage used, except in one case where a large hydrocele was excised at the time of the radical cure. In four cases there was pyrexia to 101° F., due either to effused blood or to hydrocele fluid bathing the field of operation. Patients should not wear a truss after operation save in exceptional cases where the abdomen is flabby, thin, or atrophied. It is very important to know the nature of a patient's skin, in order to avoid stitch-abscesses, which, in hernia operations with a hamatoma following, would be a source of considerable risk. In tender, eczematous, or coarse skins, it is advisable to take the sutures out at the end of twenty-four hours. The only dressing used after operation was six layers of gauze kept on by a wider layer of gauze fixed by collodion. The author does not use bandages.

Psychology of Habit in Surgical Technique.—Dr. R. C. Coffey (*Journal of the American Medical Association*, September 6th) asserts that, for all practical purposes, habit is a channel in the nervous system formed by the performance of a voluntary act, which channel becomes deeper each time it is used, but the wall of which is weakened when a varying or conflicting method is substituted. This difference may be likened to the differences between the channel of a river which has run for thousands of years in the same channel forming a deep cañon, and a river which runs through a sandy valley and which changes its bed to suit the various circumstances and climatic changes. A surgical operation can not be delegated to habit, because we rarely find two conditions exactly alike. It always requires reason. In short, only things which can be made perfect should be delegated to habit.

Thirty Cases of Gastroenterostomy for Non-malignant Affections of the Stomach. By T. K. Dalziel, M. B. (*Lancet*, August 23rd).—The author reports a group of thirty operations undertaken for the cure of apparently incurable dyspepsia, many of them with evidence of marked pyloric obstruction. The patients had been under treatment prior to operation for periods varying from two to seventeen years, sixteen of them with definite history of ulceration. At the operation it was found that eighteen of these cases presented well-marked contraction of the pyloric orifice, which in two cases was so extreme as to amount to occlusion. In eight cases the obstruction was due to adhesions, the result of peritonitis, originating from old tuberculous glands behind the pylorus. In three cases the obstruction was due to adhesions of the posterior wall of the stomach. The symptoms presented by the patients were very variable. In almost all the cases pain was a prominent symptom. As a preliminary to operation careful lavage of the stomach was carried out in all cases for two days before the operation, plain water being used.

Of thirty patients only one died—and when the stomach was opened a large mass of tissue was found in the posterior wall of the stomach, with a crater-like ulcer in its centre. This was thought to be a malignant growth, so that it was not disturbed, an anterior gastroenterostomy being performed. The patient died suddenly three days after operation, when the mass of tissue was found to be simply infiltration around a very large simple ulcer.

With the exception of two cases, the results of operation were most satisfactory, especially in those cases where the patients had suffered from marked obstruction in the pylorus itself.

Methods of Uniting Divided Intestine, with Special Reference to a New Bone Bobbin for That Purpose. By E. S. Bishop, F. R. C. S., (*Lancet*, August 23rd).—Methods of union are divisible into four main classes: (1) Simple suture. Lembert's suture holds the first place, although it is no longer held that nonperforation of the mucous membrane is essential. (2) Suturing on movable forceps, as those of Laplace and O'Hara. This is easy and rapid, but has the defect that it affords no protection from the entrance of fecal material between the lines of union during the dangerous period immediately after operation. (3) Metallic couplers. These, of

which Murphy's is the type, have the great advantage of rapidity of application, an advantage which renders it unlikely that they can ever be entirely discarded. (4) Suture over some absorbable material. This has great possibilities, its advantages being: (a) Complete and satisfactory suturing is more easily carried out over its resistant surface; (b) it protects the line of union from infective material until such union is complete; (c) it maintains potency and decreases the possibility of post operative stricture; and (d) when the period of its usefulness is over, it disappears. It should be easy of introduction; it should be perfectly simple and require no elaborate technics; it should be resistant and absorbable; it should be done so that the simple tightening of the purse string sutures approximates the ends of the gut; and it should be of such a size and shape as to protect the line of suture during the period of plastic union. The author has devised a series of bone bobbins which he thinks meet the above mentioned requirements. One is for ordinary enterorrhaphy end to end, one for ileocolostomy or gastroenterostomy, and one for use in pylorotomy.

Two Cases of Echinococcus Cysts of the Liver, Treated by Immediate Suture Without Draining.

—Dr. Antonio Mori (*Riforma Medica*, June 25th, 26th, and 27th) applied direct sutures to the pericystic sac in two cases of echinococcus. In order to diminish the size of the remaining cavity, and to destroy it as completely as possible, he brought the walls of the cyst into contact by means of a mattress-suture. In both cases the result was very good. He opened the abdominal cavity by means of a median incision extending from the ensiform cartilage to the umbilicus. Having fixed the parietal peritoneum provisionally to the angles of the wound by means of a few sutures, he explored the abdominal cavity, so as to locate the cysts. Then, the edges of the wound having been separated and the intestinal loops, as well as the whole operative field, having been protected by pads of sterilized gauze, the tumor was exposed and the greater part of its liquid contents removed by means of a Potain aspirator. The cyst was then seized with two forceps, brought forward into the wound and incised sufficiently to allow of its evacuation and the removal of the germinative vesicle. The cavity of the cyst was next cleaned with aseptic gauze, and any sclerogenous tissue that was found was excised. The cyst was then closed by means of double sutures. The first suture was of the mattress type, and was so applied as to bring together as closely as possible the walls of the pericystic cavity. The second suture united the edges of the incision. The abdominal walls were then closed in tiers. This operation is very simple and can be performed in a very short time. The author believes that suturing the edges of the cyst wound to the abdominal incision before allowing the cyst to close, is useless, inasmuch as the danger of suppuration which such a procedure is intended to prevent does not in actual practice interfere with the result, for cases are on record even when the cyst cavity has suppurated and the pus ruptured, yet the patients have recovered completely. He believes that, even if the cyst is found in the condition of suppuration at the time of incising it, it is better to suture it at once, rather than to attach the edges of the cyst wall to the

edges of the abdominal wall, as most authors advise. Considering the fact that this pus is, as a rule, sterile, and that it is not impossible to obtain primary union, even when the cyst suppurates, an immediate suture in these cases is justifiable.

OBSTETRICS AND DISEASES OF WOMEN.

Vaginal Traumatism in Coitus.—Dr. Hermes (*Centralblatt für Gynäkologie*, August 9th) reports a case of vaginal injury in a young woman who permitted coitus in a carriage and during the act threw herself violently to one side. There was a deep rupture of the right lateral wall of the vagina, with severe hæmorrhage which was controlled by tamponing. The causes of the rupture are ascribed by the reporter to excessive sexual excitement and to the abnormal position during coition.

Pregnancy Complicated by Rectal Carcinoma.

—Dr. Z. Endelman (*Centralblatt für Gynäkologie*, August 9th) induced labor in a woman suffering from carcinoma of the rectum before operating for the disease. Only three similar cases are found in the literature. The patient was thirty-two years of age. The labor was induced by Krause's method and ended by means of the Champetier de Ribes's bags. The child, of seven months gestation, died in a few hours. Two months later, the carcinoma was operated on through the vagina. The author states that the elements to be considered are the possibility of total extirpation of the neoplasm, the degree of pelvic contraction it causes and the fact of the life or death of the fœtus. In inoperable cases, a living child must be striven for. If the child has died, Cæsarean section must be performed only if all other obstetric measures prove unavailing for delivery.

Extensive Pyometra in a Puerperal Uterus Bicornis.

—Dr. Emil Senger (*Berliner klinische Wochenschrift*, August 18th) reports a case of a woman who had an intermittent fever beginning three weeks after labor. An examination showed a huge, elastic tumor to the left of the uterus which, on puncture, was found to be filled with foul pus. A laparotomy showed the tumor to be intraperitoneal. About six quarts of pus were evacuated and the organ was then found to be the left side of a bicorned uterus. Two weeks later the offending half of the uterus was removed by the abdominal route. It was found to be entirely closed, the pregnancy having taken place in the right horn of the uterus. The cause of the suppuration is doubtful, although the author speculates upon its possibilities.

Urethroplasty according to Professor M. S.

Soubbotine, in *Gynæcological Practice*. By Dr. V. S. Grousdieff (*Roussky Vrach*, August 3rd).—At the first Congress of Russian Surgeons, in Moscow, Soubbotine reported that he had devised a new method of urethroplasty which involved the utilization of the rectum for the purpose of creating a new urethral canal in cases of high epispadias with incontinence. The idea suggested by Soubbotine is probably destined to mark an advance in the surgery of the urinary organs under the name of Soubbotine's operation. The operation was performed as follows: A posterior incision was made and the coccyx was

removed. The posterior wall of the rectum was thereupon incised and the gut laid open. An opening was then made in the anterior wall of the rectum immediately above the external sphincter, three centimetres in length, uniting the cavity of the bladder with that of the rectum, and the edges of this opening were buttonholed with catgut by means of Trelat's needle. A horse-shoe-shaped incision, open below, was next made around this opening down to the muscular layer of the gut, and the flap thus outlined was dissected away, its edges then being sutured, making a tube within the rectum but separate from the cavity of the gut, open below and closed above, into which the opening in the bladder communicated. The edges of the rectal tissue left after the flap had been marked out were next sutured in the median line of the anterior wall, and the posterior incision in the rectum was again sutured, thus closing the rectum, leaving about two thirds of its original circumference, one third being taken away by the new urethra. The skin wound was now sutured with interrupted silk sutures, and the rectum drained by means of a tube, a catheter *à demeure* being introduced into the congenital urethra, *i. e.*, into the opening in the bladder. The whole operation was conducted strictly aseptically, and the post-operative period was uneventful. Beginning with the fourteenth day, the patient's bladder was washed out daily with salt solution through the newly formed canal. The results of the operation, anatomical as well as physiological, were the best possible, the urethral part of the rectum remaining entirely separate from the faecal canal, the patient passing faeces and urine separately, and retaining both. The first patient was a boy aged fourteen years, but since then Soubbotine has operated upon two other patients with good results.

The author suggests that this operation would be of great advantage in gynaecological practice, namely, in cases with advanced vesicovaginal fistulae, in which the normal urethra is destroyed. He has also found by experimenting that Soubbotine's operation may be easily performed through a rectal speculum, without removing the coccyx, and without incising the posterior rectal wall and the anal ring—in other words without the only objectionable features of Soubbotine's original method. In a case which he reports in the present paper, the author performed an episiotomy with urethroplasty according to Soubbotine's rectal method without removing the coccyx and without a skin incision. The woman was thirty years of age and had been suffering from a very extensive vesicovaginal fistula with almost complete destruction of the urethra. He is convinced from the good functional and anatomical results obtained, that this operation will occupy a place in gynaecology, and that it is easy of execution with the modified technics which he describes. The only precaution on which he insists is that before operating the uterus should be if possible thoroughly curetted, so that any discharge that may come from this organ may not clog the newly formed opening between the vagina and "rectal urethra" after the operation. The patients should be treated prophylactically for pyelitis and cystitis, and should be kept under observation for a considerable length of time after the operation.

DISEASES OF CHILDREN.

Heart Disease in Children. By Dr. A. E. Sansom (*Lancet*, August 23rd).—In the enormous proportion of organic heart affections in children, it is the rheumatic heart with which we have to deal. Even in malformation of the heart there is not infrequently added to it a form of disease essentially of a rheumatic nature. Further, a seemingly congenital malformation of the heart may be due to intrauterine endocarditis. The groups, varieties, and phases of the rheumatic heart in children, considered by the author are: (1) The temporarily swollen or enlarged heart of rheumatism; (2) the heart of rheumatic pericarditis; (3) the heart of rheumatic endocarditis with resulting valvular disease; and (4) the heart of slow insidious endocarditis inducing mitral stenosis. The author lays great stress on the fact that rheumatism is not essentially a painful disease. Painful implication of the joints is not necessarily an index of the rheumatic condition. In childhood the heart phenomena—not complications—of rheumatism are very much to the fore; there may be pericarditis, there may be endocarditis, there may be the swollen heart of rheumatism, without any signs to show that there are arthritic phenomena present. As to the cause of the temporary enlargement of the heart so common in child rheumatism, the author holds it to be due to something which enfeebles the heart, but which is not of the nature of the ordinary form of inflammatory trouble or degeneration; it is an infiltration which cripples the heart. Passing by the second and third forms of the rheumatic heart in children, the author goes on to state that the disease known as mitral stenosis is a very subtle one; it has been considered as a form of congenital anomaly. It may occur in intrauterine life; it is quite free from symptoms in its origin and progress; and it is generally only when a child is from seven to twelve years of age that it becomes strongly marked and is detected.

NERVOUS AND MENTAL DISEASES.

Sydenham's Chorea.—Dr. Pietro Commandini (*Gazzetta degli ospedali e delle cliniche*, June 22nd) believes that the problem concerning the origin of chorea will soon be solved. The toxic-infectious theory of chorea, advanced by Mircoli in 1891, finds many adherents. The infective agent which produces this disease does not seem to be one definite germ, but a number of different germs have been isolated in as many different cases of chorea. A certain group of authorities still deny the infectiousness of chorea and regard this disease as a special condition of irritability and altered nervous conductivity which may be present in predisposed individuals. The author reports three cases of Sydenham's chorea, which present interesting points. In the first case, there were attacks of articular rheumatism and of furunculosis, coincident with the attacks of chorea, and he thinks that all three processes were the expression of an infection by the same organism. The second case was noteworthy on account of the cerebral disturbances which were present. In this case, the fact that during the repeated attacks of rheumatism which preceded the chorea there had been no choreic movements, which appeared only when the delirium set in, tends to show

that the cerebral symptoms and the chorea had the same origin. The third case was interesting on account of the age of the patient, a child of eleven months. It is very rare to see chorea attacking a child under four or five years of age, most authorities considering chorea in younger children exceptional.

LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

The Causes and Treatment of Nasal Suppuration.—Dr. Adolph Browner (*Quarterly Medical Journal*, August) points out that: (1) Nasal suppuration is extremely common, and is often followed by dangerous complications; (2) it is generally due to localized disease of the bone, or affection of one or more of the nasal accessory cavities; (3) in cases of nasal suppuration in children we should always carefully examine the discharge for diphtheria bacilli; (4) cases of syphilitic rhinitis are often fatal if not treated locally; (5) in most cases of nasal polypi there is local disease of the bone, or of one or more of the accessory cavities, especially the ethmoidal cells; (6) in these cases we must most energetically scrape the middle turbinate bone and the ethmoidal cells; (7) the local application of cocaine and suprarenal extract is of great use in the treatment of all nasal diseases, as it enables one to examine the parts more carefully and accurately, and, by preventing hæmorrhage, renders all operations less tedious and more easy.

Ozæna.—Dr. John Mackie (*Quarterly Medical Journal*, August) cites a number of cases and concludes as follows: (1) When patients are intelligent, or relatives observant, in cases of ozæna there is invariably a history of purulent discharge from the nose or nasopharynx in early life. (2) This discharge, free at first, lessens in amount, but never quite disappears till it merges into ozæna, forming crusts and becoming offensive. (3) Pus is always present in ozæna and enters into the formation of the crusts. (4) The establishment of free drainage and the cure of the purulent discharge has proved more successful in treatment than any other method. Thorough irrigation of the parts after operation is a matter of the greatest importance; a solution of borax, soda, and salt is sufficient. The author has found no advantage in using antiseptics in any form. The use of the brush-discharge from a large static machine in clearing up cases where free drainage had been established, seemed to have the effect of drying up the discharges, though, with a high potential, a troublesome cough was set up. In cases where the x rays from the same machine were tried, the effects were encouraging, in that the discharge became lessened while the mucous membrane rapidly returned to normal, with an increase in the general sense of comfort, and well-being of the patient.

OPHTHALMOLOGY.

Teaching Ophthalmology to Undergraduates.—Dr. Frank C. Todd (*Journal of the American Medical Association*, September 6th) requests a free and frank discussion of this important subject. While there is no doubt that too little attention was

formerly paid to the specialties, he believes that we are now going to the other extreme and trying to teach too much. We are giving too much detail and are wasting valuable time in the attempt to cover the entire subject with all the theories and varieties of diseases important to specialists alone. Neurologists, dermatologists, ophthalmologists, etc., who work along specific lines are apt to become narrow and to overestimate the importance of their particular branch and to forget that there are other branches more essential in fitting a man for practice. We must bear in mind that we are educating our students to become general practitioners, and it is not within the scope of the undergraduate medical college to make specialists of them. If we occupy more of their precious time than is necessary to teach them only those things which are essential to their general practice, we are stealing time which should be devoted to the more important fundamental branches.

GENITO-URINARY DISEASES.

The So-Called Venereal Lymphangitis of the Penis. By Dr. Luigi De Sanctis (*Riforma Medica*, July 22nd, 23rd, 24th, and 25th).—The author reports eleven cases of venereal lymphangitis which he has studied clinically, pathologically, and bacteriologically. He concludes that in these cases punctures into and around the area of inflammation are to be preferred to extensive incisions, save in cases with complicated phenomena of true inflammatory strangulation. Histologically, he found, in addition to lymphangitis, the signs of periphlebitis and periarteritis. The morphological varieties of these lymphangitides are the suppurative and the hyperplastic or infiltrating. The germ found to be the cause in the hyperplastic or indurated form is the *Staphylococcus pyogenes albus* and its sub-varieties.

Cases of Prostatectomy, with Remarks on the Operation.—Dr. Paul Thorndike (*Boston Medical and Surgical Journal*, August 28th) believes: (1) That great relief can be given to all patients suffering from symptoms due to obstructing enlargement of the prostate, either by palliative or by operative means. (2) That the time to resort to operative measures is just so soon as palliative treatment carefully executed by competent hands has failed to give relief. (3) That complete prostatectomy is always the operation of choice, because it is the only operative procedure which cures or gives uniformly good results, when properly performed in proper cases. (4) That the best time for its performance is just as soon as palliative efforts have failed or are manifestly impossible of execution, and before secondary changes in the bladder and kidneys, due to long continued obstruction, have taken place. (5) That in those cases which come for surgical relief so late in the development of the pathological conditions that the bladder and kidneys are extensively diseased and the patient is manifestly exhausted by long continued suffering, other less certain and perhaps less severe measures may be advised, instead of a complete prostatectomy; but that such a decision can only be, and must always be, made by the surgeon for the individual case.

Foreign Bodies in the Bladder.—Dr. von Brunn (*Berliner klinische Wochenschrift*, August 18th) records a case of a young man who, while having his bladder irrigated through a catheter, had the misfortune to have the entire catheter suddenly drawn into the bladder. The operation of cystopexy was performed with entire satisfaction, the bladder being completely sutured, and healing primarily. The author believes that, by this operation, suppuration of the space of Retzius can be prevented, especially when a cystitis is present. He recommends the operation especially in persons in whom there is, at the time of the operation, a prostatic hypertrophy. As to the sudden disappearance of the catheter, von Brunn describes it to the suddenly increased pressure in the catheter of the flowing water.

CUTANEOUS MEDICINE AND SURGERY.

Frambœsia and Similar Diseases in the Tropics.—Dr. Max Glogner (*Virchow's Archiv*, June 25th) says frambœsia is a skin affection lasting several months, without general disturbances, such as fever, neuralgias, etc.; offers a good prognosis; and is characterized by rounded excrescences on the skin. Areas without pigment can be seen later, but only in small scars, in striking contrast to verruca peruviana, proving that the diseases are not identical. Histologically, frambœsia shows a proliferation of all of the epidermis, of the connective tissue and of the endothelium of the lymph channels. The causative element of the disease was not found.

Cutaneous Tuberculosis.—M. Carle (*Lyon médical*, August 17th) describes a case of "acnitis" from which microscopic preparations were made showing tubercle tissue. The clinical characteristics of "acnitis," which the author regards as a tuberculous inflammation are: 1. An indolent and nonpruriginous appearance of yellowish-red, umbilicated, small papules, a little inflamed at first, slowly becoming purulent, finally circumscribed and cicatricial, without participation of the neighboring skin. It begins most frequently on the face, is symmetrical with no special grouping of the eruption. There is no relation with the pilosebaceous apparatus. A characteristic is the long duration of the lesion despite all treatment, its active form, and especially the cicatricial form.

Cervical Branchiomata.—M. Maurice Chevasu (*Gazette hebdomadaire de médecine et de chirurgie*, August 17th) says that the branchiomata may be divided into those which originate in the epithelium and those which spring from the connective tissue. The former are developed from the epithelium surrounding the branchial clefts and are partly of epithelial, rarely of mucous, and partly of endothelial origin. When they develop from the pavement epithelium, they are probably the same as the growth described as aberrant cancer of the thyroid gland. The second class develop from the cartilaginous, mucous, and vascular parts of the branchial arch and form the so-called mixed tumors of this part of the body. Both classes of growth are usually malignant. They should always be operated on, although the mortality is high and recurrence is usually fatal. They may occupy any portion of the neck.

HYGIENE AND SANITARY SCIENCE.

A Discussion on the Administrative Prevention of Tuberculosis. By Dr. A. Robertson, Dr. A. Newsholme, and others (*British Medical Journal*, August 16th).—In the discussion here reported, an interesting and valuable scheme of the preventive measures being carried out in Brighton, is given by Dr. Newsholme as follows:

1. Diagnosis by microscopical examinations of sputa.
 - Voluntary.
 - Compulsory.
2. Notification
 - Notification of changes of address
 - (By relieving officers.
 - (By medical officers of institutions.
 - (By others.
3. Measures of cleansing and disinfection
 - (After death.
 - (After notification.
 - (After change of address.
 - (Education of the public.
4. Means for preventing infection and reinfection at home or at work
 - (By-laws against indiscriminate spitting.
 - (Provision of sputum bottles and Japanese handkerchiefs.
5. Investigation of sources of infection
 - (Office and workshop.
 - (Home.
6. Removal of insanitary home or work conditions.
 - (For cure.
 - (For temporary isolation.
7. Removal of patients
 - Sanatorium treatment.
 - (For education and for disinfection of homes.
 - Homes for advanced cases.
8. After treatment of convalescent patients
 - (Necessity for voluntary societies to aid in securing suitable employments.
9. Removal of food infection
 - (Milk.
 - (Meat.

The evidence on which Koch made his startling statement as to the nonintercommunicability of bovine and human tuberculosis, is dismissed as utterly untrustworthy. Excellent results have been obtained by admitting to hospital phthisical patients who are living under unfavorable conditions at home. The cure of the patients is not looked for; the interest of the public health is what is held in view for the following reasons:

1. The patient himself will be improved and started afresh toward recovery.
2. While in the hospital his house will be cleansed and disinfected, and his relatives will be freed from uninterrupted exposure to infection.
3. The patient, when sent home, will have been taught to manage his expectoration and will no longer be a source of risk to those about him.

PHYSIOLOGY AND PATHOLOGY.

Transmission of Blood Cell Toxines to the Fœtus.—Dr. R. Heinz (*Virchow's Archiv*, June 25th) asserts, from his experiments on animals, that poisoning of the mother produces no changes in the red blood cells of the fetus in the earlier periods of pregnancy. Only in the later period, during which the embryo is more resistant, is there found a transmission of the maternal red cells with its poisons.

On the Semeiological Value of Partial Epilepsy.

—G. Seppilli (*Riforma Medica*, May 24th) says that partial epilepsy has a high diagnostic value as it offers an exact means of localizing a lesion in the Rolandic zone. Partial epilepsy has not, however, an absolute pathognomonic value. The author reports two cases in which the diagnosis of a tumor of the Rolandic zone was made on the evidence presented by a partial epilepsy, and in which the diagnosis was confirmed on autopsy. Jacksonian epilepsy, according to the author, is not an absolutely certain and definite sign of an organic or functional involvement of the Rolandic area, and yet it often gives a strong clue to the diagnosis.

Acetonuria in Disease of the Female Generative Organs.

By Dr. M. P. Krivoscheine, (*Roussky Vrach*, July 27th).—Since the discovery

of acetone in the urine of diabetics, by Petters in 1857, a number of investigations have been published as regards the clinical significance of acetone in the urine in various conditions. Acetonuria in the diseases of women has been but little studied thus far. A series of interesting researchs by Viccarelli seemed to prove that acetonuria in pregnant women indicated a dead or macerated fœtus; for, out of 137 pregnant women, only nine had acetonuria, and in these the fœtuses were found to be macerated. Menu and Mercier, however, found that acetonuria occurred in about one half of the pregnant women who were suffering from albuminuria, so that acetonuria during pregnancy does not necessarily mean a macerated fœtus. The author's researches include a systematic study of the urines of 70 women. Of these, 22 had cysts or cystomata of the ovaries; 20 had fibromyomas of the uterus; 9, inflammatory diseases of the uterus and appendages; 8, carcinoma of the uterus; 2, sarcoma of the peritoneal cavity; 2, tuberculous peritonitis; 1, cystosarcoma of the omentum; 1, endothelioma of the ovary; 1, hydronephrosis; 1, cancer of the peritonæum; and 1, vesical fistula. In all these cases the author tested the urine for the presence of acetone by means of Lieben's test, and found that this constituent of urine was present in 28 cases, while in 42 cases it was absent. The 28 cases in which the acetone was present were distributed as follows: In 19 cases of fibromyoma of the uterus; in 8 cases of carcinoma of the uterus; in 2 of sarcoma; in 2 of sarcoma of peritonæum; in 1 in cystosarcoma of omentum; in 1 of endothelioma of the ovaries; and in 1 of carcinoma of the peritoneal cavity. If the general opinion, that the appearance of acetonuria is due to an imperfect oxidation of the proteids, is conceded, the fact that so many of the malignant cases had acetonuria may be easily accounted for. Of eight cases of cancer of the uterus, it is true, only two had acetonuria, but in the others the disease was as yet in its initial stages. Acetonuria was found more constantly in fibromyomata, and it was noted that it continued after the operative removal of the growths, in some cases for twenty days or longer, during the whole period of observation after operation. Hence the acetonuria of fibromyomata must be due to some tenacious changes in the organism. Thiebault has shown that, in the metrorrhagia of fibromyomata of the uterus, the blood loses a considerable proportion of both hæmoglobin and red cells, which would account partly for

the acetonuria according to some authors. Strassmann and Lehmann showed that fibromyomata were often associated with cardiac fibrosis, myocarditis, and with arterial sclerosis. Both anæmia and changes in the heart and vessels lead up to the same result, a lack of oxidation in the tissues, thus setting up an acetonuria. Acetonuria is offered as a help to diagnosis in fibroid tumors of the uterus, and also as an indication of the fact that fibromyomata of the uterus probably coexist with other changes in the tissues and their metabolism.

The Quantitative Determination of Alexines in the Serum of Human Beings.

—Dr. G. A. Gousieff (*Roussky Vrach*, August 3rd) employing the

method of quantitative estimation of the alexines described by him in a preliminary communication (*Roussky Vrach*, No. 7) has examined the contents of normal and pathological serums in various conditions. His coefficient, KAI, is the amount of alexines in the serum, which is determined by finding the amount of hæmoglobin in the dissolved red blood cells. Examining the serums of fourteen healthy individuals, he found that the KAI was variable in different individuals, and depended evidently upon the state of the general health and nutrition. In persons with poor nutrition and anæmia it was lower than in those with good nutrition. In lobar pneumonia, nine cases showed that KAI was raised in the disease as a whole, that the curve of the KAI was highest at the crisis, fell with the crisis, and remained stationary or slightly rose again after the crisis. In severe cases, however, with fatal results, no rise of the KAI was noted. The KAI rose as a rule with the leucocytosis except in fatal cases. The conclusion is that the alexines are spent in pneumonia in the destruction of the infection during the crisis. In seven cases of tuberculosis he found that KAI was raised considerably in both acute and chronic types of the disease. In cases in which death threatens as the result of the malignancy of the process, or of some complication, KAI is not high, and at death may even fall to normal (KAI of health). The KAI of tuberculosis does not always vary as the leucocytosis. It is probable that the estimation of the alexine coefficient KAI will prove a means of diagnosis and prognosis.

In seven cases of malaria he found that KAI was raised and fluctuated with the alternation of attacks. It is probable that KAI is raised during the apyretic period before the chill, or at the cessation of the attacks; that it is lowered at the height of the curve, or at the onset of the sweating. In two severe cases of irregular type the KAI was found very low and rose only at the cessation of the paroxysms. Malarial infection is always accompanied by a marked hypoleucocytosis, and hence the amount of KAI does not always coincide with the number of white blood cells in that disease.

A more or less marked rise in the KAI was also found in various other infectious diseases, *e. g.*, acute articular rheumatism, scarlatina, typhoid fever, influenza, septicæmia, erysipelas, phlebitis. On the other hand, in chronic dysentery with a fatal termination KAI was found low with a high leucocytosis.

Among the chronic diseases, an increased KAI was found in (a) diabetes, (b) benign growths in the abdomen, (c) amyloid degeneration of internal or-

gans (in syphilis). The alexines were found lowered in anaemia and pseudoleucæmia. In leucæmia the KAI was but slightly higher than in health. In nephritis the KAI was increased during the attacks of hæmaturia, and fell with the general improvement of health.

As the result of the examination of 69 cases, therefore, the author concludes: First, that the quantity of alexines in most cases is a variable one. In some diseases it is characteristically raised, in others lowered. Secondly, that the variations in the amount of alexines in infectious diseases is evidently dependent on the pathogenesis of the infectious process. Thirdly, that the amount of alexines does not always coincide with the number of white blood cells. Whether this method of observation will prove useful in diagnosis, or not, the author does not pretend to say.

Diphtheroid Flat Condylomata. By Dr. Filippo Saraceni, (*Riforma Medica*, June 20th, 21st, and 24th).—The diphtheroid form of the flat condylomata of syphilis is often due to a microscopic lesion of the affected epidermis, the cells of which become vacuolized. But there is also a form in which the local process is exactly similar to that of diphtheria, and the author devotes the present paper to the study of three cases of this kind. He concludes that such cases may be due to a true diphtheritic infection and that they may be also due to an infection with the pseudo-bacillus of diphtheria. It is impossible to determine by experiments on animals whether lesions of the nervous system are concerned in the predisposition to this infection. In man, however, this local diphtheria has been discovered in individuals with neuropathic constitutions. This conception regarding the neuropathic predisposition rendering the invasion of germs possible, is analogous to the theories held in the ætiology of gangrene, noma, etc. It is possible that other factors may play a rôle in this infection, but these will appear on further study.

On the Hæmolytic Powers of Aqueous Extracts of Tumors.—Dr. G. Panzacchi (*Riforma Medica*, May 31, 1902) finds that aqueous extracts of sarcomata, carcinomata, and adenomata possess hæmolytic properties. This hæmolytic property is not, however, specific for the blood cells of man, but also is effective upon those of the dog, the guinea pig, and the rabbit. The aqueous extract is but slightly active during the first days after its preparation, but it increases rapidly and disappears completely after a variable period of time.

Experiments in the Manufacture of a Toxine of Glanders (Malleotoxine). By Dr. A. M. Maksuoff (*Roussky Vrach*, July 20th).—All attempts to produce a specific toxine of glanders have hitherto failed. Many observers, failing to find a toxic substance in the filtrate from the cultures of *Bacillus mallei*, have tried to obtain the poison by extracting it from the bodies of the bacteria. The substance so obtained was called mallein, and was at first regarded as the specific toxine of glanders, so that various observers tried at different times to render animals immune with the aid of this substance.

However, all attempts in this direction heretofore have given negative results. The author is convinced that, judging by the clinical aspect of glanders, the disease must be the product of toxine formation, but it is probable that the media employed for the cultivation of the *Bacillus mallei* are not suitable for the production of the poison. The bacillus of glanders grows very scantily in bouillon, and loses its virulence in this medium in from ten to fifteen days. At the end of four or five weeks the vitality of the germs disappears, and the reaction of the bouillon changes from neutral or alkaline to acid. The bacillus of glanders, therefore, belongs to that group of microbes which in their growth develop acids which neutralize the reaction of the bouillon. It is easy, knowing this, to control the development of the malleus toxine. By growing the germ upon modified bouillon which was kept alkaline, the author was able to produce a culture that gave a filtrate containing the specific toxine of glanders. In such a medium he found that the growth continued for a longer time, the virulence was prolonged, and the filtrate through a Chamberland's filter, was toxic when inoculated to animals. However, under these conditions the quantity of toxine elaborated by the bacillus was very small, so that other media must be found in which the growth will develop more virulent toxines. The author has not yet determined what the best medium is for this purpose, but he finds that the blood serum of horses added to various media weakens the culture in all respects. On some media he obtained a pellicle of tenacious matter at the surface of the culture, which corresponded to another mass of the same kind at the bottom of the tube. On shaking these cultures after they had been grown in the thermostat for six or eight days, it was found that a much more virulent growth was developed. The toxine thus obtained is enfeebled by mere heating to 60° C., so that the substance prepared from the bodies of bacteria at a temperature of 110° C. cannot be a specific mallein, as was supposed formerly. The author's toxine is styled, in contradistinction to mallein—malleotoxine.

The Causes of Sudden Death in Animals Immunized with the Blood of Other Species under the Influence of Intravenous Injections of the Same Blood. By Dr. L. A. Tarassevitch and Dr. S. M. Stchasny (*Roussky Vrach*, July 27th).—The authors have noticed that if an animal is immunized with the blood of another animal by means of intravenous injections of emulsions of the red blood cells in normal sodium chloride solution, they bear the first injection well, whereas the following injections produce rapid death with the phenomena of asphyxia. Experiments conducted by the authors show that these animals die under the circumstances mentioned, as a result of general embolism of the bloodvessels of the lungs. The injected red cells become agglutinated in the blood stream as a result of the presence of free agglutinins in the blood of the immunized animals. The fatal results of these subsequent injections in immunized animals are therefore due to a mechanical cause, the plugging of the pulmonary vessels by the agglutinated blood cells. The employment of similar injections for therapeutic purposes should be rejected as a possible source of danger.

Book Notices.

Typhoid Fever and Typhus Fever. By Dr. H. CURSCHMANN, Professor of Medicine, Leipzig. Edited, with Additions, by WILLIAM OSLER, M. D., Professor of the Principles and Practice of Medicine, Johns Hopkins University, Baltimore, etc. Authorized Translation from the German, under the Editorial Supervision of ALFRED STENGEL, M. D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia and London: W. B. Saunders & Company, 1901. Pp. 7 to 646. (Price, \$5.)

When it was first rumored that the renowned *System of Practical Medicine*, edited by Nothnagel was to be translated into English, the profession awaited with eagerness the time when the rumor should become a fact. This system had been so highly recommended by all who were able to read it in the original that those to whom this profit was denied looked with envy at their more fortunate brothers. It is universally conceded by those whose experience gives them the authority to express a judgment that this monumental work represented the best results of German thought and German experience in the domain of modern medicine. It was therefore a boon to American medicine that Dr. Alfred Stengel undertook the editing of a reproduction of the work in English. In addition, Dr. Stengel had gathered together as subeditors of the various monographs some of the best men in the country to cooperate in the work, so that the most prominent specialists are given the work of editing the volumes of Nothnagel relating to their specialties.

That Osler should have been given the monograph on typhoid fever, considering the studies on this disease published in the *Johns Hopkins Hospital Reports*, was to have been expected. He brings to bear in this volume all his experience in typhoid fever and adds to the authoritative work of Curschmann, many data which render the work complete and up to date. This volume may be truly said to represent all that is known on the subject of typhoid and typhus fevers, and to be the standard authority on the subject.

Of course, since the issue of the original German edition much has been added to our knowledge of typhoid fever, especially in its bacteriological aspects. The newer discoveries are presented in this edition, so that the reader gets more than he could from the German. Thus, for example, the distribution of the bacilli in the urine, in the blood, and in the roseola lesions finds ample recognition.

It seems to the reviewer that Osler might have added more to the subject of paratyphoid infection than the few lines which he devotes to the subject, especially when one considers that Gwyn and Cushing at Johns Hopkins were among the first in this country to isolate the microorganism from cases of this infection. Its clinical features might have been considered, as it is maintained by Brill that clinically there is a diagnostic distinction between the infection due to the typhoid bacillus and that due to the other related organism.

Too much cannot be said in praise of the entire work. The American edition represents the best of German and American thought on typhoid and typhus fevers.

The Röntgen Rays in Medical Work. By DAVID WALSH, M. D., Edin., Physician to the Western Skin Hospital, London, W., etc. Part I.—Apparatus and Methods. Rewritten by LEWIS JONES, M. D., Cantab., F. R. C. P., Medical Officer in Charge of the Electrical Department of St. Bartholomew's Hospital. Part II.—Medical and Surgical. (Brought up to date with an Appendix.) Third Edition. New York: William Wood & Company, 1902. Pp. xiv-15 to 316. (Price, \$2.50.)

The present is a very decided improvement upon the earlier editions. Part I, dealing with apparatus and methods, has been entirely rewritten by Dr. Lewis Jones. Apparatus is discussed tersely but instructively. Under methods, important principles are explained. It is to be regretted, however, that our hand books on Röntgen photography do not enter more fully into the practical technics of exposures and, more especially, of the management of vacuum tube-details that would save the beginner much experiment and many disappointments. Part II, relating to the medical and surgical uses of Röntgen ray work, differs from the second edition only in the addition of an appendix. Even without this, however, it was fairly complete.

The uses of the x rays in thoracic diseases are discussed in fifteen pages; and therefore, while most of the important points are touched upon, this chapter, suggestive rather than detailed, lacks the clinical value of the corresponding discourse in a larger work recently published by an American author. Therapeutics, too, is rather too briefly dealt with. In some measure amends for these defects are made in the appendix, which was added for the purpose of bringing Part II up to date. This appendix deals with a number of topics—chiefly recently reported cases—and its varied contents might better have been introduced under their appropriate headings in the book proper. The illustrations are numerous. They are evidently made from excellent pictures, but have suffered in the reduction and reproduction.

In spite of these criticisms, the work possesses no serious faults. On the contrary, though unpretentious in form, it is a careful, thorough, and interesting presentation of its subject. Its many quotations from the literature make it valuable for reference as well as for a working text book, and we warmly commend its usefulness for either purpose.

Short Talks with Young Mothers on the Management of Infants and Young Children. By CHARLES GILMORE KERLEY, M. D., Lecturer on Diseases of Children, New York Polyclinic Medical School and Hospital, etc. New York and London: G. P. Putnam's Sons, 1901. Pp. xiii-262.

Dr. Kerley's book is well named. It is replete with information tersely told in plain language. There is no attempt to supplant the doctor, but to aid him. Directions are given throughout the volume which, if followed by the nurse or mother, will prevent disease. The chapters devoted to the bath, diet, feeding and food preparation are full of practical suggestions from which many practitioners of medicine can glean valuable information. The success of the young doctor in handling emergency cases of infantile disease is a frequent means of introducing

him favorably to the notice of his neighbors, and many a busy career has had its incipency in a well handled case of colic or summer diarrhoea. The mothers of to-day are better educated to care for their offspring than our own mothers were, and the dissemination of knowledge, as contained in Dr. Kerley's book and similar volumes, has been the means of enlightenment. Time was when the physician had to resent the interference of the meddling mother or neighbor because they dealt in "false facts," but intelligent aid can be given the physician by the modern mother of to-day who has read and who acts on the suggestions contained in *Short Talks with Young Mothers*.

Transactions of the American Orthopædic Association. Fifteenth Session, held at Niagara Falls, June 11, 12, and 13, 1901. Volume XIV.

This volume, as usual, affords us an index of the year's advance in orthopædic surgery. There is a great deal of novelty, originality, and variety in the subject matter presented, and the absence of any duplication of the papers is pleasantly conspicuous. The tendency toward conservatism in operative measures in orthopædic surgery is evident along the whole line, from the president's address, in which the strongest kind of evidence against operative intervention in fractures of the spine is brought forward, down to that recent product of orthopædics—tendon transplantation.

The Diagnosis and Treatment of Diseases of the Rectum. Being a Practical Treatise on Fistula, Piles, Fissure and Painful Ulcer, Proctiditis, Polypus, Stricture, Cancer, etc. By WILLIAM ALLINGHAM, F. R. C. S., Eng., Late Senior Surgeon to St. Mark's Hospital, etc., and HERBERT W. ALLINGHAM, F. R. C. S., Eng., Surgeon to the Household of his Majesty, the King, etc. Seventh Edition. New York: William Wood & Company, 1901. Pp. xi-471.

The seventh edition of this famous work is a revision of the sixth. The author still favors Kraske's operation for removal of cancer of the rectum, and does not believe that a preliminary colotomy renders recurrence of the growth less likely. More space than heretofore has been given to the operation of colotomy in its various anatomical relations. In its revised form, Allingham's book is an excellent treatise.

Lamarck, the Founder of Evolution. His Life and Work. With Translations of his Writings on Organic Evolution. By ALPHEUS S. PACKARD, M. D., LL.D., Professor of Zoology and Geology in Brown University, etc. New York: Longmans, Green & Company, 1901. Pp. xii-541.

This may be regarded as the most authentic biography of the great pioneer of evolution yet printed. The indefatigable author visited the birthplace of Lamarck and collected his material in all parts of France. If the "pleasure of collecting the material has been very great," so is the reading of the material set forth with the hand of an ardent lover and admirer of the subject.

It is a pathetic story this. In the endless trials of his early manhood Lamarck reminds us of Huxley,

and in the final culmination of his fame he puts us again in mind of his great follower. The tribulations of a great mind devoted to the exposition of the truth as it appealed to it are here most graphically set forth, and the posthumous honors now coming to one of the master minds of the seventeenth century render the story of these burdens of his life doubly sad.

The Neo-Lamarckian, no less than the Darwinian, must read this biography, for it is capitably done; and, further, we may yet all be in harmony as to the verity of the Lamarckian factors of evolution as establishing the basis of natural selection.

Handbuch der Geschichte der Medicin. Begründet von Dr. med. TH. PUSCHMANN, Weiland Professor an der Universität in Wien. Herausgegeben von Dr. med. MAX NEUBURGER, Docent an der Universität in Wien, und Dr. med. JULIUS PAGEL, Professor an der Universität in Berlin. Dritte und vierte Lieferungen. Jena: Gustav Fischer, 1902. Pp. 353 to 704.

In the third instalment of this monumental work, the story of Greek medicine is finished. Dr. Iwan Bloch has written the chapter on old Roman medicine and Dr. M. Höfler considers ancient Teutonic medicine. Dr. Bloch again writes of Byzantine medicine. In the fourth instalment, Arabic medicine and the history of medicine in the Middle Ages are discussed. There is too much in this work to render it susceptible of review. The reading of it is, however, a pleasure, and its voluminousness and attention to detail make it what it is intended to be, a complete history of medicine. It is certainly a most stupendous undertaking.

Principles and Practice of Operative Dentistry. By JOHN SAYRE MARSHALL, M. D. (Syr. Univ.) Dental Surgeon, United States Army. Philadelphia and London: J. B. Lippincott Company, 1902. Pp. xxi-635.

This work is a very valuable contribution to dental literature. While it offers nothing essentially new, it covers this vast field so exhaustively, and embodies most of the accepted theories so well, that it deserves to become a standard text book for the dental student and an excellent reference book for the dental practitioner.

Dental anatomy, histology, and embryology are gone into minutely, while the chapters on bacteriology, sterilization of cavities, and filling materials have been written in a true scientific spirit. The teachings of anesthesia and extraction savor strongly of the school of practical experience. The student thus obtains a comprehensive idea of all these matters, not only by the explicitness of the text and the valuable literature referred to, but by the very numerous and appropriate illustrations.

The chapters on dental pathology, as to the various theories of caries, pyorrhea alveolaris, diseases of the dental pulp, and pulpless teeth, are modern, the author ably exploiting his own views in this connection and duly presenting those of others. Taking the book as a whole, the author is to be congratulated on his superior production. A slight revision in the sequence of chapters would be valuable in the next edition.

Human Physiology. Prepared with Special Reference to Students of Medicine. By JOSEPH HOWARD RAYMOND, A. M., M. D., Professor of Physiology and Hygiene in the Long Island College Hospital, etc. Second Edition, entirely Rewritten. 443 Illustrations, some of them in Colors, and 4 Full-page Lithographic Plates. Philadelphia and London: W. B. Saunders & Company, 1901. Pp. 9 to 668. (Price, \$3.50.)

This edition shows a most conscientious revision in all parts of the work, chemical, physical, and histological. A valuable feature of the book, didactically, is the frequent reference to practical medical and surgical methods diagnostic and therapeutic, in the elucidation of physiological data. The student will find this edition indeed up to date, both in substance and in form.

A Brief Manual of Prescription Writing in Latin or English for the Use of Physicians, Pharmacists, and Medical and Pharmaceutical Students. By M. J. NEFF, A. M., M. D., Philadelphia: F. A. Davis Company, 1901. (Price, 75 cents.)

This little volume does not differ essentially from other compends on the subject. It deals, for the most part, with prescription Latin, and more briefly with the methods of planning prescriptions. A few model prescriptions are shown. To these are added an appendix containing a vocabulary, a list of abbreviations, and tables of incompatibilities and doses. Half of the thickness of the book consists of blank pages for formulæ and notes.

Radiothérapie et photothérapie. Par le Dr. L. R. REGNIER, Chef du Laboratoire d'électrothérapie et de radiographie à l'Hôpital de la Charité. Avec 10 figures dans le texte. Paris: J. B. Baillière et fils, 1902. Pp. 5 to 91.

Though barely more than an outline of its theme, as are the others of the stiff-paper-bound series of *Les Actualités médicales*, this is an introduction, well worth the reading, to the study of a subject now attracting wide attention. A chapter on the nature of light as a form of energy precedes a consideration of its physiological effects. The principles of phototherapy and Röntgen-ray treatment, and the various apparatuses and methods by which they are applied, are briefly discussed, together with the present uses of this form of therapy.

Directions for Class Work in Practical Physiology. Elementary Physiology of Muscle and Nerve and of the Vascular and Nervous Systems. By E. A. SCHÄFER, LL. D., F. R. S., Professor of Physiology in the University of Edinburgh, etc. With Diagrams. New York, London and Bombay: Longmans, Green, & Company, 1902. Pp. 76.

This is an excellent little work, detailing elementary laboratory exercises in nerve and muscle physiology as conducted by the students in the University of Edinburgh, for whom the manual is primarily intended.

Miscellany.

Detachment of the Auricle for the Removal of Foreign Bodies in the Ear.—Dr. James Moores Ball (*Interstate Medical Journal*, August) records a very interesting case. A man fifty-two years old, strong and healthy looking, had for three years past had frequent pain and inflammation with occasional discharge of pus from the left ear; also pain in the ear on mastication. Ten years previously he had had purulent otitis media of the right ear, which had disappeared without leaving any ill effects. On examination of the left ear, the watch was heard at three feet, the tuning fork showed the auditory nerve unimpaired. There was a thin purulent discharge which escaped from beneath a black mass completely occluding the auditory canal, except at the lower anterior part, and situated about 10 mm. in front of the membrana tympani. The mass resounded like metal to the touch. Tyrell's hook and other measures failed to stir it.

An incision three inches and a half in length was made posteriorly to the attachment of the auricle. The periosteum was separated from the posterior part of the osseous canal and the auricle detached. A black body was found firmly wedged into the soft parts and lying almost at right angles to the auditory canal. This mass was seized with artery forceps and pulled out, considerable force being required for its extraction. It proved to be part of a knife blade, fifteen-sixteenths of an inch long, seven-sixteenths broad and one-sixteenth thick at its base. The auricle was replaced, catgut sutures being used, and a gauze tampon inserted into the auditory canal. Healing was uneventful.

On showing the specimen to the patient he stated that twenty years ago, during a fight, he was stabbed with a pocket-knife. Careful examination showed a small scar situated above and in front of the external auditory meatus. The patient said that the knife was of ordinary size—4. c., its blade was about two inches and a half in length—and that the surgeon who attended him regarded the wound as trivial and did not explore it. Evidently the foreign body was a migrant.

Furunculosis of the External Auditory Canal Simulating Mastoiditis.—Dr. James Galbraith Connal (*La Parole*, February) says that, in addition to the well-known cardinal symptoms of furunculosis of the external auditory meatus, viz., pain, deafness, noises in the ears, even vertigo, and occasionally suppuration and some slight febrile reaction, there is at times observable an oedematous swelling in the mastoid region, likely to cause confusion and an error of diagnosis. The cartilaginous cylinder lining the external auditory canal is not complete, but is interrupted by two or three transverse fissures, the fissures of Santorini, and these contain fibrous tissue in direct continuity with the cellular tissue covering the mastoid. Moreover, the upper part of the cartilaginous canal is not closely applied to the bone, the interspace being filled also with dense fibrous tissue forming a connecting track with the loose cellular tissue situated around the auricle, in front, above, and behind. Whence it may easily be seen how inflammatory processes, especially septic ones, may spread by direct continuity from the external audi-

tory canal to the tissue covering the mastoid, so closely resembling mastoid periosteitis as to be practically indistinguishable from it. By a similar process the oedema may give rise to a swelling of the eyelids of the corresponding eye. But more than this resemblance, it is easy to conceive that a simple furuncle of the ear may, under favoring conditions, give rise to grave changes involving bony structure. Two cases are reported by the author, illustrated by photographs. In one the swelling over the mastoid and the protrusion of the auricle are shown; in the other, the swelling of the cheek and eyelid. In neither case was the middle ear involved. The cases were simple furunculosis.

Climatic Buboes.—The Rev. C. F. Rife, M.D. (*Journal of Tropical Medicine*, August 15th), a medical missionary for eight years in the Caroline Islands, in a letter to Dr. Manson says that he has recently seen about thirty cases of climatic bubo, fifteen of which were under his immediate supervision, and as many more in outside patients not seen by him more than once or twice. He has a training school for Marshall Islands natives, and has now twenty-one pupils, young men. About six months ago, four of them and himself made a tour of these islands on a small schooner that had just returned from Guam. One of the sailors had a long attack of climatic bubo, and one of his boys contracted it while they were on board ship. Since coming ashore, all but six of the number have had it. They are rather closely associated in sleeping and bathing. Two of the fifteen think that they had no previous wound for the infection to enter, but Dr. Rife has doubts about this. The others all had some abrasion of the skin to begin with. At about three to five days, apparently, from time of infection, the lower inguinal glands, usually but one, would become much enlarged (to about the size of a hen's egg), there would be a chill, headache, considerable pain in the back, and some fever. He always painted the surface over the gland with tincture of iodine, and sometimes made a second application. None of these cases suppurated, but he saw three outside cases in which lancing was necessary. The trouble at the seat of infection, however, was not so easily got rid of. There was much suppuration, and in two cases rather extensive burrowing, which required the knife. The ulcers which he had to deal with were not more than an inch in diameter, rather deep, with a punched-out margin, and much congested in the surrounding skin. After a period of suppuration of from one to four weeks, there would be a long and tedious recovery, with an ichorous discharge which lasted for weeks. There was much deep pain, and this seemed out of all proportion to the amount of ulceration. The pain was so severe that the patients could not stand for any length of time, and when at their worst it was almost impossible for them to walk. The patients who recovered quickest were well in four weeks, while some were twelve weeks in recovering.

All the cases in his school occurred below the knee, one boy also having two small ulcers on one hand. The Kusaians report the case of a woman who had a very large ulcer on the thigh. Of his boys, five had but one ulcer, while one had six. Not one had enlarged glands except with the first infection. He found the treatment of the ulcers rather unsatisfac-

tory. Nothing seemed able to abort them in their long course. He tried hot fomentations, plain and medicated, with no apparent success. After the period of suppuration had passed, the pain was much relieved by dusting the ulcers with calomel.

The climate is very moist. The island is high, about twenty-six miles in circumference.

To Keep Children Healthy: No Coddling.—Dr. W. Freudenthal (*Medical Record*, August 9th) in a paper on the subject of nasopharyngeal catarrh, read before the Eastern Medical Society, says: In the general hygienic management of our cases fresh air is of vital importance, and patients should be as much out of doors as possible. Walking, riding on horseback, wheeling, rowing, golf, baseball, tennis, and similar games cannot be recommended too highly. If you want to keep your children healthy do as I do with mine. Take them out when it snows and when it rains. Leave the rubber shoes and umbrellas with the other relics of times gone by. When your children play and run about in the snow and get warm they will be healthy. If you keep them home and make hot-house plants of them they will be sickly and you will be responsible for it. Why? The superstition about the necessity of wearing rubber shoes is so strong that one day I was sent for by the principal of a school. One of my children had gone to that school on a rainy day without rubbers and the lady thought that that was against the rules. *Sapienti sat!*

The Dry Carbonic Acid Springs of Franzensbad.—Dr. Achilles Rose (*Postgraduate*, May) gives an interesting account of these springs, based largely on information from Dr. Thomas E. Satterthwaite and Dr. Steinbach, of Franzensbad.

The dry carbonic acid gas, considered in Franzensbad as an extraordinary valuable therapeutical agent, is the product of the mineral springs there. At different points it rises in form of jets of dry gas. One of the springs, the so-called *Polterbrunnen*, renowned for centuries, surpasses in regard to amount of gas all springs of this kind in the world. Here the gas comes out of the ground with great force and a great deal of noise; the gas is caught in a wooden receptacle and conducted from this vessel by means of a metallic pipe in the gas bath-house erected over the *Polterbrunnen*. In this bath-house there are common baths for a number of bathers at a time, and also separate bath-tubs. The common baths are two wide basin-shaped recesses with steps all around the walls, and benches to be occupied by the bathers. The single bath-tubs are about one metre deep, also with benches of gradual height. In the bath-tubs, as well as in the common bath-tubs, the bathers remain with their clothes on, the gas penetrating at once the clothing and acting on the skin. In the bath-tubs the bathers need only to be careful to keep the head above the level of the irrespitable gas, that is above the edge of the tub. The gas is pure dry carbonic acid admixed with a minimum of sulphuretted hydrogen of indifferent effect. Carbonic acid being a colorless gas, the tubs and basins to the eye of the bather appear empty. The gas can be inhaled to the amount of ten per cent. in atmospheric air.

The first sensation of the bather in the bath is that of warmth, beginning at the thinnest layers of the

epidermis. This warmth extends gradually, by means of the penetrating power of the gas, over the whole surface of the body exposed to the gas, and changes by degrees into a piercing or prickling sensation. As the gas by itself is cool, this sensation of warmth is not due to the temperature of the gas, but a consequence of the intense irritation which it produces, especially on the peripheral nerves, followed by increased circulation in the capillaries, and manifested by reddening of the skin.

One of the most remarkable therapeutical effects of carbonic acid thus applied is the intense action on the sexual organs, manifested by strong fluxion and turgescence; in females promoting normal or regular catamenia, re-establishing menstruation in cases of amenorrhœa or retardation. Rose has repeatedly called attention to the fact that it never causes uterine contractions; that it does not produce abortion when applied during pregnancy. Equally valuable is the beneficial effect on the male sexual organs in cases of relative impotence, tumor of testicles, failing energy of cremaster or *nismus ad coeundum*. Many amenorrhœics and many afflicted with impotence, who had almost despaired of ever regaining their sexual ability, have regained in these baths the *facultas generandi*, and it is well known that, for this reason, Franzensbad is considered as a cure for ateknia. The urinary secretion is increased in these baths, and their effect is exhilarating and refreshing.

Carbonic acid applied to the closed eyelids relieves epiephycitis, or conjunctivitis, catarrhalis. Only few patients, however, will submit to keeping the eyelids closed for a certain length of time, and the gas applied directly upon the conjunctiva causes hyperæmia, tears, and even pain.

The gas is an excellent remedy in different forms of otitis, and should be saved from oblivion into which it has unjustly been thrown for a century or more. Gratifying results are obtained by the application of this douche in Eustachian catarrh and beginning deafness. The douches are applied from a balloon of from one to two litres capacity filled with the gas.

Torpid ulcers become purified when the gas is applied, and heal promptly, and in ulcers of the rectum carbonic acid is an ideal remedy.

Paretic muscles regain under the bath treatment tension and energy, which becomes more and more satisfactory with every succeeding bath. For this reason the carbonic acid gas baths have been found beneficial in beginning tabes.

Dr. Steinbach limits the duration of the bath to from fifteen to twenty minutes, and has never seen unfavorable symptoms follow a duration of this length.

The indications as enumerated by Dr. Steinbach are the following: 1. Sterility and impotence; 2. amenorrhœa and oligomenorrhœa; 3. paresis (hysterical, reflex) of the extremities, bladder, etc.; 4. neuralgias (prosopalgia, sciatica, spinal irritation, etc.); 5. rheumatism, chronic and acute; 6. torpid ulcers; 7. catarrh, otitis, epiephycitis. Dr. Steinbach's experience thus confirms in every particular Dr. Rose's findings, and complements in some details his researches.

A Sinister View of Surgery in the Thirteenth Century.—When King Louis VIII. died at Montpensier, in 1226, there were those who accused Thibaut IV., Count of Champagne, of having poisoned him out of love for his queen, Blanche of Castile. The trouvère, Hue de la Ferté, thus apostrophizes Thibaut (or Tybalt), in one of his *Chansons*:

Quens Tibaut, doré d'envie
De félonie frète,
De faire chevalerie
N'estes vos mie alosé,
Ainçois estes mieux mollés
A savoir de sirurgie.

Which may be somewhat freely rendered as follows:

Count Tybalt, with felony
Frighted, and with envy filled,
In the deeds of chivalry
You are not accounted skilled;
Certes, you are more instilled
With the art of surgery.

K. W. M.

By surgery, Hue means "the gentle art of poisoning."

The Fevers of North Eastern Arkansas.—Dr. F. R. Wheeler (*Memphis Medical Monthly*, May), in a paper read before the Tristate Medical Association (Miss., Ark., and Tenn.) described the fevers of the St. Francis Basin—the sunk lands of Arkansas. This section is of alluvial formation, sandy, well timbered and very fertile. Shallow water courses abound which gradually cease running and finally go dry in summer. Yet a pump driven from twelve to twenty feet into the ground secures anywhere good and wholesome water.

The first settlers were a healthy people. Later, chills and other forms of malaria appeared. Typhoid as yet has not made its advent. However, there now exists a seeming combination of these fevers, which for the want of a better name, he calls typhomalarial. Though this subject is stale and has been laid aside for years, the author believes that by wrong treatment many patients have also been laid aside for years; and to suggest a means to stop this emigration to the land beyond is his apology for writing this paper.

In these continued fevers there are two manners of invasion—the sudden and the slow. In the sudden manner fever begins abruptly; prodromata are absent; a chill and a sudden rise of temperature mark the onset; all the phenomena of fever are rapidly established; hot skin, rapid pulse, thirst, headache and pain in the back and limbs harass the patient from the beginning; the tongue is white and coated, bowels constipated, urine diminished in quantity and of high specific gravity. In fact, these symptoms much resemble the malarial type of fevers.

The invasion in the other type (the slow) is manifested by symptoms not wholly unlike those that accompany typhoid. There are lassitude, anorexia, languor, a sense of weariness, with rise of fever during the evening and decreasing temperature next morning, usually increasing in intensity each day for several days before counsel is sought, when the patient will tell you that he is not very sick, but wants you to prescribe for him, and on your return

the next day he may tell you that he is better, which you know not to be the case; before you leave, he may talk at random, or possibly be slightly delirious.

In both types there are continued remissions of fever, aching, referred mostly to the back and head, and coated tongue, which may be white, furred, yellow, or possibly clean. In both types there is acid urine of high specific gravity, containing phosphates and urates. Both types are endemic, more especially the slow. Often every member of the patient's family contracts the disease.

Dr. Wheeler has seen only two deaths from this disease, both occurring in the same family, all of whom were similarly affected and in whom the typhoid rash appeared, yet in none of whom were there any symptoms of inflammation of Peyer's patches or the solitary glands; and, too, these patients were treated for malarial fever—that is, by the quinine method. As was said, they died.

Is it not better to cure your patients by an Arkansas swamp doctor's suggestions than to kill them scientifically? asks Dr. Wheeler.

As to treatment: Begin with calomel to stimulate the glands and by affecting nutrition increase the red blood corpuscles. For dry tongue, tympanites, and inactivity of the kidneys, follow with turpentine, disguised with aromatic cascara sagrada and oil of wintergreen. Gelsmium, potassium acetate, coal-tar analgetics have their uses. Bathing is important, also the free ingestion of water. The tonic influence of arsenic and strychnine is of benefit. Nourishment is essential. Quinine is useless if not injurious, according to the author's experience. A case is reported.

New Operation for Complete Extirpation of Cancer of the Tongue.—M. Poirier (*Presse médicale*, April 26th) communicated recently to the *Société de chirurgie* the result of his researches on the lymphatics of the tongue and his conclusions thereon as regards operation for cancer of that organ. Up till recently it was held that the lymphatics of the tongue emptied themselves as follows: Those of the tip to the submental gland (Poirier), those of the sides to the submaxillary glands, and those of the posterior part of the glands lying about the jugular vein in the region of the bifurcation of the carotid. More recent researches by the aid of Gérôta's method (injection with Prussian blue) show that some lymphatics going from the tip and lateral parts of the tongue passing behind the submaxillary gland, the digastric muscle, and the hyoid bone, empty themselves into glands situated very low down, at the point where the omohyoid crosses the internal jugular, and even, according to Küttne, as low as the subclavicular gland. These deep lymphatics present, moreover, in the neighborhood of the hyoid, clearly defined ganglionic enlargements. Finally, M. Poirier added, every time in the course of an injection that any point whatever of the lingual mucosa was pricked, one was sure to force the injection into all the lymphatics of the organ, which accorded with the clinical fact, constantly observed by M. Poirier, that every cancer, even at the beginning and when limited to one side of the tongue, was accompanied by bilateral affection of the glandular groups mentioned above.

These considerations have led M. Poirier to devise for the treatment of cancer of the tongue an

operative procedure which consists, not only in removing very freely the organ and the tissues invaded by the neoplasm, but in at once dissecting out and extirpating systematically from both sides all the glands which present any sign of infection or even run the risk of a secondary degeneration.

This method includes two successive steps: 1. By a very free incision the lateral regions of the neck from the angle of the jaw to the supraclavicular fossa are successively exposed; the affected glands or those which are likely to become infected are sought and removed; the lingual, facial, and even, if necessary, the external carotid arteries are ligatured; then the wound is sutured with ample drainage. 2. The tongue is removed through the mouth by Whitehead's method, a proceeding which, by the division, first of the pillars, then of the genio-glossi, allows the drawing out of the tongue progressively and easily, and the scissors to be maneuvered up to the anterior surface of the epiglottis, that is to say, permits the making of the extirpation as complete as possible.

Of four cases in which M. Poirier had followed this plan, two had been considered inoperable by many surgeons. Up to date, not one of them had presented any sign of recurrence, the first case being over a year old since the time of operation.

An Early Sign of Pleuritic Exudation.—Przewalski (*Centralblatt für Chirurgie*, No. 14, 1902; *British Medical Journal*, August 16th) states that on careful examination of the thorax in very early stages of pleurisy with exudation, he has, in a number of cases—14 of pleuritis serosa and 5 of pleuritis suppurativa,—invariably observed a narrowing of the intercostal spaces and a marked resistance of the intercostal muscles on the affected side. The approximation of the ribs on the side of the chest containing the exudation is, the author states, very characteristic, and seems to present some analogy to the muscular contraction observed in the affected limb in cases of arthritis. This, which is regarded as a constant and typical anatomical sign of pleurisy with exudation, is attributed to a fixed attitude of the ribs corresponding to the seat of disease, the immobility being very probably due to reflex contracture of the internal intercostal muscles.

To Avoid Sunstroke.—Dr. Andrew Duncan (*Journal of Tropical Medicine*, August 15th), from his personal experience of sunstroke in India, gives details of a method of prophylaxis which has answered admirably: During several successive years he suffered from severe headaches, and during four hot seasons he had, in addition, intolerance of light and a tendency to unconsciousness. It was suggested to Dr. Duncan that the actinic rays of the sun, and not the heat rays, were the active agents in producing sunstroke, and that, were the body enveloped as a photographer treats his plates, using always an orange-yellow wrapper, the effect of the actinic rays on the body would be counteracted. Dr. Duncan, acting on this suggestion, wore an orange-yellow shirt, placed a similar colored lining inside his service helmet and inside the coat over the spine. After the use of this colored material Dr. Duncan never again felt the influence of the sun to be overpowering.

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THE PLAGUE; ITS "DIFFUSIVE TENDENCY"; HAFFKINE'S ANTIPLAGUE VIRUS *vs.* DR. YERSIN'S SERUM.

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AURORA, TEXAS.

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Rear Admiral Schley, in May, 1900, on account of plague in Rio De Janeiro, proceeded along the coast of Brazil with the South Atlantic Squadron. Very soon, on July 2d, there were 224 cases in the hospital at Rio. The alarm bell of the world was ringing. Announced in Adelaide, then along the coast of Australia; Sydney, New South Wales; Naples; Oporto; Smyrna; Batoum; Glasgow; Liverpool; London; at Brisbane, Hull, and Hamburg; in Asuncyon, Paraguay; in Portugal; Cape Town—700 cases announced for a day. Fifty-eight Europeans, sixty-one colonists, and two hundred and seven blacks died up to June, 1901. On June 9th Russia declared Egypt infected territory, except Port Said and the Suez Canal. She could not diplomatically and commercially see it there, though by May 12th it was seizing the Arabs before they could fold their tents; hunting Europeans in their quarters; and on June 1st, 1900, a Greek plague centre was announced. The Greeks, believing in Zeus, but not in history, even of their own Pericles, who died of plague in 429 B. C., resisted the scientific aid offered them by the doctors, as the Hindu and Mohammedan fanatics did the animal fat on their cartridges, causing the Sepoy Rebellion. Knives and pistols were flourished, and a threat was made to pour petroleum on the doctors and set them on fire. The plague reached the port of New York on a British vessel from Brazil. It found lodgment in the Chinese quarter of San Francisco. On the 31st of March, 1902, a death from plague was announced in Berkeley, California. April 15th, 1902, in Buenos Aires, Argentine. Our soldiers in the Philippines and Hawaiian Islands have been exposed to plague. The *Church Mail*, of London, said of Foo Chow and vicinity, China:

"1,000 coffins have been carried out of the city gate each day; 1,500 cases of plague reported daily" in this epidemic, October 30, 1901. Calcutta, March 21, 1901: "4,725 deaths in Bengal reported in one week." Mr. Lane says that in 1835 "It destroyed not less than 80,000 in Cairo and far more, he believed, than 200,000 in all Egypt." We could gather a ton of plague literature, beginning with Manetho, 2,500 years B. C. Hezekiah evidently had it. We cannot stop to see.

Plague, cholera, and famine have swept India as with fire. From these causes, since 1896, there have died 5,000,000. The viceroy of India, less than two years since, gave "The number of persons receiving relief," from famine as 6,013,000. At the same time the governor of Bombay reported: "There were 10,320 deaths from cholera and 6,502 fatalities in the famine district during the last week in June." With much of the filthiest soil on earth, comparable alone with that of a portion of China; with unalterable racial ideas and rabid fanaticism to overcome, the outlook is gloomy indeed. Dr. Dhuleep Azend, a Hindu of the faculty of Calcutta University, "one of the most profound of all the native scholars," gives as causes of the continuation of the plague the physical weakness of the people from insufficient food, heavy tax absorbing all the product of the average ryot's patch of ground, too often stinted at best. Also this: "The true banal influence of that is upon us, the root of this upas tree whose shadow makes a cemetery of our hopes and a Golgotha of our aspirations after national life is our system of child-marriages."

Some American sanitarians assure us that plague cannot find an abode in this country—that at worst we might have sporadic cases. I believe Professor Simpson, who said he "viewed it as a hardy annual of the East with a *diffusive* tendency, which plagues had not shown for 200 years."

In 1899, December, I saw a copyrighted article from the *New York Herald*, written by a wildly enthusiastic friend of Dr. Yersin, or by an intelligent non-professional, with his notes before him, circumscribing only one bacteriologist in the world. The writer has abundant proof before him showing that the reporter confounded the brilliant work of Haffkine in India with the unsatisfactory trials of Yersin's serum, giving all credit to Yersin, as shown before commissions, bacteriologists, and scientific

professional men, entirely due to Haffkine. Very soon, in many American medical journals statements like this: "The Yersin antiseptic serum now (March, 1900) is admitted by all who know of its usage and manufacture to be a positive cure for the disease." In the language of the Scotch court, "It is not proven." Further, the writer says: "If injected into an individual who has been exposed to the plague, it will not only not protect that individual into whom it has been injected, but will, in most cases, lead to a fatal outcome. The reason for this is quite manifest; the Haffkine prophylactic is a toxine of the *Bacillus pestis*, and protects the individual into whom it is injected—provided, of course, he has not been ex-

posed to a dose of toxine. The solution, then, of the problem of the utility of the prophylactic and curative treatment of this disease is this: Use the Yersin antiseptic serum in all cases of persons who have the disease, and also in those who have been exposed to the disease; and use the Haffkine prophylactic in cases where there is absolutely no history of exposure to the disease—for instance, at ports where the disease has not yet appeared, but where there is danger of its appearance through the medium of commerce" (*Inter-State Med. Jour.*). M. Haffkine would say there is "reasonableness" about this. It is good laboratory reasoning from the Calmette or Yersin standpoint.



Hindu attendant.

W. M. Haffkine, director-in-chief. Plague research laboratory, Bom ay.

posed to the disease—by causing the formation in that individual's blood of a natural antitoxine. It increases his resistance, in other words, by the resistance which is set up in his blood. If, however, the individual has been exposed to the disease before the injection of the Haffkine prophylactic, he has within his system a combination of the toxine which is generated by the plague bacillus introduced at the time of his exposure, plus the toxine represented in the prophylactic injection. The consequence is that he dies through the agency of a dou-

Permit the writer to take you on the battlefield in India, and he will point out officers who will show you the facts. On November 5, 1901, I wrote to M. Haffkine, in part, as follows: "Within that time I have seen the statement that the Haffkine prophylactic should not be used on persons after exposure to plague, but that the Yersin treatment could be used either before or after exposure." Surgeon-General Wyman, U. S. Marine-Hospital Service, in a report, 1900, on Bubonic Plague, says: "The Haffkine material should not be used if the person has

been definitely exposed to the plague or is thought to be in the incubative period, for, if by chance he is already infected, the Haffkine material may produce fatal results. Therefore the Haffkine material should be used as a preventive on persons before their exposure, while the Yersin treatment may be used either before or after exposure or while a person is suffering from the disease." He gives in a foot note, page 21, this caution: "The Haffkine material should not be used on suspects held in quarantine or on persons who have been definitely exposed to the plague, but is applicable to persons who are liable to be brought into contact with plague and before such possible contact, as quarantine officers

in the economy, and the individual, man or animal, is overpowered." Kindly give me, at as early a date as practicable, your opinion and the present status of your treatment by inoculation. The Surgeon-General, Hospital Marine Service, recognizes your great work, giving the glorious figures of Bombay and Mofussil. Hoping that your life may be long and health given you for this noble world's work,

Vy. truly, J. Drummond Burch."

Reply, in part: "Bombay, December 10, 1901.

* * * "Referring to the question you mention, as to the effect of our plague prophylactic on persons incubating the disease the result of all our observations here is in opposition to the prevailing



Inoculation in the slums of Bombay. Haffkine inoculating a Hindu.

On his left a municipal sanitary inspector. On his right Lt. Col. Weir, health officer, Bombay, signing an inoculation certificate for the half-naked native in front of him. Capt. Milne at Col. Weir's left. Dr. Alice Corthorn under the sunshade.

and attendants, health officers and employees, and persons in a community where there is danger of the introduction and spread of the disease." He offers as the rationale of this as conspicuous, in that "Haffkine's prophylactic introduces into the economy a certain amount of toxine which in any event has to be counterbalanced or taken care of by the gradual production of an antitoxine. If before this elaboration the disease is given or acquired there is present the amount of toxine given plus the amount produced by the organism in the process of its growth

ideas; and I have no doubt that the latter will subsequently change. * * * The opinion of Calmette and others, correctly quoted by Surgeon-General Wyman, have found general acceptance, partly and I believe chiefly, on account of its, so to say, reasonableness. Nevertheless, it is in contradiction with some of the best known facts. Believe me

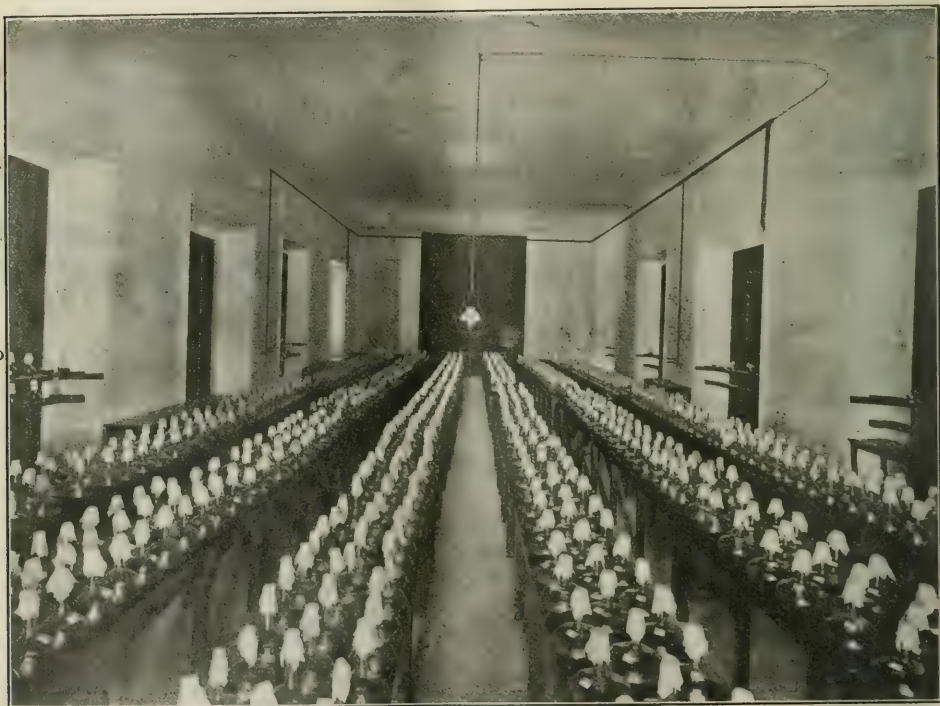
Yours truly, W. M. Haffkine."

Bhalchandra Krishna, L. M., Pres. Grant Med. College Society; Pres. Municipal Corporation of Bombay; Pres. Med. Union, &c., prepared a paper,

1898, from which the writer quotes liberally. He says: "An intense and deeply sympathetic interest was excited by the arrival of Dr. Yersin, of the Pasteur Institute in Paris, who came with the object of giving a trial to his curative remedy for plague. He had found that remedy to be an effective cure when the epidemic was declining in Hong Kong. Afterward he declared it to be also a preventive. The results of the trials given to it here in Bombay are known to all of you."

That is every word he has written concerning Dr. Yersin's serum and experiments in India in his paper on M. Haffkine's Plague Prophylactic Inoculation, except to mention Haffkine's attempt to verify

Haffkine, whom the government of India had deputed as their representative on the Plague Research Committee, and who, at the time of the outbreak, was pursuing his cholera studies in affected districts of Bengal." "About two years ago" "he told me that none of the suggestions and plans which were then so plentifully offered and discussed on all sides commended themselves to him when the epidemic concerned was that of plague, and that he was directing his efforts toward the solution of two problems which he had laid before the government of India before leaving for Bombay as the only measure likely to render any effective help, viz., First, the working out of a protective treatment against



Cultivation hall for the plague prophylactic. 1,238 cultivation flasks, with 2,058 litres of cultivation bouillon, or about 411,600 adult doses of plague prophylactic in course of development.

Dr. Yersin's claims and work. A kinder review was never written. Haffkine is to-day director-in-chief of the Plague Research Laboratory, Bombay. This fact alone is a complete answer to Calmette and his followers, since, if their theory respecting Haffkine's vaccine is correct, the usefulness or value, in any manner, is gone. The British, or Indian, government would have perceived, through its medical men, that the antiplague virus could not be used. Krishna continues: "Among the various scientists who applied themselves to the study of the plague was Prof.

plague, similar to the method of vaccination against smallpox; and, secondly, the verification of Dr. Yersin's announced preparation of a curative serum." "You know the results of those labors in the two directions just mentioned. After three months of research, namely, in January, 1897, Dr. Haffkine reported to the Municipal Commissioner his plan of a prophylactic treatment against the plague. That plan has now been under trial for nearly two years." "I am convinced of the protective power of Prof. Haffkine's prophylactic and need scarcely add, in

this conviction, I have undergone the inoculation personally now many months since. I am of opinion that, of all the measures for combating the plague known up to now, inoculation is the most reliable and safe measure; and that it is our duty, as medical men, to encourage it by all possible means, and to induce the public to take full advantage of it. We are deeply indebted to Professor Haffkine for his labors, and he may be truly called a benefactor of mankind."

Major Bannerman, M. D., British army, Superintendent of the Plague Research Laboratory, Bombay, says: "It is evident then that inoculation (with Haffkine's antiplague vaccine) of persons incubating

deaths among these 74 incubating persons. She reports: "Inoculated once, 1,365. Cases, 32. Deaths, 14. Inoculated twice, 11,639. Cases, 161. Deaths, 69. Not inoculated, 4,163. Cases, 278. Deaths, 216.

Mr. Cappel submitted Surgeon-Captain Lewman's report on inoculation in Hubli, a vast experience—78,000 vaccinated. Mr. Cappel says: "At the present moment, October 19, 1898, the plague has practically died out at Hubli, and there can be no question as to the causal relation between this fact and the inoculation measures. The system of double dosage, which has also been adopted at Dhārwar, exhibits a 10-per-cent. advantage over single inoculation." Dr. Lewman wrote Haffkine that he did



Room for the manufacture of cultivation media. Captain Charles R. Milne. Mussulman assistants in white. One Hindu servant, half naked.

plague does not do any harm, but on the contrary increases their chances of recovery," (*Report*, 1900.) In the same report he says: "In Dhārwar 74 individuals developed plague within 10 days of operation. As 10 days is generally admitted to be the limit of the incubation period, we may assume that many of these persons had already the plague germs in their bodies at the time of the inoculation." It is shown in Dr. Miss Alice Corthorn's most careful and heroic work at Gadag, that there were 47 recoveries and 27

not get sufficient reaction from dosage given on the bottles, and Haffkine submitted the matter to Lewman's observation and sound discretion, who increased the dose. Dr. Lewman says: "While paying the highest tribute to the value of Mr. Haffkine's inoculation method, which I claim, here in Hubli, to have put to, perhaps, the severest test to which it has yet been subjected, I am of the opinion that individual protection is, on however great a scale conducted, of less importance than that of general pro-

tection by sanitation and hygiene." Again: "It is with no attempt—far less still a wish—to undervalue such brilliant work and so useful to mankind as Haffkine's preventive inoculation against plague undoubtedly is, that I compare the measure with sanitation and general hygiene." "My opinion, based on a large experience, is that although in the very early stages of a comparatively long incubation period inoculation may benefit, yet in a short incubation period or in one which is well advanced it is far more likely to be harmful. Hence I consider it advisable never

for dealing with this disease." M. Haffkine says: "If there be still an interval of some 24 hours before actual symptoms of plague were to appear, the inoculation is likely either to entirely arrest the disease or to mitigate its severity. With regard to this rôle, those who judge of the question from a theoretical standpoint distrust the 'adding of 'inoculation toxine' to the virus the man may already have in his system. The actual facts, however, do not justify any apprehension on this point"—deductions from Dr. Lewman's report. M. Haffkine illustrates



Distribution Hall. Siphoning off the plague prophylactic from the large cultivation flasks into small bottles. Assistant Surgeon Cordeiro (Portuguese), supervisor, on the right. Parsee and Hindu assistants.

to inoculate a person if he be found suffering with a 'fever' of over 100° F." Remembering he is in India, with its castes, its creeds, its unspeakable filth, its utter abominations, its famine, its child marriages, its soil and water polluted beyond description, he exclaims, in reference to sanitation and hygiene: "But I have never met with such conditions in India, or conditions approximating thereto; and, hence it appears to me that inoculation ranges itself, by the protection it affords, in the front rank of methods

by vaccination in cases incubating smallpox, or using "attenuated virus" in rabies. The superadded virus mitigating or curing the condition. No one hesitates to add these toxines to that incubating in either case for fear of fatal results. Krishna gives this fact: "Last week in January, 1897, plague broke out in Byculla jail, 9 cases, 5 deaths. Half the prisoners offered to be vaccinated. January 30th, 6 cases, 3 deaths before inoculation. After inoculation it was discovered that one of the prisoners had

a bubo, two others developed buboes the same evening. These cases, attacked the day of the inoculation, died. The inoculated and uninoculated remained under identical conditions of life; same kind of food and drink, same rest and work hours, slept in the same barracks, alike exposed to infection." Dr. Bannerman excludes the three inoculated who had plague when vaccinated. Uninoculated, 172. Cases, 12, deaths, 6. Inoculated, 147. Cases, 2. No deaths. Immediately, with this encouragement, 8,142 persons were inoculated in Bombay with Haffkine's vaccine; Parsees, Brahmans, Sudras, other Hindu castes, Mohammedans, Europeans, Jews,

deaths. Daman, Portuguese territory, 1,017 inoculated, 20 cases, 6 deaths. Not inoculated, 7,213. Deaths, 716. Dr. Poiars gave small doses. Results not so good. Lanowli, not inoculated, 377. Cases, 78, deaths, 57. Inoculated, 323. Cases, 14, deaths, 7. Kirkee, a military cantonment, with strict discipline, isolation, sanitation, etc. "One out of every six of the population was attacked and 2 out of every 3 died who were not protected by inoculation." Population in military lines, 1,530. Volunteers for inoculation, 671. Not inoculated, 859. Cases, 143. Deaths, 98. Inoculated, 671. Cases, 32, deaths, 17. Belgaum, Madras infantry, living in



Dr. Paymaster (Parsee) working at the blow-pipe. Assistant Surgeons Karthik (Hindu-Brahman), Kapadia (Parsee), and Monteiro (Portuguese) siphoning off the prophylactic.

Japanese, etc. There were reported 18 cases and 2 deaths. These 2 were proved to have had the disease upon them when vaccinated.

To December, 1900—1,628,696 doses were issued from the laboratory. The best observations were secured that could be obtained under the circumstances. Dr. Bannerman reports: "In all cases, without exception, there has resulted a striking reduction of plague mortality, and also a markedly favorable effect on the case incidence has been produced." Mora, 1,000 population. 419 inoculated. 7 cases, no deaths. Uninoculated, 26 cases, 24

lines close to the city. First epidemic, 78 cases, 49 deaths. Removal, disinfection, strict sanitation relieved the situation, somewhat. In the second epidemic in the city and cantonment there were 2,570 died without inoculation. 1 in every 17. The Sepoy troops, 1,801 all inoculated. Died, 6—one death in every 300. They readily offered for a second inoculation: Officers and Sepoys say inoculation saved them. Umerkhadi Jail, Bombay, plague last of December, 1897. Three cases, all ended fatally. January 1, 1898, all prisoners offered for vaccination, 401 in number. To demonstrate the efficacy of vac-

cination, only half were inoculated. They were grouped in rows. Every second man or woman was vaccinated. They had the same hours, rest, and work, the same accommodations. Not inoculated, 127. Cases, 10, deaths, 6. Inoculated, 147. Cases, 3, no deaths. These three cases are thus reported: "The disease was so mild in these cases that the hospital authorities were doubtful whether they were cases of plague." The Umerkhadi Jail incident is "full of thought" for the Calmette laboratorians. Dr. Chenai, of the Mahratta Mills and Railway sent in a firm endorsement of inoculation. So, all along the line, except Bulsár. The commissioners made this report, 1900: "In every case, except that of Bulsár, inoculations had a considerable effect in warding off plague attacks from the inoculated, and that in every case, without exception, they rendered attacks among the inoculated less fatal than attacks among the uninoculated." At this date, 1902, that Commission would feel *compelled* to give a still more unqualified endorsement to Government. The men who are fighting the battle all stand by the Haffkine gun. In the Bulsár case "there was a reduction of 43.3 per cent. in case of attacks and 73 per cent. in the case of deaths in favor of inoculation. It was not 80—90 or 100 per cent. as in other localities in reduction of deaths and offered a "shining mark" to the commissioners. It is a reasonable presumption that among the many thousands inoculated over India there were equally as many hundreds who were incubating plague whose lives were thus saved.

Take the Byculla Jail incident. M. Haffkine says: "The difference in the fate of the two groups was, however, *in favor* of the one whose condition, abstractly thinking, should have been aggravated by the addition of the 'attenuated toxines.' In no instance of the observation collected since that first lesson was this conclusion shaken or contradicted. Whenever, therefore, there is reason to believe that a person is incubating plague, the inoculation is to be resorted to immediately with every likelihood of that person benefitting by it." He advises against it if the fever is likely to develop "within the time the inoculation fever lasts."

Bannerman (1900) reports the commission as agreeing as proved: "That inoculation (Haffkine virus) is harmless. That inoculation confers a high degree of immunity from plague and so reduces very greatly the number of attacks. That when, in spite of inoculation, a person is attacked, his chances of recovery are greatly increased." They did not agree (1897-1900) as to the advisability of giving it in the incubation stage. The objection to the last proposition on the part of the only commissioner objecting was simply trivial. Surgeon-General Bainbridge "agrees entirely with Dr. Lewman's lucidly expressed opinion of its (Monsieur Haffkine's prophylactic) value as a protective measure against

plague." Rumors of evil results are reviewed by Krishna. He says: "Considering the nature of the prophylactic, which does not contain any living bacilli, it is certain that such an eventuality is absolutely impossible." The vaccine is not a serum obtained from any animal. It is purely artificial. "The microbe of plague has no spores, and when grown in the prophylactic, is not protected by albuminous or other coatings; and when heated 15 or 20 degrees higher than is necessary for killing it, it requires an uncommon stretch of the imagination to maintain that any living bacilli remain suspended or dormant in it." "The prophylactic is heated to 65 or 70° C. (158 F°.) for an hour and carbolized afterward." Lymph *does* contain microbes and most virulent ones at that. Witness the recent deaths at St. Louis from tetanus from serum prepared there as antidiphtheritic. "Prof. Haffkine's inoculation against cholera is done with living bacilli of a higher degree of virulence obtainable; in spite of that no one ever heard of epidemics of cholera being produced by the anti-cholera inoculation which is now (1898) extensively practised in Bengal. In the face of this fact it is incomprehensible that a contention of the kind should have ever been put forward." The Dhárwár inoculation committee say: "We would particularly emphasize the necessity for carefully shaking the bottles before use, as we have reason to believe that this is not invariably done. When a bottle of the prophylactic remains unmoved for some time the bacterial sediment forms a deposit at the bottom or on the sides of the bottle. There is still some doubt whether or no the supernatant fluid, as a filtrate free from bacterial sediment, possesses any appreciable protective power; but it is firmly established that the dead plague bacteria which form the sediment of the prophylactic do contain certain toxines which ultimately confer a certain measure of protection from plague." It is to be hoped that at this date, with the brighter light of longer observation before them they have "warmed up" out of that lukewarm "certain measure."

Many and persistent rumors were spread as to the injury that inoculation would do—so grave as that in three years the inoculated would develop leprosy. In a lecture by M. Haffkine, in Bombay, June 29, 1901, presided over by the governor, and before a large and most intelligent audience, he said: "I hardly think there is any one here who requires help to pass judgment upon the rumor. There was no ground for forming such a monstrous conclusion; and those persons, not having three years to observe actual facts, were spreading the rumor with interested, malicious intentions." At the close of the lecture Lord Northcote inquired if any one wished to ask questions. One person asked the limit of age at which it would be safe to inoculate. A vote of thanks was carried, with applause. One of the first

persons to be inoculated was the principal of Grant Medical College, then followed the professors of Bombay College of Medicine, Lieut.-Col. Hatch, Col. Dimmock, Major Childe, Major Herbert, and Major Lyons. "In a short time the most authoritative physicians in Bombay, European and native. Surgeon-General Bainbridge and family. Surgeon-General Harvey, director-general of the Indian Medical service in 1893 against cholera and in 1898 against plague. These examples to the general population had a salutary effect." M. Haffkine calls attention to the fact that the Parsees community of Bombay have a "communal organization" who keep registers and records "probably among the most complete and accurate in the world. "Their report shows: The average number of the uninoculated, taking the whole period, was some six times larger than that of the inoculated. During the three years and seven months covered by the inquiry there were altogether 5,950 deaths in the uninoculated and 251 in the inoculated."

Calmette reported to the International Congress of Hygiene, at Paris, 1900, that, "a person in the period of incubation for a slight attack of plague would find the disease considerably aggravated if he submitted during this period to preventive inoculation of Haffkine vaccine. The case would almost certainly end fatally." The *British Medical Journal*, November 24th, 1900, so reported him in his Harben Lecture in London. It was generally received, but it was purely a laboratory experience given by Calmette. Jenner met with violent opposition. Galileo suffered inquisitorially—"But, nevertheless, it does move." The Maid of Orleans was the white angel who saved France, but was burned at the stake by the English as a sorceress and heretic. Major Bannerman, M. D., says: "As Haffkine, on the contrary, has all along maintained that inoculation with his vaccine is harmless in the incubation period of plague and that this method of protection should be pushed with the utmost vigor amongst those immediately in contact with plague cases, it becomes necessary to examine this matter afresh, in the light of the extensive experience gained in India and elsewhere in the use of the plague prophylactic. Calmette's ideas have been derived from laboratory experiments, for he has had no opportunity of studying the effect of plague vaccination during an epidemic of human beings. In India, on the contrary, hundreds of thousands of persons have been inoculated with Haffkine's plague vaccine and evidence has been now accumulated with sufficient accuracy to enable one to refute entirely the above suppositions of Calmette." In proof he reviews statistics from many fields, submitted to the government plague commission. Dr. Thompson, Sydney, N. S. W., says: "Among the inoculated public, 13 were attacked. All these patients not merely recov-

ered, but had conspicuously light attacks. The cases occurred almost entirely among the earlier 200, while the virulence of the infection was at its highest. It will be noticed that attacks which occurred at or before the lapse of about ten days from inoculation were not aggravated by it." Dr. Alice Corthorn, who inoculated about 32,000 in Gadag, and Dhârwâr, says: "I think that these and the Dhârwâr figures prove that so far from its being inadvisable to at once inoculate the contracts of a case of plague lest they be incubating the disease, it is desirable at once to inoculate all who have been exposed to infection. * * * So inoculation in those exposed to plague infection may be looked on as tending to avert attacks which would otherwise occur were no artificial protection given." As in vaccination for smallpox among exposed persons, to prevent an attack or modify it should this follow. "It is certain, however, that inoculation within the incubation period, does not decrease the chance of recovery—as has been stated by some eminent authorities—but on the contrary diminishes the liability to death * * * as the result of many similar investigations in all parts of the country (India) where these prophylactic inoculations have been tried," (Bannerman.) He says: "Divination is not possible in these days even in India." If Calmette and his laboratory followers were in India vaccinating with Miss Dr. Corthorn 600 or 800 and one day, I believe, 900 applicants, "flooding," as Dr. Lewmann expresses it, their quarters in their belief in the efficacy of inoculation and zeal to be vaccinated against plague—could they *divine* those incubating the disease and those who had been definitely exposed? The writer knows that Pasteur had the greatest confidence in the ability and exactness of M. Haffkine when this pupil stood in the atmosphere of the Institute, and, with all the world, regrets that Pasteur died before he could fully witness how well his great confidence was bestowed.

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THE RADICAL TREATMENT OF CANCER OF THE PENIS.

By EDWARD WALLACE LEE, M. D.,
NEW YORK.

"The organ is abundantly supplied with blood vessels and lymphatics, and well suited, therefore, to malignant spread from the anatomical standpoint." (Joseph D. Bryant.)

Epithelioma is the form of malignant disease which generally attacks the penis. Other forms have been noted but rarely, although sarcoma has been observed in young subjects as a more or less remote result of trauma. This form of cancer develops quickly and speedily infects the neighboring glands, and death follows rapidly from exhaustion, frequently without general dissemination of the disease.

Almost any form of new growth may attack the penis, and nearly all the simple varieties have been met with occasionally, but they are relatively rare, malignant growth being the most frequent. The belief that malignant disease of the penis is a condition which develops after middle life is, generally speaking, true; that it exists to a great extent before that period is also true.

The failure to recognize malignancy, diagnosing it as a severe form of venereal disease, has, in many instances, resulted in serious disaster. Commencing epithelioma is too often diagnosticated as venereal ulcer or wart, and penile epithelioma of the vegetating form could, by the careless observer, be quite easily mistaken for papilloma, and its treatment as such would result in rapid dissemination of the malignant disease. The fact that malignant disease of the penis may appear at a very early age must not be lost sight of, and no matter at what age the penile sore is observed, the possibility of malignancy should be taken into consideration. If favorable results do not rapidly follow treatment which is directed to the supposed venereal disease, a positive diagnosis should be obtained with the microscope. Dr. Frank Lydston has reported a case which occurred in a man, twenty-eight years of age, in whom epithelioma developed on the site of an indurated chancre, and after several operations resulted fatally.

The ordinary treatment generally resorted to in venereal ulcers or warts, such as the application of caustics, irritating lotions, etc., will produce rapid dissemination of malignant disease, and I have seen a number of cases of malignant disease of the penis in which treatment for supposed venereal disease had been instituted, placed in a condition beyond the relief which a radical surgical operation would have afforded. I object strongly to the caustic and irritating treatment of ve-

neral ulcers or warts, for I believe that that in itself may develop, in the predisposed, a tendency to malignancy. Venereal ulcers are much more satisfactorily treated with mild mercurial lotions, the old-fashioned red wash, or Dobell's solution, than with caustics or irritating lotions.

This paper is suggested by a recent case, that of a man, forty-six years of age, who presented a well marked penile ulcer. For four months the patient had been treated for "stubborn soft chancre" with caustics, nitrate of silver, calomel, etc. Microscopical investigation revealed epithelioma, and immediate surgical intervention was resorted to.

Early and positive diagnosis of cancer of the penis is, therefore, absolutely essential, for here, as in other regions, early diagnosis and radical surgical treatment offer the only means of cure. Medical literature is full of emphatic demands for the early diagnosis and treatment of malignant disease of the uterus and breast, and the same attention should be given to the possibility of malignancy occurring in the penis.

Of the ætiology of this disease I am not positive, but that it is, in many cases, developed by irritating secretions, filth, trauma, and neglected venereal ulcers, I have no doubt. Extension and recurrence may be slow or rapid, depending largely upon the patient's natural powers of resistance. In the majority of cases which have come under my observation the disease has extended more slowly than is the case in malignant disease in other regions. It may produce a profound local effect even before the adjacent glands are involved, and this fact has often led to errors in diagnosis. The extension is generally to the glands, the prostate, the bladder, and, lastly, the testicles.

It has been my experience that recurrence is the rule, even when taken in early stages, if radical treatment—that is, total extirpation of the organ—has not been resorted to. Recurrence may take place in a remote portion of the body, as the following case which came under my observation demonstrates:

The patient, a man forty-eight years of age, presented a well marked epithelioma which involved the integument, the mucous membrane, and a portion of the glans penis. The patient would not submit to a radical operation, so partial amputation of the penis was done, and only that portion which the apparent disease involved was removed. Fourteen months later he again presented himself with a well marked epithelioma of the lower lip, the buccal surface, the floor of the mouth, and the tongue, and an extensive invasion of the cervical glands. He stated that the disease had commenced five months before in a very painful and rapidly growing sore on the

lower lip. An operation was resorted to, but the patient died six weeks afterward from exhaustion. Whether or not there was recurrence as a result of the former disease, or an independent development, I am not prepared to state; but I believe that had a radical operation been performed in the first instance the latter condition would have been avoided.

As the cavernous tissue which forms the main part of the substance of the penis lends itself readily to the spread of malignant growth, an early operation and a very free excision are absolutely necessary to insure a complete removal of the disease. Partial amputation of the penis should never be thought of any more than partial amputation of the breast with its accompanying glands, or partial amputation of the uterus with as much adjacent tissue as safety will permit when affected with malignant disease. Partial amputation of the penis is contraindicated, not only on account of its inefficiency, but because the procedure is attended by many disagreeable complications, such as hæmorrhage, retraction of the orifice of the divided urethra within the stump, narrowing of that orifice by the contraction of cicatricial tissue, wetting of the wound and clothing with urine, and the infiltration of urine into the tissues of the scrotum and elsewhere. Especially is this true if the amputation is made far back. If the amputation removes only the glans penis, leaving a pendent stump, this stump is not only in danger from extension of the disease, but it may be the seat of venereal diseases and also may be greatly irritated by attempts at intercourse or masturbation.

I do not know to what extent cancer is hereditary, but I do not believe that one who has suffered from cancer of the penis should be left in a condition to beget a child. The removal of the testicles is not necessary, unless they are involved in the disease; it adds considerably to the shock attendant upon the operation, and, as the aphrodisiac desire soon subsides after total extirpation of the penis, the testicles need not be removed on that account.

In eleven total extirpations of the penis which I have made I have never known of a return of the disease when the disease was confined to that organ at the time of operation, but in several in which only partial removal was resorted to I have known recurrence to take place. If the disease has extended sufficiently to affect the prostate, the bladder, and the testicles, little can be done, although palliative measures may be resorted to for temporary relief.

The operation which I do for total extirpation of the penis, and the procedure which I consider the best, is the one devised by Pearce Gould in

1882, and so well described by Dr. Joseph D. Bryant in his *Operative Surgery*. This operation insures a very complete removal of the diseased organ; a new opening in the urethra is well established; there is not risk of infiltration of urine into the tissues of the scrotum; and the skin of the part is not irritated by the trickling of urine over it, as the patient takes a sitting posture when urinating.

Before proceeding to the technics described by Bryant, the parts should be made as thoroughly

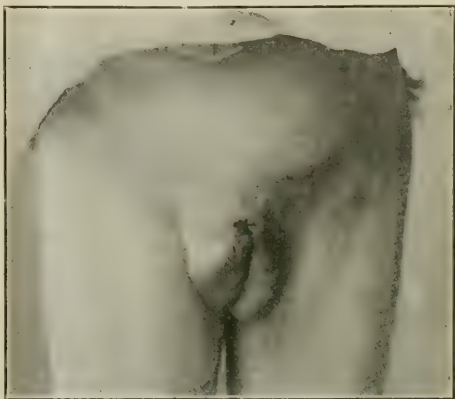


FIG. 1.—Showing incision in the scrotum.

aseptic as possible. The patient should be placed in the extreme lithotomy position. I emphasize extreme as it is the position to better bring out into prominence the deep portions of the organ. The pendent portion of the penis should then be wrapped in gauze which has been saturated in a carbolized solution; over this should be placed rubber tissue.

The penis should be transfixed as near to the root as possible with two straight short needles, on the principle of Wyeth's hip joint operation; under the needles should be placed a rubber band; then the pendent portion of the penis should be amputated by a transverse division. By this procedure you will have removed all the diseased tissue in the pendent portion and prevented the spread of infection to the healthy tissue.

The skin of the scrotum is then incised along the whole length of the rhaps; with the finger, and the handle of a scalpel, the scrotum is separated into halves quite down to the corpus spongiosum; a full-sized metal catheter is now passed into the urethra as far as the triangular ligament. In passing the catheter it will be necessary to remove the rubber band, which has been placed at the root of the penis, sufficiently to permit the passage of the catheter. A knife is

now inserted transversely between the corpora cavernosa and the corpus spongiosum; the catheter having been withdrawn, the urethra is cut across and the deep end of the urethra is then detached from the penis quite back to the triangular ligament. An incision is then made around the root of the penis continuous with that in the median line; the suspensory ligament is divided and the penis is separated, except at the attachment of the crura. The knife is now laid aside, and with a stout periosteal elevator each crus is detached from the pubic arch.

This step of the operation involves some length



FIG. 2.—Showing newly-formed urethral opening.

of time on account of the very firm union of the parts to be severed. Four arteries require ligation—the two arteries of the corpora cavernosa and the two dorsal arteries. The corpus spongiosum is slit up for about half an inch and the edges of the divided urethra are stitched to the back part of the incision in the perinæum. The scrotal incision is then closed with sutures and a drainage tube is inserted so far back in the deep part of the wound that it can be brought out in front and behind. No catheter is retained in the urethra. The accompanying photographs, which were taken fifteen days after the operation, will illustrate this procedure, showing the line of incision and the newly formed urethral opening. In no case in which I have operated by this procedure has the use of the catheter been necessary after the first day. Occasionally there is considerable extravasation of blood into the scrotal tissue, but I have never seen any serious consequences or even any embarrassing symptoms result from this procedure. It is the ideal operation for this serious condition, and it should be resorted to without hesitation in all malignant diseases of the penis.

71 CENTRAL PARK WEST.

PERFORATING ULCERS OF THE DUODENUM.

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The subject of duodenal ulcerations is always an interesting one, both on account of the extreme rarity of the disease and on account of the many difficulties which attend an accurate diagnosis. Although a number of articles have appeared within the past few years, the literature is still meagre. Dr. Robert F. Weir, in his address before the American Surgical Association, in 1900, gave us the masterpiece on the subject of duodenal perforations. He brought the literature up to date (April, 1900), and recorded all cases operated on for acute perforation previous to that time.

The purpose of this article is to review briefly the salient points in the ætiology, pathology, and diagnosis of duodenal ulcers, and to consider especially the surgical treatment of perforations. We have collected from the literature nineteen additional cases, including one of our own, in which operations were performed for this complication.

Frequency.—The relative frequency of duodenal ulcer, as a cause of death, is given by Weir (1) from collected statistics, is 0.20 per cent. Kinnicutt (2) from an analysis of thirty thousand post mortem records, gives it as 0.4 per cent. Perry and Shaw's figures are practically the same. Krug gives the proportion as 0.44 per cent. Von Wyl found three duodenal ulcers in 12,806 post mortem examinations. The ratio of gastric to duodenal ulcers, given by Burwinkel (Weir), is twelve to one.

Age.—Duodenal ulcerations occur at all ages. Collin's statistics for the different decades is as follows, in descending order of frequency: (1) Thirty to forty years, (2) forty to fifty years, (3) twenty to thirty years, (4) under ten years, (5) fifty to sixty years, (6) sixty to eighty years, (7) ten to twenty years. Hahn (6) records a case in a child, a day and half old, in which there was a duodenal ulcer close to the pylorus, also a second one lower down. These must have been formed before any food reached the stomach. Vanderpoel Adriance (3) reports, in an infant of ten months, an ulcer on the posterior wall of the duodenum, just below the pylorus; Oppenheimer has collected fifteen cases of melæna neonatorum resulting from duodenal ulcer. Chvostek (Moynihan) (4) found ulcers in children from a few hours to a few weeks old. Von Wyl (Laspéyres) (5) states that of all cases in children under ten years of age, fully half are in the first year, and many in the first few days after birth. He states that the latter are not due to intrauterine causes, as

some have supposed, but rather, in all probability, to thrombosis of the umbilical vein with embolism of the vessels of the small intestine.

Thrombosis of the mesenteric veins from this source is possible, as a branch of the umbilical vein communicates with the portal; the thrombus may extend into and occlude the latter, thus producing necrosis of the intestinal wall by venous stasis. We cannot, however, understand how an embolus from this thrombus, passing through the general circulation, could be arrested in the duodenal arteries. While the embolus might be arrested in these vessels in foetal life, as there is no pulmonary circulation, it would be impossible for this to occur after birth, as then the ductus arteriosus is obliterated and the embolus would be arrested in the lung. If portal thromboses were an important factor in the production of the ulcerations, it would seem that they should be more frequent in pyelephlebitis. This, however, is not the case, as they are not mentioned by Bryant (*Guy's Hospital Reports*, 1897) in any of the twenty cases of pyelephlebitis analyzed by him. In one case it was thought that a duodenal ulcer was the cause of the thrombosis, but in none were ulcerations found as a sequence.

As regards the other extreme of life, Krannhals observed a case in a woman seventy-nine years old, and Merkel found an ulcer in the duodenum of an old woman of ninety-four years, (Moynihan).

Sex.—The great majority of duodenal ulcers is found in males. Laspeyres says that men are affected two to three times oftener than women and quotes from the various authorities the following ratios: Krauss, in sixty-four cases, found the ratio in men to women as ten to one; Lebert, in thirty-nine cases, four to one; Trier, in fifty-four cases, five to one; Chvostek, in sixty-one cases, three to one; Oppenheimer, in seventy-one cases, two and a half to one; Collin in two hundred and fifty-seven cases, four to one.

Of Weir's cases, 176 in number, 144 were in men and 30 in women. Dr. Lee Dickinson (Clarke and Franklin) (7) maintains that the women in whom duodenal ulcers occur are not young; but in two cases reported by them they were under twenty years of age.

Coincident Lesions.—(1) Burns: That duodenal ulcerations are frequently associated with extensive burns is well known. In Collin's 297 cases, burns were the cause of the ulcers in 38 instances. Holmes says that the ulcers appear in from seven to fourteen days after the burns, they may be much earlier (Weir). Probably the correct explanation in these cases is that a septic infarct has been produced by the lodgment of an embolus which entered the circulation at the site of the burn. The theory of toxic products in the bile (Hunter) is not so plausible as

the embolic. Neither of these theories has a good pathological basis. Paget believed that nervous influences played an important rôle in the production of the ulcers after burns.

(2) *Kidney Disease*, especially the various forms of chronic nephritis, is very frequently associated with ulcerations in the duodenum. The reasons for this are not clear, and so far no satisfactory explanation has been offered to account for the association, although a number of theories have been advanced.

Boas maintains that the necrotizing effect of urea or its derivative, ammonium carbonate, circulating in the blood is the active agent; but it is more likely that the presence of sclerosed vessels in the duodenal wall, with the consequent malnutrition of certain areas, is the real cause (Kinnicutt).

Poynton (8) observed one case which presented no symptoms during life, but in which, after death, there were found duodenal ulcers associated with cirrhotic kidneys.

(3) *Pulmonary Tuberculosis.*—In some of the cases associated with advanced pulmonary tuberculosis, the duodenal lesion was probably originally a cheesy degeneration of a solitary follicle, with secondary digestion of the caseous material by the gastric juice. Satterthwaite (9) reports a case of tuberculous enteritis in which there were ulcers in the duodenum. He believes that tuberculosis plays an important part in the etiology. A family history of tuberculosis is sometimes obtainable, as in four out of five cases reported by Burwinkel (10).

Trichinosis and duodenal ulcer have been reported by Ebstein and Klob. Duodenal ulcer is also occasionally found as a complication in heart and liver diseases, carcinoma, extensive internal suppurations, frostbites, erysipelas, septicæmia, and pemphigus. Bolton Carter (11) thinks that in some of his cases the ulcerations in the stomach and duodenum might have followed the septic condition of the peritonæum.

The hæmorrhage from the stomach and duodenum which sometimes follows operations, not necessarily on the abdomen, may be from fresh ulcerations (Clarke and Franklin). Eiselberg recorded seven cases of hæmatemesis following laparotomies in which fresh ulcers were found in the stomach and duodenum. Ladevéze (12) thinks that there is often a relationship between previously existing infectious diseases and duodenal ulcers. Duodenal and gastric ulcers are frequently found together, so frequently, in fact, that many writers suppose their ætiology is identical. Röschmann reported three cases of duodenal ulcers associated with ulcers of the œsophagus.

Theories of Causation.—These are almost as numerous and varied as the number of observers who have studied the condition. The most rational

and at the same time the most widely accepted theory is that duodenal ulcerations are due to the same cause as gastric, namely, the effect of the gastric juice on a circumscribed portion of the mucosa, the vitality of which has been impaired. This view was held by Virchow and has been proved experimentally (Laspeyres).

According to Riegel, hyperchlorhydria is an essential factor, and he believes that many of the corrosive ulcerations follow primary hæmorrhagic erosions. Leube says that hyperchlorhydria is frequently present in duodenal ulcers, and Koch and Ewald have produced the ulcers by giving to animals hydrochloric acid in 5 to 1,000 solutions. The duodenum is not protected from the acidity of the gastric juice above the papilla, through which empty the alkaline secretions of the pancreas and liver, and it is in this first portion that the great majority of the ulcers occur.

Talma believes that they are due to spasmodic contractions of the pylorus, which produce anæmia of the adjacent parts, closure of the blood vessels, and hæmorrhage. He thinks this view is strengthened by the fact that the majority of the ulcerations are near the pylorus. We cannot understand how such a condition could possibly be caused by spasm of the pylorus, as contraction of this portion is part of its normal function and could not interfere with the blood supply to such an extent as to bring about hæmorrhage and necrosis, especially as the blood supply for the duodenum does not come through the pylorus.

Box (13) favors the infectious theory, because the ulcers many times appear opposite to each other or in close proximity and present a surrounding zone of inflamed and softened tissue. He also calls attention to the fact that most of the intestinal ulcerations below the duodenum are conceded to be of infectious origin.

Zimnitski (14) determined, by a series of experiments on animals, that there was an ætiological relation between retention of bile and ulcers of the duodenum. He thinks that the same conditions which are essential to the development of the ulcers are present in biliary retention from any cause. These are supersecretion, local circulatory disturbances, stasis—dependent upon changes in the liver—and anæmia or hydræmia with decrease in the alkalinity of the blood.

Boas believes that rough food, alcohol, and tobacco are factors in the ætiology. Laspeyres says that the lesion is frequently found in habitual drunkards. Alvazzi, in three cases of chronic lead poisoning, found round ulcers of the duodenum. Foreign bodies which have been swallowed, as in certain cases of dementia, may produce ulcers by pressure (Pittiet and Deny).

From an analysis of the clinical histories reported, and consideration of the various theories on the genesis of duodenal ulcers, it appears to us that the causes may be grouped in the order of their importance, as follows:

- (1) Hyperchlorhydria.
- (2) Local infection.
- (3) Embolism or thrombosis.
- (4) Foreign bodies.

We are, however, forcefully impressed with the close relationship between duodenal ulcerations and diseases of the organs of elimination, such as the skin in burns, pemphigus, and erysipelas; the kidney in various diseases compromising elimination; and the lung in tuberculosis. We believe the defective elimination has an important ætiological relation.

Pathology.—Moynihan divides duodenal ulcers into acute and chronic; acute when there is rapid destruction tending to perforation, chronic when the symptoms are latent and the pathological processes are passive. He says that the acute ulcer may be but an early stage of the chronic. The ulcerations are usually single, though they may be multiple, in which case they are often grouped in the first portion of the duodenum. Occasionally two ulcers are opposed to each other, suggesting an infectious cause. An acute perforating ulcer may be found with a chronic one. In Collin's 233 cases, 195 (85.6 per cent.) were solitary. In twenty-six cases there were two ulcers; in three three ulcers, and in four five ulcers.

Situation.—Perry and Shaw, in 149 cases, found the first portion of the duodenum involved 123 times, the second portion 16 times, and the third and fourth portions twice. In eight cases the ulcers were scattered (Laspeyres).

Weir gives the analysis of Collin's statistics for perforating ulcers as follows: In 119 cases the lesion was in the first portion. Of these, 68 were in the anterior wall, 39 in the posterior, 10 in the superior, and one in the inferior. Of eight cases involving the second portion, five were on the internal wall, two on the posterior, and one on the external. Of four cases affecting the third portion, three were on the anterior and superior walls and one on the posterior.

Of the perforating ulcers collected by Perry and Shaw, 48 were in the first division, two in the second, and one on the border line between the first and second. In 28 cases the location on the wall was not mentioned, in 19 the anterior wall was affected, in six the posterior, and in three both.

Wanach says the ulcers most frequently perforate the anterior wall of the horizontal upper portion. In Oppenheimer's cases the perforation was 34 times in the transverse portion and three times in the descending. In 19 of the 34 cases the wall was not

mentioned. In the fifteen others the anterior wall was involved eleven times, the posterior three times and the superior once. Nothnagel says: there is little or no difference in the frequency of perforation of the anterior and posterior walls.

Description of the Ulcers.—They may be circular or elliptical in shape, and, if the latter, are frequently situated transversely to the long axis of the bowel. They are often cone-shaped, with the apex of the cone towards the peritonæum (Marocco). The margins and base are commonly very tough and dense and exhibit but feeble attempts at repair. If large, the borders may become irregular, but usually they possess a sharply cut, punched out appearance. In old cases the edges are apt to be much thickened. The floor of the ulcer is usually clean and may be formed by any of the coats of the bowel or by adherent organs. Dr. Poynton, in necropsies in eight cases of chronic duodenal ulcers found that in all of them new floors had been formed by adhesions to neighboring structures.

In size they vary from one to three and a half cm. in diameter, or from the size of a lentil to that of a dollar. If perforation takes place, the opening is usually much smaller than the ulcer itself, being rarely larger than a quarter of an inch in diameter, and having comparatively thin edges.

Perforation.—Laspeyres gives the following statistics as to the frequency of perforations: Chvostek, in 63 cases, noted it 27 times—42 per cent.; Collin, in 262 cases, 181 times—69 per cent.; Oppenheimer, in 79 cases, 38 times—48 per cent. Perforation may take place into the general peritoneal cavity, or into the retroperitoneal tissue. Of Bolton's five cases, three perforated into the general peritoneal cavity, one behind the peritonæum, and one toward the lower surface of the liver, to which it was adherent. Aside from the usual sites of perforation, adhesions may form between the duodenum and the surrounding viscera, and perforation take place into any of them. Weir records cases where the gall bladder, aorta, vena cava, portal vein, superior mesenteric vein, and hepatic artery were perforated. A gastroduodenal fistula has never been found the result of the perforation of a duodenal ulcer.

If perforation takes place into the free peritoneal cavity before adhesions have formed, a general septic peritonitis is the result. In these cases, where the perforation is in the first, or upper, half of the second portion, the fluid is usually discharged on to the upper surface of the mesocolon and follows the ascending mesocolon to the right iliac fossa before the diffusion becomes general. It is for this reason that a perforative appendicitis is so often simulated. If perforation takes place slowly, giving time for adhesions to form, a localized abscess may result, the situation of which will depend upon the position of

the perforation. If this is in the superior wall of the upper portion, the abscess is frequently subphrenic, and always to the right of the falciform ligament. Nowak collected 58 cases of subphrenic abscess, six of which were due to perforating ulcers of the duodenum. Seven similar cases were reported in Maydl's monograph. In some instances the abscess forms beneath the liver and does not invade the subphrenic space. After the formation of the abscess, it may burst in any direction, back into the duodenum or the other hollow viscera in the neighborhood, upward into the pleural or pericardial cavities, or even externally, as in a case recorded by Lumeau and Bucquoy. Planchard reports one case in which the rupture of a localized abscess led to a general peritonitis.

That duodenal ulcers heal spontaneously is proved by the findings post mortem. Perry and Shaw found evidences of repair in 50 per cent. of their cases (70 autopsies) in some of which the cicatrices had produced narrowing of the bowel. Krug, in 1,220 autopsies, saw thirty cases of cicatricial healing. Laspeyres says that very few completely cicatrized ulcers have been observed, and that stenosis, with obstruction to the common bile duct, often results after healing. Dilatation of the duodenum on the proximal side of the contraction has been observed, and in some cases has been so great as to necessitate gastroenterostomy.

The tendency to development of carcinoma in the scars is not nearly so great as in gastric ulcer. From the absence of manifestations of tissue reaction in the margins of many perforating ulcers, it would seem probable that the pathological process was an extremely rapid one, such as might be expected from the action of the digestive secretions. In the case observed by us there was not the slightest inflammatory reaction in the margin of the opening, no evidence of tissue proliferation and no effort at adhesions. The margin was perfectly smooth and there was no vascular injection at the periphery.

Symptoms.—The symptomatology of duodenal ulceration is notoriously uncertain and inconstant. In some cases (more than half in which the lesions are found in necropsy) there had been symptoms indicating the disease. In many the symptoms are indefinite and often so mild that the patient does not think it necessary to consult a physician; while, again, in others, they are well marked and severe. The symptoms are much like those observed in gastric ulcer, and Moynihan believes the two are often associated.

The three cardinal symptoms in the order of their importance are (1) pain, (2) melæna or hæmatemesis, (3) vomiting. They may be single or combined and any one predominate.

Pain.—In general the pain may be said to resem-

ble that of gastric ulcer, but it is usually much less severe, because the duodenum is more fixed and the stomach contents are less irritating. In some cases it is merely a sense of discomfort, while in others it is severe and intolerable. Its character is burning or "boring," and it may radiate downward and to the sides. Boas says that it rarely goes through to the back, and Riegel and Burwinkel state that it never radiates in this direction. Marocco, on the other hand, says the pain is usually situated in the right upper quadrant of the abdomen, and radiates to the shoulder and to the tenth and twelfth dorsal vertebrae. Schwartz has also noted the right shoulder pain. The situation of the pain is in the right hypochondriac region, about 2 cm. below the gall bladder, in the right parasternal line, though it may be in the epigastric or umbilical regions. It comes on from one half to six hours after a meal, but is characteristic when it makes its appearance from two to four hours after the ingestion of food. Moynihan says that the nearer the ulcer is to the cardia the earlier is the onset of pain after eating. In some cases the pain has been sudden in its onset and colicky in character. Rarely it has been observed in the left hypochondriac region, as in the case recorded by Lisansky (15), where it came on in this region in severe paroxysms; the right side was not even very sensitive to pressure. In a case reported by Poynton the severity and long duration of the pain was an important feature, and it resembled that due to erosion of the vertebrae or abdominal aneurysm. He also cites an instance in which the pain was excessive at night. Pressure to the right of the twelfth thoracic vertebra occasionally elicits pain, but tenderness, if it is present at all, is usually found on deep pressure over the duodenum.

Hæmorrhage.—This may manifest itself either through the stomach or bowel, and is caused by the erosion of a blood vessel. In some cases it is the first symptom to attract the patient's attention. Weir states that it is present in one third of the cases of non-perforating ulcer, and the blood may be dark and "tarry" or, more rarely, bright red in color. The hæmorrhage may come from any of the blood vessels in the neighborhood, but most often from the pancreaticoduodenalis, the gastroepiploica dextra, and the pancreatic arteries.

Ladevèze divides the cases of hæmorrhage into three classes: 1. The fulminating form, which speedily ends in death. 2. The acute form, in which hæmorrhages of less intensity are frequently repeated, and finally exhaust the patient. 3. The chronic form, in which they are continuous and persistent, but often unperceived.

In Perry and Shaw's sixty cases which presented symptoms, hæmatemesis was noted fourteen times and melæna nine times. In Oppenheimer's thirty-

four cases of hæmorrhage, eight were from the stomach, ten from the bowels, and sixteen from both. The patient may become extremely anæmic and even bleed to death before the blood is passed or vomited. Repeated small hæmorrhages may cause death from cachexia, but this may be due, in some measure at least, to the vomiting which is often present.

Vomiting is relatively rare in duodenal ulceration. It occurs in about 17 per cent. of the cases (Oppenheimer), and is not usually characteristic, unless it comes on from two to four hours after a meal. It often takes place at the height of the painful paroxysm, and is not always dependent upon taking food. The vomitus may contain bile and partly digested food, with or without an admixture of blood. The vomiting may relieve the pain. Very little has been done in the examination of the stomach contents. Leube and Reckmann each had a case of subacidity, and Devic and Roux described one of hyperchlorhydria (Lespèyres).

Icterus is rare. Collin mentioned it but nine times in 262 cases. When present, it may be due to tumefaction of the mucous membrane of the common bile duct in the cases of active ulceration or to cicatricial contraction in those of long standing.

Other symptoms which have been described by various observers are: (a) Digestive disorders, usually resembling hyperchlorhydria, or less frequently chronic gastric catarrh; (b) paroxysmal dyspnoea, the origin of which, although not certain, is probably reflex; (c) neuralgias, also reflex, affecting various portions of the abdomen and chest; (d) palpitation of the heart.

It is rarely possible to palpate a tumor mass in case of a duodenal ulcer. When present, it is due to a localized peritonitis or to secondary enlargement of the head of the pancreas.

The course of the great majority of cases is essentially chronic, and seldom tends toward spontaneous recovery. It is often marked by exacerbations of the symptoms, followed by intervals of good health. Chvostek has recorded a case in which the symptoms had been present off and on for thirty-nine years. This chronic course, however, is not taken by all of the cases, for in some the first symptom may be a profuse or even fatal hæmorrhage or the sudden development of a general peritonitis due to the perforation of an ulcer.

Perforation.—As mentioned above, many of the cases of perforating ulcer present no symptoms whatever prior to the onset of those due to the perforation. Weir states that in twenty out of twenty-five instances of perforation analyzed by Schwartz the patients were in good health previously; in only five cases had there been gastric symptoms. In his own collection of fifty-one cases treated by operation, gastric symptoms formerly existed in twenty-five

out of thirty-four. Of Perry and Shaw's 151 cases, ninety-one presented no symptoms until perforation or hæmorrhage appeared. The symptoms due to perforation are usually sudden and violent in their onset, often coming on when the patient is at work, frequently after the ingestion of a full meal. The reason for this is probably an increased tension within the duodenum, caused by the contraction of the abdominal muscles which press upon the stomach and force its contents out through the pylorus.

The first symptom of perforation is pain, which is very severe and usually referred to the epigastrium or right hypochondrium, although, in rare cases, it may be in the centre of the abdomen or to the left. The pain may be so intense as to prostrate the patient and produce rapid collapse resembling that of fat necrosis. Stevens (Weir) records a case in which death occurred twenty-one hours after the onset of symptoms of perforation. Moynihan did not observe that there was any tendency toward primary localization of pain in the right hypochondrium, although in many cases, after a few hours, the symptoms all point toward a lesion in the right iliac fossa. This is explained by the fact that the fluid gravitates into that region along the ascending mesocolon. In the cases collected by Schwartz the pain after perforation was seven times in the right side below the false ribs, five times in the epigastrium, four times in the left side, and twelve times in the region of the right costal border. The pain soon became general (Laspèyres).

Following the pain, the other symptoms of general peritonitis rapidly make their appearance. These are: Vomiting, elevation of temperature, abdominal tenderness (which at first may be localized to the right hypochondriac and right iliac regions, but soon becomes general), tympanites, coprostasis, and often shock. On percussion of the abdomen, if several hours have elapsed since perforation took place, there is usually flatness in the right flank, with tympany above. The liver dulness may be obliterated. The line of dulness, laterally, may shift with the change of position of the patient, because of the gravitation of the fluid which has escaped from the duodenum. The peritonitis, instead of becoming general, may localize, if previous adhesions have formed, as a subphrenic or subhepatic abscess, which may secondarily rupture into any of the neighboring viscera or occasionally into the free peritoneal cavity. If the opening is retroperitoneal or in the superior wall of the upper portion, a subphrenic abscess containing pus and gas is likely to be formed, the symptoms and physical signs of which are much the same as those of a similar condition from any other cause. It is important to remember, however, that in the cases resulting from duodenal perforation the abscess is always to the right of the falciform ligament,

and not to the left of it, as after gastric perforations.

In the cases of perforation there is, primarily, an acute leucocytosis. In our case, eight hours after perforation, there were 23,400 leucocytes to the cubic millimetre, showing a pronounced reaction of the peritonæum to the irritation and toxicity of the escaped fluid. The leucocytosis is quite in contrast to that of fat necrosis of the pancreas and omentum, the other symptoms of which so closely resemble those of duodenal perforation.

Diagnosis.—(1) Non-perforating ulcer. The diagnosis of this lesion is extremely difficult, especially in the absence of hæmorrhage, and can be made only by careful attention to the various symptoms presented and by the exclusion of all other probable disorders. At best, the diagnosis must be a provisional one, as the symptom complex is rarely classic. Even when the hæmorrhage is present, Jackson says that it is not of much value in the diagnosis, as hæmorrhage secondary to cirrhosis of the liver is often simulated.

Ledevéze gives as important symptoms in diagnosis the following: (1) Sudden intestinal hæmorrhage occurring in the midst of apparently perfect health, repeated for many days, and producing a profound anæmia. Hæmatemesis may come on before or simultaneously with the melæna. (2) Pain to the right of the median line, appearing usually two to four hours after the ingestion of food. (3) Absence of gastric phenomena.

Differential Diagnosis.—(1) Gastric ulcer: Of the diseases which must be considered in making a diagnosis, this stands first; and von Wyl says in ninety per cent. of the cases it is impossible to distinguish between the two. He gives the important points of differentiation of each as follows:

- | GASTRIC ULCER. | DUODENAL ULCER. |
|---|--|
| (1) Usually in women twenty to thirty-five years of age. | (1) Most frequent in men. |
| (2) Pain comes on soon after eating. | (2) Pain two to four hours after eating and located in right hypochondrium. |
| (3) Pain lessened by vomiting. | (3) Vomiting does not relieve pain. |
| (4) Vomitus contains mucus, food remnants, and often blood. | (4) Vomiting more rare than in gastric ulcer and does not often contain blood. |
| (5) Severe dyspeptic symptoms usually present. | (5) Dyspeptic symptoms slight. |
| (6) Melæna rare. | (6) Melæna comparatively frequent. |

(2) Irregular cholelithiasis, with or without cholecystitis or cholangitis, may be difficult of exclu-

sion, as in this condition the pain is referred to the duodenal region, and intestinal hæmorrhage may occur (Laspèyres). We have never observed an intestinal hæmorrhage in cholelithiasis except with external cholæmia. In cholelithiasis, if the pain is colicky, it is usually referred to the right shoulder, and there is a tender point just beneath the tip of the ninth costal cartilage on the right side, at the end of a deep inspiration. In about 400 cases operated on by us for cholelithiasis in which gall stones were found, icterus, at any time in the course of the disease, was present in only 16 per cent. of the cases, showing that icterus has but little value as a negative symptom in duodenal perforations.

(3) Hyperacidity without gastric ulcer may cause confusion in the diagnosis, according to Laspèyres. Both may give the same symptoms, especially pain which comes on several hours after eating and sensitiveness in the pyloric region.

(4) *Acute fat necrosis* is the most difficult disease in which to make a differential diagnosis from perforation of the duodenum. The pain in both is intense; the collapse or immediate depression is more pronounced in fat necrosis than in perforation. The vomiting is more persistent and severe in the early hours of fat necrosis (up to twelve or fifteen) than in perforation; the vomiting in the second twenty-four hours is less frequent in fat necrosis than in perforation. The collapse of the second twenty-four hours in fat necrosis is less pronounced than in perforation. The superficial, or piano, percussion note is resonant in fat necrosis, flat in perforation (in the right hypochondrium). Pain and tympany are the same in both. There is an absence of leucocytosis in fat necrosis and a pronounced leucocytosis in perforation. This is the most important differential diagnostic manifestation. In fat necrosis there is rarely a primary elevation of temperature; in perforation there is usually a primary elevation of temperature.

(5) *Intestinal obstruction* may be mistaken for perforation. In obstruction the pain is usually of a colicky character; in perforation it is constant. In obstruction the vomiting increases in frequency with time, the same with perforation. In obstruction there is pronounced increase in the intestinal peristalsis; in perforation there is an absence of peristalsis. In intestinal obstruction there is never a primary elevation of temperature; in perforation there is a primary elevation of temperature. With intestinal obstruction there is no leucocytosis, in perforation there is a pronounced leucocytosis. With both there is coprostasis; in obstruction it is due to mechanical causes, in perforation it is due to the paralysis of peristalsis induced by the peritonitis.

Other conditions which may cause difficulty in diagnosis are: (a) Pancreatitis and suppurations

in the liver (Bolton), and (b) *tabes dorsalis* (two cases by Box.)

Perforating Ulcer.—In only two of the fifty-one cases collected by Moynihan was a correct diagnosis of perforating duodenal ulcer made, one by himself and another case by Perkins and Wallace. The clinical picture of perforative appendicitis is so accurately copied in cases of perforating duodenal ulcer that in forty-nine of those reported by Moynihan, eighteen were operated upon for appendicitis.

After the primary shock has passed, the course of the peritonitis differs from that following gastric perforation. In the latter, general peritoneal infection rapidly develops, while in the former there is an earlier involvement of the peritonæum in the right iliac fossa. The reason for this is given under Pathology. In the majority of cases it will be possible to make only a general diagnosis of perforative peritonitis, as previous symptoms which point to the duodenum have not usually been present. This was done in our case.

Prognosis.—It is probable that the majority of duodenal ulcers will perforate the intestinal wall sooner or later, and the prognosis is therefore most grave (Bolton). Reckman states that one half of the cases result fatally from perforation into the peritoneal cavity (Weir). In 262 cases collected by Collin, diffuse and fatal peritonitis occurred 125 times, or 51 per cent. The prognosis in the cases of perforation will depend entirely upon the length of time which has elapsed between the perforation and the operation. In Moynihan's collection of fifty-one cases of operation for acute perforating ulcers there were eight recoveries.

2 were operated on 30 hours after perforation.

I was	"	"	28	"	"	"
I	"	"	25	"	"	"
I	"	"	15	"	"	"
I	"	"	12	"	"	"
2 were	"	"	10	"	"	"

The average time of operation after the onset of symptoms was twenty hours in the cases that ended in recovery.

In twenty cases of perforation treated by operation, collected by Darras, seventeen died and three recovered—a mortality of 82.36 per cent. Bolton Carter collected fifty-nine published cases of perforating duodenal ulcer. Of these, twenty-seven died without operation, the lesion being found post mortem. The remaining thirty-two cases were operated on with eleven recoveries, a mortality of 68.5 per cent.

Lennander says that the statistics so far published (1898) show that from one fourth to one third of the cases of perforating ulcer of the stomach and duodenum operated on are saved, and that the prog-

nosis depends on the time of operation after perforation and on the quantity and quality of the fluid found in the peritoneal cavity.

Laspèyres gives the following statistics of the results of surgical treatment for the general peritonitis following duodenal perforations. Of eighteen cases in which the exudate was drained, only seventeen resulted fatally and one died four months later of general peritonitis.

Of fifteen cases in which the perforations were found and closed, five recovered—33⅓ per cent. In seventy-nine cases collected by Weir and Foote, the mortality was 71 per cent. In the fifty-one cases collected by Weir, twenty-five had the opening closed by suture. Thirteen of these were operated upon thirty hours after the onset of symptoms and all resulted fatally. In twelve others less than thirty hours had elapsed, and of these eight survived—a mortality of 33⅓ per cent. Pagenstecher gives the mortality as 60 per cent. for perforations that have been found and sutured.

In our collection the length of time that had elapsed was given in only four cases, not a sufficient number from which to make deductions of value.

(To be concluded.)

COMPLICATIONS IN THE PASSAGE OF A GALL STONE.

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It is estimated that in about two-thirds of the cases of attacks of gall stones the calculus passes successfully down the ducts uncomplicated. Unfortunately, in the remaining third the terminations are not so favorable. Complications of various kinds and added risks arise and place the lives of patients in imminent jeopardy. These we will now consider. The subject is much more comprehensive than is generally supposed. For reasons of convenience, the various complications will here be tabulated in order and each heading investigated in rotation:

1. Impaction of gall stones in the biliary passages.
2. Cholangitis { acute catarrhal,
chronic catarrhal,
infective and suppurative.
3. Cholecystitis { catarrhal,
simple,
suppurative.
4. Gangrene of the gall bladder and calculous hepatitis.
5. Ulceration of the wall of the gall bladder.

6. Hæmorrhage into the gall bladder or ducts.
7. Stricture of the gall bladder and biliary ducts.
8. Perforation of the gall bladder.
9. Peritonitis { local,
general.
10. Inflammatory adhesion of the biliary ducts to adjacent organs.
11. Varieties of biliary fistula.
12. Fistulous tracts between the biliary passages and intestines or stomach.
13. Biliary duodenal fistulæ.
14. Gastrobiliary fistulæ.
15. Gall bladder and colic fistulæ.
16. Biliary urinary fistulæ.
17. Biliary vaginal fistulæ.
18. Biliary thoracic fistulæ.
19. Biliary umbilical fistulæ.
20. Biliary pulmonary fistulæ.
21. Biliary pericardial fistulæ.
22. Biliary cutaneous fistulæ.
23. Biliary pleural fistulæ.
24. Affections of the portal vein.
25. Intestinal obstruction.

Impaction of Gall Stones.—The most common situation for impaction to take place is in the cystic or some part of the common ducts, rarely in the hepatic duct, and yet more rarely in the intrahepatic ducts. The ostium duodenale is the narrowest part, from the gall bladder to the duodenum, and next to this is the neck of the cystic duct. It is reasonable to suppose that at these two points the greater number of impactions take place. Results of investigations show that this is so. The lumen of the cystic duct is rendered more difficult for the passage of a gall stone for the further reason that its mucous membrane is reduplicated in a spiral manner. A calculus of medium size is extremely liable to become ensnared in these folds and prevented from going farther. Inflammation is set up around the seat of impaction, and exudations are thrown out around the stone, which further aids in preventing its progress onward. As time goes on, this exudation becomes firmly organized, and a firmer resistance is offered. The result is a complete barrier to the emptying of the gall bladder. The gall bladder continues secreting mucous fluid, which soon fills it to its normal capacity. The walls are soon further distended, and this process continues until it may become so enlarged as to be readily mistaken for a hydronephrosis or other cystic growth. When distention has existed for some time, the fluid in the gall bladder will become almost clear in appearance. There will be little or no jaundice when impaction takes place here, for the reason that the hepatic and common bile ducts yet remain free from obstruction, and the bile flows freely into the duodenum.

When impaction is limited to the cystic duct, the constitutional symptoms usually are very few. The liver is not enlarged, although inflammation may spread from the seat of impaction along the tubes by extension. The temperature and pulse are but little affected. More or less pain will probably be present for some time. This generally wears off to a feeling of uneasiness only. When impaction takes place in the common duct, the condition is a much more serious one. The complications then become both local and constitutional. The results which may follow are extremely important. The obstruction may take place in any part of the duct, although the greatest number is at the junction of the common bile duct and the duodenum. Wherever impaction occurs, a dilatation of various degrees of extent takes place on the proximal side of the stone; while on the distal side it usually contracts, and if long continued, atrophy or entire obliteration of the lumen may result. When the extrahepatic ducts behind the obstruction have become dilated, the intrahepatic ducts are soon affected. They, too, dilate throughout their various ramifications in the substance of the liver. A certain amount of inflammation accompanies this dilatation, and, when it reaches the liver, generally affects that also. In this way the liver becomes enlarged and inflamed. The most important complications of obstruction in the common ducts are jaundice, ulceration of the walls of the duct at the point of impaction, decomposition and infection of the bile by microorganisms, pancreatitis, and cirrhosis of the liver. Jaundice, transient, but more frequently chronic, inevitably follows. Sometimes the obstruction is not complete, and a certain amount of bile is permitted to insinuate itself past the stone and find its way into the duodenum. In these cases the jaundice is not so pronounced. Nor are the stools clay-colored. Frequently the obstruction is complete and the jaundice is permanent. The skin may have the characteristic yellow color, or it may be a deep saffron or distinctly brown. This is a serious condition, and if the stone does not pass along *per vias naturales*, or ulcerate through into neighboring viscera, the patient will in all probability die in a short time from cholæmic poisoning. These patients become quickly debilitated and cachectic from the continual absorption into the circulation of decomposed bile products. The blood becomes impoverished and loses to a great extent its power of coagulation. For this reason there is always constant fear on the part of surgeons of uncontrollable hæmorrhage when operating in such cases. The resemblance to the hæmorrhagic diathesis is close.

Cholangitis.—One of the most frequent accompaniments of obstruction and stagnation from the presence of a calculus in the common duct is inflammation of the coats of the biliary passages. There is

always a great liability of the parts becoming affected by microorganisms. It may be the result of the *Bacterium coli commune*, staphylococci, or streptococci finding their way up from the opening of the common duct, at the duodenum. According to the vitiated or virulent condition of these microorganisms, there may be a simple cholangitis, or the inflammation may take on a virulent character. In either case the consequences may be very serious. When it results in a purulent inflammation, it is prone to set up an ulcerated condition of the tubes, causing perforation of their walls; or it may extend up the various branches of the intrahepatic biliary passages into the substance of the liver. Hepatitis and multiple abscesses with infection of the general system, ending in septic endocarditis, may be the result. On post mortem examination, it is not uncommon to find all the ducts behind the seat of obstruction filled with pus. Fortunately, this is not common, for the inflammation does not take on such a severe form usually.

More frequently the cholangitis is chronic, and it is probable that a mild form of cholangitis is always present when there is an accumulation of gall stones in the gall bladder, irrespective of impaction. It then generally gives rise to the formation of thick,ropy mucus, which in passing down the tubes may so plug and choke these ducts as to give rise to biliary attacks quite similar to those associated with the passage of a calculus. There is often jaundice present in a mild form. This is due to the inflammatory swelling of the mucous membranes, causing a temporary impediment to the flow of bile and consequent absorption of a certain amount of it into the general circulation.

Cholecystitis.—Simple catarrhal cholecystitis, or chronic catarrh of the mucous membrane of the gall bladder, may be said to be always present when calculi have existed in the gall bladder for any length of time. The condition may exist without the presence of gall stones, and it is not an uncommon occurrence for a diagnosis of cholelithiasis to be made and an operation advised, to find that no calculi are present, but mucous plugs of sufficient size and consistence to cause painful contractions of the gall bladder and biliary duct in their expulsion. Fortunately, in nearly all instances the patients benefit by the mistake, for opening the gall bladder and draining the ducts is the very best treatment that can be employed in such cases. Before attaching the walls of the gall bladder to the abdominal walls, the surgeon should see that the lumen of the duct is patent by injection of a mild solution of tepid water down into the duodenum; otherwise the treatment may be of no avail. The diagnosis of this condition can usually be made from cholelithiasis by the less severe and less prolonged attacks. There will be little or no tenderness

between the ninth costal cartilage and the umbilicus. It frequently yields to medical treatment. Should it not, there is no good reason why it should not be treated in a similar manner to obstinate chronic inflammation of the bladder. Medicinal remedies may for a time be tried, and should they fail, the gall bladder should be opened and drained. A drainage tube should be left in and a mild antiseptic solution passed through this into the ducts each day for a few days.

In chronic cholecystitis due to cholelithiasis, the gall bladder may slowly become attached by adhesions to neighboring viscera. This is due to the inflammation extending through to the peritoneal covering.

Suppurative cholecystitis is a much more serious condition than simple acute or chronic cholecystitis. This difference in severity can be accounted for by the presence of virulent microorganisms in the former. When the bile is arrested on its outward flow, decomposition soon sets in. A more or less catarrhal condition of the mucous membrane of the biliary passages is usually present. Should these become infected by a microorganism, a violent inflammation may be the result. The *Bacterium coli commune* exists normally in abundance in the human body. It can be found in any part of the alimentary canal. So long as the intestinal tract remains in a healthy condition, these microorganisms may be considered to be perfectly harmless. When, however, morbid changes arise, these bacteria may assume a virulent type from imbibing noxious products or ferments. Should these find an entrance into the biliary passages, they may work their way into the gall bladder, where they find suitable soil in the decomposed bile and lowered vitality of the mucous membrane of the walls. Infectious cholecystitis will be developed and the gall bladder will rapidly become distended as the result of the extra amount of secretion of mucus and other inflammatory products. The whole contents of the gall bladder may be changed into a pool of pus as the result of the action of the microorganisms. When these bacteria are extraordinarily virulent, the walls of the bladder may rapidly become gangrenous, perforation will take place, and its noxious contents pour into the peritoneal cavity, setting up sudden and fatal peritonitis. In the great majority of cases the attack is not so severe as this, and after the acute stages pass off the disease assumes a chronic form. Adhesions to neighboring viscera are apt to occur, which usually terminate in the formation of a fistulous opening and the escape of any stones that may be present.

Empyema.—When pus is found in the gall bladder, it is usually associated with cholelithiasis, although typhoid fever, tumors of the gall bladder, and pyogenic organisms may be an exciting cause inde-

pendent of the presence of gall stones. It should always be considered a serious condition, because of the diseases which give rise to it, and to the frequent unfavorable termination. When it is dependent upon cholelithiasis, there will be the usual history of attacks of biliary colic, enlargement of the gall bladder, and more or less continuous pain. The early symptoms will partake largely of those associated with an inflammatory attack. The pulse will become increased, the temperature slightly elevated, there may or may not be chills. Loss of appetite, general malaise, and loss of flesh will compel the patient to take to bed. If jaundice is present, it will be decidedly slight, unless there is catarrhal inflammation of the biliary passages. Tenderness is a constant symptom and may be accounted for by the adhesive peritonitis present. During respiration the distended gall bladder can often be seen to move upward and downward. The adhesive exudation which is thrown out beyond the fundus is due to an attempt of nature to make ready a safe path for the pus, in case of a rupture of the gall bladder. The tracts through which the pus is led to a place of safety are interesting. It may perforate through the abdominal walls or into any of the hollow viscera, but more often it follows the windings of the suspensory ligament of the liver and reaches the umbilicus and discharges there. Occasionally, when it has reached the umbilicus, it may find its way into the urachus and then gravitate into the urinary bladder and be passed out in the urine.

In clearing up the symptoms of suspected empyema of the gall bladder, it is absolutely unscientific to resort to exploratory puncture. The risks are so great that they subject the patient to unnecessary danger. It matters not how fine the needle may be. When the walls of the gall bladder are inflamed and much distended, the introduction of a needle may be followed by the escape of pus, even through a very small puncture. Fatal peritonitis has too often followed, as the result of introducing trocars or needles, in such conditions. Should it be desirable to resort to puncture, the patient should be prepared for a few days, and everything should be in readiness to drain the gall bladder if necessary. The condition is one which calls for treatment on general surgical principles. After making the abdominal incisions and exposing the gall bladder, it should be seized and brought into the wound. Before opening it, sponges should be well packed about it so as to prevent the escape of pus into the general abdominal cavity. Then a small puncture should be made, either by a curved trocar, or by a small bistoury, and the pus liberated. When this is accomplished, any calculi that are present are to be removed. The cystic and common bile ducts are to be examined to make sure that no impaction is present. Occasionally the walls of the gall bladder will be found to be so rotten as to be

unable to hold the sutures. It may then be necessary to perform cholecystectomy. In those cases where the gall bladder has already ruptured and the pus has burrowed its way along a fistulous tract, it may be advisable to liberate the pus at the most dependent part, provided it is in the abdominal wall, and at some future time perform cholecystotomy or whatever radical operation may be demanded.

Calculous Hepatitis.—One of the results of the presence of cholelithiasis that are occasionally met with is an inflammatory condition extending from the gall bladder or tubes into the substance of the liver. It is very probable that in all cases of cholangitis affecting the intrahepatic ducts the adjacent parts of the liver surrounding such tubes are inflamed. The parts so inflamed recover themselves usually after the subsidence of the cholangitis. It is the more severe varieties of hepatitis, which terminate in suppuration and multiple abscesses that I wish here to discuss. Although it is not a frequent condition as an accompaniment of gall stones, yet it is of sufficient importance to give rise to serious and alarming symptoms when it is present.

Cholangitis, either chronic or acute, is generally present in cholelithiasis. Should a virulent type of microorganisms, either the *Bacterium coli commune*, staphylococci, or streptococci, gain access to the ducts, either from an entrance through the opening at the duodenum or by the blood channels, the inflammation may extend to the smallest ramifications of the intrahepatic ducts into the hepatic parenchyma. Pericholangitic abscesses may form in various places. Once formed, these abscesses may become quite large and by absorption may start up metastatic abscesses in other parts of the liver substance. These abscesses may remain single in different parts of the liver, or they may enlarge and approach each other, and eventually form one or two large abscess cavities, instead of a large number of small ones, and occasionally it is found that these abscesses are connected with each other by a fistulous channel, their cavities being at some distance from each other. There is no rule that may be laid down as to the size of these abscesses. They may be multiple and scattered throughout the substance of the liver in pockets not larger than a pea; they may be of any size from this up to a solitary abscess involving a great part of the liver.

They do not always arise from infective cholangitis, but may have their starting point in an empyema of the gall bladder rupturing into the substance of the liver.

The condition is a serious one, and the symptoms are frequently misleading. It is usually ushered in by a general feeling of malaise, headache, chills, and elevation of temperature and pulse. The disease resembles malarial fever, and is more liable to be con-

founded with that than any other. The rigors generally come on in the evening, and the exacerbations of temperature are frequently followed by attacks of colic. Quinine has little or no effect upon the temperature, nor can any malarial parasite be found in the blood by a microscopical examination. It is said that the amount of urea excreted in the urine is very much diminished when the temperature remains high for any length of time. The pyrexia may vary greatly in this disease, as it may in any abscess, and should not be taken as a criterion as to the severity of the disease. The temperature may remain normal when there is a large pus cavity, or it may reach 104° or 105° when only a small amount of pus is present. Should the condition continue for a length of time, the temperature will be but slightly elevated in the morning, and rise to 101° or 102° in the evening with a good deal of regularity. The degree of temperature is dependent upon the amount of absorption of toxic fluid that may take place. When cholecystitis is present, and especially when it is associated with an enlarged gall bladder, the diagnosis can generally be determined. The symptoms may continue for weeks, or even years, and if the pus cannot effect an escape to some favorable point, the patient will succumb sooner or later.

Ulceration of the Gall Bladder and Biliary Ducts.

—Ulcers in the walls of the gall bladder and biliary ducts are commonly met with in cholelithiasis; they may vary greatly in size and depth; they may be mere abrasions or simple scratches, the result of a sharp point of a calculus against the epithelial lining of the mucous membrane, or they may extend well into the muscular or serous coat of the gall bladder or ducts. Between these two extremes all grades of ulceration may be present. It must not be accepted that cholelithiasis alone is responsible for these ulcers; they are frequently caused by infective inflammation following typhoid fever, cholera, tubercle, and cancer. The abrasions formed by the pressure of a calculus in transit are usually slight in extent and are seldom recognized. These are of little practical importance, as they repair themselves and no damage results. On the other hand, there may be the most serious complications accompanying gall stones. They are chiefly of importance on account of the serious consequence they may be responsible for. These are stricture, hæmorrhage, perforation of the gall bladder or biliary ducts, fistula, local or general peritonitis, septicæmia, pyæmia, and death. When the calculi are lying loose in the gall bladder, the erosion of the walls amounts to but a trifling degree. It is when one becomes impacted, and sets up an inflammation surrounding itself, that the greatest degree of ulceration is apt to take place. This inflammation generally extends to the peritoneal coat of the tubes and sets up adhesive perito-

nitis. This plastic peritonitis is a salutary measure on the part of Nature to throw out a barrier of sufficient strength to prevent the ulcer from opening directly into the peritoneal cavity and setting up fatal peritonitis. Generally this is successfully accomplished, but occasionally the ulcerative process takes on such an active form as to perforate the walls before the plastic peritonitis has had sufficient time for the exudate to become organized.

Ulceration may take place in any part of the biliary passages. Its extent will vary according to the size of the calculus, the amount of pressure to which the walls of the ducts are subjected, and the length of time the impaction has lasted. When a calculus in passing along the lumen of the biliary passages, reaches a point where further progress is impossible, changes at the seat of obstruction immediately begin. These will consist of a dilatation of the blood vessels and a slight acceleration in the flow of blood, for a short time; this is followed by a retardation, the vessels still remaining dilated. Leucocytes in large numbers appear in the periaxial stream, and generally work their way out through the coats of the vessels into the lumen of the biliary passage. Fibrin and lymph soon accumulate in the region and frequently fill up the space in front and behind the stone. These tissue elements may be attacked by microorganisms, when a process of degeneration similar to coagulative necrosis takes place. The destruction of tissue done to the tissues lying close to the calculus is no doubt due to the chemical or physical changes that accompany exudation, to the deficient blood supply, and to the peptonizing influences of microorganisms.

When the impaction is not complete, the injury produced is liable to much variation. The exudations produced by irritations of different intensities vary greatly both in quality and in quantity. A slight and intermittent irritation may result in an increased amount of transudation only. There will be no coagulation, no fibrinous exudation, and consequently little or no change from normal conditions. When the irritation is more prolonged and intense, the exudation will be more albuminous, more fibrinous, and consequently will have a greater tendency to coagulate and become organized. Should this coagulable material be sufficient to fill up the lumen of the biliary duct for some distance on each side of the impacted calculus, it may become organized into a firm fibrinous cord. It will then be impossible for the calculus to proceed or recede. It may remain firmly impacted in position or ulcerate through the walls of the duct. More frequently when the exudation contains the same elements as in the form just mentioned, no coagulation takes place, nor does lymph form. Before there is time for such to take place, these tissues are attacked by microorganisms.

They immediately attack the exudations and give off the product of their metabolism. These cocci bore their way into the tissues and produce coagulation necrosis. The leucocytes surround the infected area and endeavor to oppose the progress of destruction. After an encounter lasting for some time, the leucocytes are successful in forming a barrier of granulation tissue, and the microorganisms are left to wallow in the substance of their own destruction. This will consist of dead leucocytes, epithelial cells, liquefied tissue, and exudation. If the lumen of the duct remains patent, the pus passes on to the duodenum and an ulcer results. Should there be occlusion of the duct, a more or less circumscribed abscess will be present. It will be seen that ulceration of the walls of the biliary passages may be quite superficial, and heal rapidly, and be of little or no consequence; on the other hand, they are frequently among the most serious complications in cholelithiasis. These complications I shall now proceed to consider.

Hæmorrhage.—This may take place into the biliary passages, into the substance of the liver, or into the abdominal cavity. It is an extremely rare complication of ulceration, still a number of cases have been recorded. It generally results from the erosion of a sharp-pointed calculus, but may be occasioned by the gradual advance of an ulcerated surface into the cystic artery or one of its branches. Although the hæmorrhage is generally mild, yet it may be so profuse as to lead to severe hæmatemesis or melæna and death. The symptoms associated with hæmorrhage from an ulcerated condition of the biliary passages are very vague, and there is usually nothing very definite to suggest the occurrence, unless it be hæmatemesis when symptoms of biliary colic, jaundice, and other evidence of gall stones are present.

Perforation of the Gall Bladder or Bile Ducts.—This is a much more frequent complication of cholelithiasis than is hæmorrhage. It is also more serious in its consequences. When a gall bladder is much distended as the result of partial or complete occlusion, the walls become thinner in proportion to the amount of distention. They may distend to a point where further distention cannot go on without a rupture taking place. During this period of distention the sudden application of pressure external to the gall bladder, may be sufficient to cause a rupture. Cases have been recorded in which the pressure produced by vomiting, coughing, defæcation, and parturition was sufficient to cause perforation. The same results have followed a severe blow over the region of the gall bladder. It is not an uncommon occurrence for the laity to beguile themselves into the belief that a systematic rubbing will cause the enlargement to disappear. They attempt by this method to overcome the obstruction due to the impaction by force from the outside

Besides thinness of the walls of the gall bladder, the perforation may be occasioned by pressure through the base of an ulcer. When there has been sufficient time for plastic exudation to have formed between the gall bladder and some one of the neighboring organs, the condition may remain local for the time being. Should the rupture take place suddenly, the contents of the gall bladder will be poured into the peritoneal cavity. Such an event is exceedingly unfortunate and dangerous. Rupture of a healthy gall bladder from a stab, a bullet wound or a sudden blow is not such a serious condition as many suppose. There is every reason to believe that healthy bile may flow into the abdominal cavity without immediately setting up peritonitis. Normally it is aseptic, and is injurious only after the period of decomposition sets in. In rupture of a gall bladder, the imminence of the danger depends largely upon whether or not the bile is in a normal, healthy condition, and the length of time which elapses before an abdominal section is performed. Unfortunately, in the great majority of cases of rupture due to cholelithiasis the bile is already decomposed and infected by microorganisms. In such cases, when the diagnosis is made at once and an abdominal section performed immediately, many of the patients recover. The operation consists in opening the abdominal cavity, removing the decomposed bile and any calculi which may have escaped, and then repairing the rent in the gall bladder or biliary ducts, as the case may be.

The symptoms of perforation through the walls of the gall bladder or biliary ducts are those of localized or general peritonitis. Generally there will have existed symptoms of jaundice, colic, and distention. When the ulceration takes place slowly and in the direction of some of the hollow viscera, such as the stomach, colon, or duodenum, adhesions advance before it, and the perforation takes place without any serious disturbances. The majority of large calculi ulcerate their way out in this manner, and cause but few symptoms until they arrive in the intestinal tract, when they may cause obstruction. When the perforation takes place directly into the abdominal cavity, the cardinal symptoms, sudden and severe pain in the neighborhood of the right costal margin, followed closely by chills and more or less collapse, retching, vomiting, elevation of temperature and pulse, and abdominal distention, will follow in order. If jaundice is not already present, it will appear shortly after the perforation from absorption of bile pigments by the peritoneal surfaces. Clay-colored stools are frequently present.

In these cases medical treatment is of no avail, and it would have been better if he who first recommended large doses of opium in the treatment of this condition had had his mind diverted to other and

not such dangerous channels. Opium lulls the pain, no doubt, and soothes other symptoms to the degree of giving rise to a false security, without remedying any of the fundamental wrongs. A patient with a perforation of the gall bladder, with its contents pouring into the abdominal cavity, is only safe when upon an operating table. At least, there is a greater degree of safety there than if he is left to medical treatment. Just so soon as this condition is diagnosed, an operation is highly imperative. If it can be done within twelve hours, there is every reason to expect good results. In the great majority of cases both bile and pus will be found in the abdominal cavity. These should as rapidly as possible be swabbed or wiped up by gauze sponges, and if the general abdominal cavity has been involved, it should be flushed out with large quantities of a mild warm solution of boric acid. Frequently when the surgeon is called in the patient will be in a very low condition and cannot stand a prolonged operation; it will be better then to be satisfied to wash the pus and bile out, and to make free drainage through the pouch which exists immediately under the liver. The opening can be made for drainage in the right loin. If the patient possesses sufficient strength, it is always best to search for the perforation and have it repaired. This is not always easy, for frequently the ulcer may be quite small and slant down between the coats of the gall bladder so as to be exceedingly difficult to find. When found, its edges should be freshened and beveled off, and brought into apposition with very fine silk or catgut sutures. It is good surgery to open the gall bladder and drain at the same time. If the perforation is in a suitable position, it may be expedient not to make a fresh opening, but to enlarge the one already existing, and then attach its walls up to the transversalis fascia of the abdominal opening. Should there be a severe cholecystitis coexisting, it may be prudent to do a cholecystectomy, provided, however, as already stated, the patient has sufficient strength to stand the additional operation.

Before departing from the subject of perforation of the gall bladder and biliary ducts, I should like to evoke the attention of physicians to the rôle which typhoid fever plays in the causation of ulceration and perforation of the gall bladder. The bacillus of typhoid fever is frequently to be found in the gall bladder, and the museums furnish ample evidence that perforation of the gall bladder after typhoid fever is much more frequent than is generally believed. It is a condition that should be diagnosed early, so that the patient may be rescued by prompt operative procedures. It is the only treatment that will hold out the least possible chance of recovery.

(To be continued.)

Therapeutical Notes.

Dujardin-Beaumetz's Treatment of Dyspepsia.

—Dr. Wormley (*Medical Times*, September) cites the following methods of treatment on the authority of Dujardin-Beaumetz:

"1. Dyspepsia due to oversecretion of gastric juice, diet to be purely vegetable, consisting of eggs, farinaceous preparations, and fruit. (a) The eggs to be soft boiled, especially the yolk. (b) Farinaceous foods, to be taken in the form of soups—as potato, turnip, lentil, Indian maize, wheat, chestnut, oatmeal, barley, and macaroni soups—all these, of course, to be rendered as thin as possible. (c) Vegetables to be thoroughly cooked and to be taken in the form of vegetable soups, or soup made of small peas, all to be well boiled; the same holds good for spinach and turnips. (d) All fruits, avoiding raisins, should be used in the form of jelly. (e) The bread should be well baked, or toasted. (f) Drinks—wine mixed with water, light beer or milk, mixed with alkaline waters.

"2. Dyspepsia due to deficient secretion of the gastric juice—peptonized substances, toasted bread, bouillon, mixtures of broths and milk, powdered meats, scraped meats, pepsin, lemonade with hydrochloric acid:

℞ Hydrochloric acid.....33 (11.7 grammes);
Water.....0.1 (½ litre).
One glass after each meal.

"3. Dyspepsia due to sympathetic troubles, diet to be purely vegetable."

A Synthetic Purgative.—According to the *American Druggist* for July 28th, purgative is the first synthetic purgative. It is a compound of oxy-anthraquinone. Chemically it is the diacetyl ester of anthrapurpurine, and was first called purgatol. It is a yellow, crystalline powder, insoluble in water and weak acids; soluble in dilute alkalis, turning a reddish violet color. The dose is from 7½ to 15 grains (0.5 gramme to 1 gramme). It has been thoroughly tested, and is said to have proved its value.

Phenolphthalein as a Purgative.—Professor Tunncliffe, at the recent meeting of the British Medical Association, pointed out that in addition to the other properties of synthetic coal tar-products, some of them have a purgative action. He has used phenolphthalein upwards of a thousand times for its aperient qualities, and with excellent results. His method of administration is by tablets, varying from 2½ grains to 15 grains. He administers the former to a child of about two years old, while five grains will purge an adult. As phenolphthalein is excreted by the intestines and not by the kidneys, it may safely be used in renal disease.

For Anæmia. *Progrès médical* for August 16th ascribes the following to Rosan:

℞ Spirit of juniper.....90 grammes (450 minims);
Oil of cloves.....
Oil of nutmeg..... of each 5 grammes (75 minims).
M. To be used in frictions.

The Treatment of Insolation.—The *Journal des praticiens* for August 16th, gives the following summary of treatment:

The patient should be removed from the sun's rays, the hyperthermia reduced, and the congestion of the nervous centres overcome. Attention must be paid to restoring cardiac energy and respiratory power.

The patient being put in a cool spot an ice bag is applied to the head. If the temperature is very high the whole body may even be bathed with iced water and cold injections be given. Free and copious venesection, 400 grammes (about 12 ounces), will combat the brain congestion. Drastic purgatives should be ordered:

℞ Scammony.....0.30 gramme (4½ grains);
Calomel.....0.10 gramme (1½ grains).

M. ft. pulv. mitte ii. To be taken at a quarter of an hour's interval.

Cardiac energy may be stimulated by subcutaneous injections of caffeine, strychnine, or of camphorated ether:

(1)

℞ Caffeine.....2.50 grammes (37½ grains);
Sodium benzoate.....3 grammes (45 grains);
Distilled water, enough to make 10 c. c. (150 minims).

M.

(2)

℞ Strychnine sulphate...0.01 gramme (15/100 grain);
Distilled water.....10.00 grammes (150 minims).

M.

(3)

℞ Camphor.....2.50 grammes (37½ grains);
Ether.....10.00 grammes (180 minims).

M.

Certain authors recommend the addition to the strychnine solution of 7½ grains of sparteine sulphate. Renant, of Lyons, thinks that this medication favors the appearance of secondary syncope.

In cases of insolation complicated with paludism, subcutaneous injections of quinine may be given:

℞ Quinine dihydrochloride...5 grammes (75 grains);
Distilled water.....10 grammes (150 minims).

M.

The respiration must be restored by rhythmic tractions of the tongue (seizing the organ by its middle and not by the point) and artificial respiration. Injections of strychnine and atropine have been recommended (Somerville) in such cases:

℞ Strychnine sulphate...0.010 gramme (15/100 grain);
Atropine sulphate.....0.003 gramme (45/1,000 grain);
Distilled water.....10 c. c. (150 minims).

M.

The continued application (for twenty-four hours) of ice to the head seems to diminish the dyspnœa.

For the Dyspepsia of Infants.—*Progrès médical* for August 16th attributes the following to Comby:

℞ Calcined magnes. }
Sodium bicarbonate of each 0.20 gramme (3 grains);
Powdered nux vomica...0.01 gramme (15/100 grain).

M. for one powder. A child, from three to six years of age, may take one before meals twice or three times in the day.

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THE DIFFICULTY OF STERILIZING A WOMAN.

In view of the frequent mention in recent literature of operative measures confidently esteemed sure preventives of subsequent conception, a paper entitled *Pregnancy after Removal of Both Ovaries for Cystic Tumor*, by Mr. Alban Doran, and the discussion which followed the reading of the paper before the Obstetrical Society of London (*Transactions of the Obstetrical Society of London*, Vol. xlv., page 231) are of great interest. The cases in which impregnation has taken place after the supposed entire removal of both ovaries seem to be fewer in number than is generally imagined. At the time that Mr. Doran prepared his paper, he knew of only three besides his own—one recorded by Schatz, of Rosstock, one by R. Stansbury Sutton, of Pittsburgh, and one by Seth C. Gordon, of Portland, Maine—but in an addendum he refers to five other cases that had since come to his knowledge.

Mr. Bland-Sutton's statement, cited as having been published in his *Surgical Diseases of the Ovaries*, to the effect that "there is no authentic instance on record of a third ovary," seems to have passed unquestioned in the discussion, and it was the general opinion, as it is Mr. Doran's, that so far as removal of the ovaries fails to be followed by sterility, the failure must be owing to some healthy ovarian tissue being left behind. It is Mr. Doran's opinion that in his own case there must have been "some detached tissue containing follicles in the ovarian ligament"—a condition which he says he has observed—and in the discussion Dr. Amand Routh said he thought it likely that a small piece of the hilum of one ovary might be left, containing no Graafian follicles sufficiently developed to come to maturity immediately, but that such a piece of ovarian stroma, together

with the follicles, became in a few months further developed, and ovulation and menstruation then recurred.

Mr. Doran is convinced that simple ligation of the Fallopian tubes cannot be relied on to cause sterility, and that is the opinion of Bland-Sutton, too, and he now applies two ligatures some distance apart, and excises a portion of the tube between the two. In both the paper and the discussion it was looked upon as probable that a simple ligature might cut its way through the tube and the process be followed by adhesion of the two portions of the divided tube to each other, end to end, without such a degree of stenosis resulting as to amount to impermeability. The plan of double ligation, with excision of an intermediate portion of the tube, seems desirable therefore, as advocated by Bland-Sutton, whenever permanent sterility is one of the objects of an operation, even if all ovarian tissue proper is supposed to be removed.

THE NEUROTIC FACTOR IN CHRISTIAN SCIENCE "CURES."

An instance of a class of case that, falling into the hands of Christian Scientists, becomes a fallacious but by no means to-be-wondered-at tower of support for their cult, is reported by Dr. Howell T. Pershing in the *Journal of the American Medical Association* for September 6th, in an article on Mental Therapeutics and the Need of Psychology in the Medical Curriculum.

Some years ago a man came to the dispensary of the University of Denver, having been sent to Colorado "from one of the hospitals of Philadelphia, with a big box of creosote pills, which were to aid him in a desperate fight to escape death from consumption." For over a year the man had been spitting blood, and lately passing it in the urine also. His weight had fallen from 205 to 155 pounds. He coughed incessantly, panted for breath, could scarcely talk, and death appeared imminent. A careful physical examination revealed nothing abnormal in the chest, so he was passed on to Dr. Pershing to investigate for organic lesion of the brain. Dr. Pershing found "right hemianæsthesia, amblyopia of the right eye, complete loss of hearing, smell, and taste on the right side, aphonia, and some weakness of the right arm and leg." The respirations were over sixty a minute.

Surely here was a bad enough case to satisfy the most sceptical layman, however intelligent (and we fear not a few weak-kneed physicians, also), should such a patient have been rescued from the grave under treatment by Christian Scientists; and with the much-prized "given up by the doctors"—and hospital doctors at that—clause as an endorsement. But mark the sequel.

The whole combination was "perfectly typical of hysteria. The history contained many points strongly indicative of an hysterical origin of all the symptoms," and the diagnosis of hysteria was at once made. The assurance to the patient that he would soon be cured if he would do exactly as he was told, reinforced by breathing exercises, electricity "solely for its psychic effect," and ten grains of chloral to induce sleep, resulted in the patient's returning next day "in an exuberant state of happiness; the dyspnoea and cough were practically gone, there was no blood in the saliva, and the voice was much stronger." A few weeks' treatment resulted in rapid general improvement and a gain in weight of twenty-five pounds. The patient then left the hospital before he should have done, but a fortnight later he was found with right hemiplegia, which a physician had asserted must certainly be organic. Dr. Pershing found "the right arm and leg in rigid extension; the foot was dragged and not swung; the face and tongue were not involved; right hemianæsthesia had returned; in short the paralysis was clearly hysterical."

Next day "after some electrical stimulation of the affected muscles, followed by manipulation and exercise of each joint, used only to restore confidence, he used both the leg and arm very well, only a slight awkwardness remaining." Dr. Pershing adds: "I never saw him after this, but have no doubt that he relapsed before long."

The moral of all this is obvious to the physician and should be so to the more intelligent layman. It is freely admitted that a large number of ailments of neurotic origin succumb to treatment at the hands of Christian Scientists, as they would do to any measures exercised by any person who could gain sufficient confidence from the patient to make his suggestions effective. In this respect the Christian Scientist offers, in the shape of Divine power, a ground for faith in which most people are by general conviction prepared to acquiesce. That point gained,

unfaltering assurance does the rest. But many cases of neurotic disease, of which the foregoing is an excellent example, are by no means obviously such, but rather have all the aspect of grave forms of organic disease, tuberculosis, malignant disease, paresis, or what not. If such manifestations at times deceive even the physician, what wonder that the most intelligent layman is compelled into unwilling belief when he sees a recovery follow upon treatment by the disciples of this or that form of charlatantry?

If cases such as that related above, and they are many, with all the seeming characteristics of grave organic disease, but which have finally been diagnosed as neurotic and successfully treated as such, could only be collected and brought prominently and widely into public view, much might, we fancy, be effected toward stemming the tide of adhesion to the various cults of faith cure. But publicity must be attained in such a manner as to avoid even the appearance of self seeking or advertisement on the part of anyone. The cases should bear the authoritative endorsement of some responsible medical body, not of any individual physician, however eminent, and all personality should be eliminated from their recital. Then we can rightly and with dignity invoke the powerful aid of the lay press in disseminating such valuable knowledge.

One further consideration. It may be objected that, since it is admitted that such cases are cured under Christian Science, even though only in point of fact, by the use of psychic influences akin to those used by physicians (whatever Christian Scientists may insist to the contrary), why should not Christian Scientists be permitted to treat the cases as well as physicians? As we have before stated, it is not what the Christian Scientist does, but what he leaves undone that constitutes his real danger to the community. If it were possible to guarantee that none but suitable cases should fall into his hands, the economic aspect of the question might be different. But what shall we say of those cases which, far from being more innocent than they appear, are really what their symptoms seem to indicate, and in which suggestion alone will not avail; in which perhaps precious time is lost to the physician for proper medical treatment, or, still worse, to the surgeon for imperatively demanded surgical intervention? And above all, what of the danger to thousands of other innocent lives besides the patients, when a malignant

infectious disease is allowed from lack of recognition to disseminate sickness and death? That physicians, as well as Christian Scientists, at times err, the case that forms our text clearly shows; but while the physician's errors are far more likely to be on the safer side, as in the case in point, of regarding the lesser as the graver, and taking precautions accordingly, the very nature of the Christian Scientist's peculiar belief makes it certain that *every time* he has the graver condition to deal with his error will be fraught with the worst consequences possible.

THE "ULTIMATE IDEALISM" OF CHRISTIAN SCIENCE.

As to the Christianity, the science, and the philosophy of the sophism yclept "Christian Science," there are all sorts of wordy disputations between the members of that body and the outside Christians, scientists, and philosophers respectively, which would have done credit to the scholastic disputations of the middle ages. But on one point all are agreed. This point was well elucidated recently when an application was made in Philadelphia for a charter for a "First Church of Christ Scientist." The Judge of Common Pleas Court No. 4, in that city, considering the application, quoted the following lines from an article by Mrs. Eddy herself (or whoever writes the Encyclicals that are promulgated in her name): "*Science and Health with a Key to the Scriptures*, and my other public works, are the only proper instructors for this hour. It shall be the duty of Christian Scientists to circulate and to sell as many of these books as they can. If a member of the First Church of Christ (Scientist) shall fail to obey this injunction, it will render him liable to lose his membership in this church" [italics ours]. Upon this the judge promptly and most properly decided that "the so-called church is a corporation for profit, organized to enforce the sale of Mrs. Eddy's books by its members, which is a matter of business, and not of religion." The application was therefore refused. Clearly, all parties, including Mrs. Eddy and her disciples, are agreed on the absolute commercial character of Mrs. Eddy's cult; and from that point of view it is very shrewd and successful; so, also, are many patent medicine and abortion-mongering businesses. With its religious aspect we have nothing to do; its scientific aspect has been demolished so completely that anyone who has studied the controversy and failed to be convinced of the absurdity of that aspect is in the state that among theologians is denominated "invincible ignorance." Of its philosophy we may, perhaps, have more to say anon.

CANCER IN ASTRAKHAN.

There seems to be an extraordinary prevalence of malignant disease among the inhabitants of Astrakhan. According to A. P. Dalinger (*Medicinskoje obosrenje*, 1902, No. 7; *Centralblatt für Chirurgie*, August 30th), who gives six years' statistics (1895 to 1900, inclusive) of the municipal hospital. In 1897 Astrakhan contained 117,771 inhabitants. During the six years there were received into the hospital 14,755 patients, 447 of whom were affected with cancer, and 1,128 with tuberculous disease. Of the cancer patients, 149 were men and 298 women. Fifty men and twenty-eight women had the disease in the skin, the lip, or the lymphatic glands; ninety-one men and seventy-eight women, in the digestive organs; two men and sixteen women, in the omentum and peritonæum; five men and 172 women, in the sexual organs; one man and three women, in the urinary organs; and one woman, in the pleura. As no specific mention is made of the breast, it may be presumed that cancer of that gland was included with that of the sexual organs. Twenty-six of the patients were between twenty and thirty years old, seventy-six were between thirty and forty, a hundred and fifty-four were between forty and fifty, a hundred and twenty-three were between fifty and sixty, fifty-nine were between sixty and seventy, seven were between seventy and eighty, and two were between eighty and ninety.

DEATH FROM PULMONARY HÆMORRHAGE OF A TUBERCULOUS PATIENT "CURED" BY CHRISTIAN SCIENCE.

A Christian Scientist who had been "cured" of tuberculosis in Colorado by convincing himself that tuberculosis did not exist, died recently during a Christian Science service in a Christian Science church in Denver, from pulmonary hæmorrhage. At any rate, there was a sudden solution of the perceptible continuity between his self and that nonexistent and merely phenomenal framework, through the reactions of which his self had hitherto been capable of manifesting its existence to the rest of us. He passed, in short, so far as we are concerned, from the region of τὸ ὄν into that of τὸ μὴ ὄν. On our present plane of actual or assumed existence, whatever truth or falsity may reside in the various speculations of ontology; whether in fact τὰ μετὰ τὰ φυσικά actually exist or not, it is clear that what concerns us others regarding any man is his power of coming into relation with us in a way of which we can be made cognizant. Under these circumstances, we should like to ask whether this man, who was cured of a "belief in tuberculosis," has or has not ceased his relations, so far as can be perceived by the rest of us, with our-

selves, and whether such cessation did or did not take place simultaneously with the appearance of an extravasation of blood from the lungs (which appearance occurs too often in connection with a similar cessation of vital relations to allow of a *post hoc, ergo propter hoc* conclusion). Such scholastic queries as whether the hen or the egg came first, whether the idea gives rise to the material manifestation or the material existence originates the idea, are worthy of consideration in the abstract by a select band of scholars, because the investigation of every unexplored region of the nature of things may some day lead to practical results, just as Franklin's experiment with the kite was a precedent factor in all modern applications of electricity. But for the majority of us, and for practical purposes, it would be folly to cease the using of animal power, steam power, and other modes of transfer until aerial locomotion becomes an accomplished fact, or better still until the mahatma's power of translation of the body can be adapted to common use. But, pshaw! One might as well argue with the ostrich on the folly of burying his head in the sand to escape observation as with a Christian Scientist on the existence of those particulars whereby alone we become cognizant of the existence of universals at all.

EPILEPSY FROM PERIPHERAL IRRITATION.

It is seldom that epileptic seizures are so clearly demonstrated to be dependent on extracranial conditions as in a case recently related by Grosskopf (*Archiv für Laryngologie*, xliii 1; *Berliner klinische Wochenschrift*, August 4th). The patient, twenty years old, had suffered for a year with typical epileptic attacks, which toward the last occurred six or eight times a day. They were treated in vain with bromides. There was suppuration in the antrum of Highmore, together with nasal polypi. During the operation for the cure of these conditions an epileptic attack took place, but the patient has since been free from them.

BACTERIA IN THE ATLANTIC OCEAN.

Even the water of the central portion of the North Atlantic Ocean is not wholly free from bacteria, and they seem to be rather more numerous now than they were at the time of Fischer's observations, in 1885 and 1886. Minervini (*Zeitschrift für Hygiene und Infektionskrankheiten*, xxxv., page 165; *Centralblatt für innere Medizin*, August 23rd) has only occasionally, and that at great distances from land, found the air above the sea absolutely free from germs. He reports the rain water of mid-ocean as freer from germs than that over the land. In none of his tests was the sea water found perfectly devoid of germs.

News Items.

Society Meetings for the Coming Week:

MONDAY, September 22d.—Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, September 23rd.—New York Dermatological Society (private); Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, September 24th.—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society.

THURSDAY, September 25th.—New York Academy of Medicine (Section in Obstetrics and Gynecology); New York Orthopaedic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia (conversational); Church Hill Medical Society of Richmond, Virginia.

FRIDAY, September 26th.—New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

A New City Hospital for Jersey City.—The Board of Trustees, recently appointed by the Mayor, have decided to proceed with the work of preparing to erect a new hospital, of which the city is in urgent need.

Inoculation for Scarlet Fever.—The report of Professor A. E. Wright, of the British Army Medical School at Netley, on the results in the army of inoculations for typhoid, shows that among the inoculated, fewer cases of typhoid occurred and a smaller proportion of deaths among the cases.

Changes of Address.—Dr. M. Chirurg, to No. 117 Berkley Street, Boston; Dr. Egbert H. Grandin, to No. 116 West Seventy-sixth Street, New York; Dr. Robert L. Irish, to No. 17 Livingston Place, corner of Seventeenth Street, east of Second Avenue, New York; Dr. Seymour Oppenheimer, to No. 45 East Sixtieth Street, New York; Dr. Charles C. Page, to No. 218 West Fourth Street, New York; Dr. Edward Sohmer, of New York, to No. 1252 Jefferson Street, Buffalo, N. Y.

Ambulance Surgeons Must be Qualified Practitioners.—On account of the mistake recently made by a young ambulance surgeon who diagnosed intoxication in the case of a man who had been fatally injured, by being struck by a car and who was locked up as a "drunk," Dr. Joseph H. Raymond, Assistant Sanitary Superintendent in Brooklyn, has taken a step in the right direction in notifying the superintendents of the various hospitals in that borough that on and after October 1, 1902, no surgeon will be permitted to serve as ambulance surgeon until he has been duly authorized so to do by the Department of Health. The qualifications for ambulance surgeons are that they must be duly authorized by law to practice medicine and must have had at least six months' experience either in practice or in a hospital.

The Johns Hopkins Hospital.—The following named physicians, recently appointed, constitute the resident staff: Medical, Dr. Thomas McCrae; Surgical, Dr. Richard H. Follis, Jr.; Gynecological, Dr. Benjamin R. Schenck; Maternity, Dr. Frank W. Lynch and Dr. J. Morris Siemons.

The St. Louis Medical Society of Missouri.—A special meeting was called for September 13th for the purpose of drafting and adopting appropriate resolutions on the death of Prof. RUDOLPH VIRCHOW, who was an honorary member of the Society. Short addresses were to be delivered by Dr. Hugo Summa, on "Virchow, as Pathologist," and by Dr. Frank J. Lutz, on "Virchow in Public Life."

To Enforce Anti-Spitting Ordinance.—The Assistant Sanitary Superintendent of the City of New York, Dr. Raymond, who has charge of the Borough of Brooklyn, has announced that he proposes to rigidly enforce the ordinance prohibiting expectoration on the sidewalk of any street, avenue, park or square, or upon the floor of any hall, in any tenement house, lodging house, or hotel, or in any ferry boat or railway platform.

The Floating Hospital of St. John's Guild.—In recognition of the work the guild is doing among the poor, in connection with the Board of Health, the officers and employees of the board have, with the sanction of President Lederle, been invited to contribute any sum they wish to give, for a fund that is being raised for the support of the hospital. Enough, it is hoped, may be raised to endow a bed in perpetuity.

Resignation of Dr. Duryea of the Kings County Hospital.—It is reported that the superintendent, Dr. J. T. Duryea, has offered his resignation, to take effect November 1, 1902, in order to accept the position of general manager of a large business concern. In view of Dr. Duryea's valuable services in improving the condition of the county institutions, the Commissioner of Public Charities is making every effort to induce him to withdraw his resignation, having offered him, it is said, entire charge of all the county institutions in Manhattan, if he will remain.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending September 13, 1902:

DISEASES.	Week end'g Sept. 6		Week end'g Sept. 13	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	210	20	142	18
Scarlet fever.....	96	9	97	6
Cerebro-spinal meningitis.....	0	3	0	1
Measles.....	44	1	47	4
Diphtheria and Croup.....	176	16	189	33
Small-pox.....	12	0	6	3
Tuberculosis.....	109	125	233	131

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending September 13, 1902:

BLANCHARD, ROBERT M., First Lieutenant and Assistant Surgeon, is granted leave of absence for one month.

CARTER, W. FITZHUGH, Major and Surgeon, is granted leave of absence for one month and five days, upon his being relieved from duty at Fort Totten.

DARNALL, CARL R., Captain and Assistant Surgeon, is detailed as recorder of the board of medical officers appointed for the examination of candidates for admission to the Medical Corps of the Army.

FORWOOD, WILLIAM H., Brigadier General and Surgeon General, United States Army. His retirement from active service September 7, 1902, by operation of law, is announced.

GIRARD, ALFRED C., Colonel and Assistant Surgeon General, is detailed as a member of the examining board, convened at Washington, D. C., during the absence of JOHN VAN R. HOFF, Lieutenant Colonel and Deputy Surgeon General.

KIRKPATRICK, THOMAS J., Captain and Assistant Surgeon, is granted leave of absence for one month, to take effect about September 28th, with permission to apply for an extension of one month.

LAMBERT, SAMUEL E., First Lieutenant and Assistant Surgeon, will proceed to Washington Barracks, D. C., for duty.

MORSE, CHARLES F., First Lieutenant and Assistant Surgeon, will remain at Fort Mansfield after the departure of troops until he shall have completed the care and transfer of the sick.

PROBERT, MERTON A., Contract Surgeon. The leave of absence granted him is extended one month.

SHEPHERD, JOHN M., Contract Surgeon, will proceed from Fort Hamilton to Fort Myer, Virginia, and report for temporary duty.

SHIMER, IRA, First Lieutenant and Assistant Surgeon, will remain at Fort Michie after the departure of troops until he shall have completed the care and transfer of the sick.

Births, Marriages, and Deaths.

Married.

HALL—McMANUS.—In Chicago, on Wednesday, September 10th, Dr. Thomas B. Hall, of Toronto, Canada, and Dr. Ruth M. McManus.

HUNNER—STEVENS.—In Baltimore, on Wednesday, September 10th, Dr. Guy Leroy Hunner and Miss Isabelle Stevens.

KIDDER—NORTON.—In Vineyard Haven, Massachusetts, on Thursday, September 4th, Dr. Benjamin H. Kidder, United States Navy, and Miss Eugenia S. Norton.

SIMMONS—ATKINS.—In Baltimore, on Tuesday, September 16th, Dr. Ward Weaver Simmons, of Brooklyn, and Miss Minnie Jeannette Atkins.

Died.

BANKS.—In Columbus, Georgia, on Tuesday, September 9th, Dr. Elbert A. Banks, in the sixty-second year of his age.

COOK.—In Flushing, N. Y., on Sunday, September 14th, Dr. Edmund Howell Cook, in the thirty-ninth year of his age.

CROSSE.—In Lewiston, Maine, on Tuesday, September 9th, Dr. Romanzo F. Crosse, in the fifty-seventh year of his age.

HOWARD.—In Troy, Indiana, on Tuesday, September 9th, Dr. W. R. Howard, in the forty-fifth year of his age.

STORCK.—In Buffalo, on Wednesday, September 10th, Dr. Eugene E. Storck, in the forty-seventh year of his age.

PRACTICE OF MEDICINE.

On Ankylosis of the Spinal Column.—Dr. Attilio Domenici (*Gazzetta degli ospedali e delle cliniche*, June 22nd), reports a case of spinal ankylosis in a young man eighteen years of age, with a tuberculous family history, and a previous history of typhoid fever. When he attempted to rise from his bed he was seized with general convulsions and marked pain in the lower part of the vertebral column. On palpation there was tenderness over the spinous processes in the lower dorsal and lumbar regions. He could not bend his back or rotate his trunk. The pain gradually disappeared under the administration of potassium iodide. On examination the rigidity was found to extend over the lower part of the spine below the middle of the dorsal region. The author considers this case an example of the vertebral ankylosis described by Bechterew, Marie, and Strümpell. Various theories regarding the pathogenesis of these cases have been held, but in the present instance its connection with a general infectious disease is very apparent, the rigidity commencing on the fifteenth day of an attack of typhoid fever. The onset and the symptoms excluded a tuberculous spine. He believes that in the present case he had to deal with a typhoid localization in the joints of the spine similar to those found in other joints in this disease. He concludes that "rigidity of the spine" may be of a varying ætiology and therefore not to be regarded as an independent disease.

Treatment of the Myocarditis of Acute Rheumatism.—M. Janot (*Gazette hebdomadaire de médecine et de chirurgie*, August 31st), in a most exhaustive paper on myocarditis as a complication of acute articular rheumatism, says that the first point in treatment should be the prophylaxis by absolute rest and the employment of general tonics including large amounts of milk with some alcoholic addition to bring about diuresis. Subcutaneous injection of artificial serum should also be practised. Large doses of sodium salicylate and the alkalies should be administered. If the myocarditis should develop despite all precautions, the most complete rest must be enjoined and cold compresses should be laid over the heart as a stimulant; but the usual cardiac stimulants should be given only with the greatest caution, and only then when collapse is imminent. During convalescence, special care must be maintained to safeguard the action of the heart. The later treatment is mainly hygienic and involves the avoidance of fatigue, tobacco, alcohol, and depressing occupations.

Some Observations on the Occurrence and Treatment of Lobar Pneumonia in Young Children.—Dr. J. A. Coutts (*Edinburgh Medical Journal*, September) notes in croupous pneumonia the much greater frequency in which the apices of the lungs are the sites of the attack in children as compared with adults; and the younger the child the more pronounced is the tendency for the localization of the complaint in the apices. He asserts that no treatment yet devised has in any way shortened the natural course of the complaint. All that is required is rest in bed in a well ventilated apartment, at a

temperature of about sixty-five degrees, along with careful dieting and nursing. Forced feeding should not be resorted to unless the need is very urgent, as sleep will do far more than mere food for the vast majority of children with 'pneumonia.' In only a small minority of the cases of croupous pneumonia in children is there an urgent need for alcoholic stimulation. For the initial hyperpyrexia frequently present the author usually prescribes a full dose of opium. In the later stages a combination of hyperpyrexia and insomnia may occur; in this condition opium is strictly contraindicated and alcohol is called for.

A Brief Consideration of the Scientific Treatment of a Few of the Diseases of the Heart.—Dr. I. Newton Snively (*Medical News*, September 6th) points out that each patient showing a heart lesion must be a study unto himself. No heart medicine is needed unless the myocardium is unable to do its work in a physiological way. The heart muscle should demand more consideration than the heart murmur. Rest is one of our best therapeutic agents. We should try by every possible means to prevent myocarditis in all diseases where this condition is likely to arise. After any severe diseased process we should insist upon the patient resting in bed long enough to allow the myocardium to be restored. We should improve the general nutrition of our patients and restore the blood to a normal standard by the use of blood tonics. We should investigate the kidneys in all cases showing signs of cardiac incompetency. Physical exercise, light gymnastics, and properly selected diet are valuable aids in the treatment of cardiac disease.

Direct Endoscopy of the Upper Air Passages and Oesophagus. By Dr. G. Killian (*British Medical Journal*, August 30th).—The principle which underlies oesophagoscopy has recently been applied to the trachea and bronchi. An inspection can be made right down into the lungs by the introduction of straight tubes into the trachea and bronchi.

In the adult, local anæsthesia with a twenty-five per-cent. alcoholic solution of cocaine is nearly always sufficient, but a preliminary injection of morphine is of great assistance. In children it is best to give chloroform, the head hanging over the edge of the table. The author does not use a "mandrin" or the finger as a guide, but introduces the instrument under the guidance of the eye, looking continuously through the tube, thus gradually finding his way through the pharynx and larynx into the trachea. Foreign bodies are thus easily discovered and extracted. If tracheotomy has been necessary and the foreign body has not been coughed up, a short tube may be introduced through the cocaineized trachea—lower direct tracheotomy. Aspirated foreign bodies are specially liable to become fixed in the bronchi. If just below the bifurcation, upper or lower direct tracheoscopy is all that is necessary for diagnosis and extraction. If deeper down, longer bronchial tubes are employed, which are introduced into the cocaineized bronchi. The bronchi are highly elastic and imbedded in soft tissue, and can without danger be pressed into the median line, thus bringing trachea, larger bronchus, and branch into one straight line.

Bronchoscopy thus allows the whole bronchial

tree to be searched. Though the left principal bronchus branches off at a sharper angle, yet with gentle pressure it can be brought into view almost as easily as the right. The view must be kept clear by sponging or by the use of the author's specially devised pump. It must be remembered that if the tube is introduced into a principal bronchus which is entirely blocked by a foreign body, respiration will at once be interfered with. Under such circumstances the tube should have a lateral opening some distance from its lower end. For the removal of foreign bodies from the bronchi a good view, great care, and quietness in procedure are essential. Slender tubular forceps, and blunt hooklets are the most useful instruments.

Hitherto, bronchoscopy has been employed in twenty cases. Nearly one half the cases were in children. The foreign bodies had been aspirated into the bronchi within a few days in about half the cases; in the others they had been in the lung for months or years. Upper bronchoscopy was successful in nine out of the eleven cases in which it was employed. Lower bronchoscopy was successful in all of nine cases. In the cases in which extraction was successful, only one patient died and that nine months later from purulent pleurisy of the affected side.

SURGERY AND ANATOMY.

Serous Osteomyelitis of the Occiput.—Dr. W. Schrank (*Berliner klinische Wochenschrift*, August 18th), records such a case in which the swelling over the occiput simulated a meningocele. The first symptom noted was falling out of the hair over that part of the head which was said to have been injured. The swelling, in the neighborhood of the posterior fontanelle, was of about the size of half an apple. Tuberculosis and syphilis were easily excluded. The diagnosis was rendered difficult by the elevation of a ridge of bony tissue which surrounded the diseased bone.

Joint Formation at the First Costal Cartilage and Tuberculosis.—Dr. W. A. Freund (*Berliner klinische Wochenschrift*, August 18th), has noted that frequently very short costal cartilages of the first rib are observed which bring about a narrowing and difficulty of movement of the upper part of the chest. Pulmonary tuberculosis is thus favored; but a certain amount of protection is offered if, at the first costal cartilage, a joint is congenitally present. The author says that a joint of this kind can be acquired and that the chances of healing a tuberculosis of the apex are thus fostered. The author's practical deduction is that in cases of repeated catarrh of the apex with demonstrable narrowing of the upper aperture of the chest, the costal cartilage of the first rib should be cut through in order to facilitate the formation of a joint with the manubrium.

Bromide of Ethyl Anæsthesia in Operations in the Throat. By A. B. Kelly, M. B. (*British Medical Journal*, August 30th).—Bromide of ethyl has a strikingly rapid, yet transient, anæsthetic action. A suitable dose produces unconsciousness in about a minute, lasting from one to two minutes, from which the patient awakes and regains his normal state almost at once. It is much safer than chloroform and requires no special apparatus as does nitrous oxide. The bromide of ethyl must be free from

adulteration, as otherwise its use is dangerous. The impurities that may be present are free bromine, sulphur compounds, free hydrobromic acid, ethylic and amylic compounds, and phosphoretted hydrogen. These alter the odor and color of the compound.

It is best given in the morning on an empty stomach, and the patient should empty the bladder just before the operation. As bromide of ethyl is a vasodilator and has no tendency to produce syncope, it may be administered with the patient seated. Children under three years of age should receive one drachm and a half, young adults from two drachms and a half to three drachms and a half. The whole quantity is poured upon a folded piece of lint, which is applied so as to cover the patient's nose and mouth. Air must not be allowed to enter at the sides. In children narcosis is produced easily and quickly; in adults the reverse obtains. The patient is ready for operation when the breathing becomes stertorous, which occurs from fifty to seventy seconds from the beginning of the administration. Anæsthesia lasts from one to two minutes and affords ample time for the removal of tonsils and adenoids. Vomiting is of common occurrence, coming on about half an hour after the operation. Bromide of ethyl must be regarded as a very safe anæsthetic if the great number of times it has been administered without accident be taken into account. The mortality is one in 5,228 narcoses. Deaths have occurred from the following causes: The confusing of bromide of ethylene with bromide of ethyl, the former being highly poisonous; impure bromide of ethyl; severe gastrointestinal irritation following prolonged administration; asphyxia; and syncope.

A Case of Torsion of the Omentum.—By Dr. Giuseppe Moresco (*Gazzetta degli ospedali e delle cliniche*, June 22nd). A man, aged thirty-six years, who had been suffering for many years from a right inguinal hernia was admitted with strangulated condition of the hernial sac, which had set in three days previously. He showed all the symptoms of intestinal obstruction in a marked degree, and the hernial tumor was hard, dull on percussion, and irreducible. On incising the sac it was found that it contained a mass of omentum which was twisted several times upon itself and markedly adherent to the sac. The patient died on the following day and the autopsy showed that the omentum was reduced to an ovoid mass of the size of the head of a newly born child, and that it had begun to necrose. The omentum above this mass, at its insertion into the colon, was twisted a number of times upon itself, so as to constitute a pedicle and to cut off the circulation completely from the rest of the great omentum. The mass of omentum also pressed upon the mesentery, and this interfered with the circulation of the intestine and accounted for the presence of numerous spots of necrosis in the guts. The author remarks that, considering the great mobility of the omentum, it is astonishing that such torsions do not occur more frequently. The only symptom that can in any way render the diagnosis of omental torsion possible is the presence of a thick cord which can be felt along the path of the hernia in the inguinal region and upwards toward the umbilicus. This cord, which bears the name of Velveau is, however, not always felt in such cases, and it may be present in other abdominal conditions.

Plastic Formation of a New Nose by Vreden's Method.—Dr. N. M. Volkovitch (*Roussky Vrach*, August 10th) says that the operation recently described by Vreden (in *Roussky Vrach*, November 19, 1902) is not new in Russia, as the author had himself performed it six years previously in a woman, aged twenty-six years. Vreden's operation consisted essentially in using a finger as the means of providing tissue for the new nose, the bones of the finger constituting the bridge and the knuckle the tip of the nose, when the finger was bent and placed in the hollow of the nasal defect. The author used a method very similar to that of Vreden, and utilized the little finger of the patient's hand for that purpose, allowing it to unite with the nasal bones and the skin around the defect in the face before the finger was finally detached from the hand. The result was not satisfactory, and this was the reason why the author did not repeat the experiment. He thinks that the Italian method of grafting can give better results than the method revived by Vreden.

The Sterilization of Catgut by Means of Heat. By Dr. M. P. Kricoscheyeff (*Roussky Vrach*, August 10th).—The author offers the following method of sterilizing catgut by dry heat, which is used in the clinics of Grousdieff and Soubotine, in St. Petersburg. The catgut is carefully washed in green soap, and is then soaked in ether for forty-eight hours, to remove all fat, and after having been taken out of the ether, the catgut is wound upon pieces of glass wrapped in sterilized gauze, in such a way that each turn lies next to the other, so that one turn does not cover another. The glass plates covered with gauze and catgut are then wrapped in cotton and subjected to dry heat, the temperature being gradually raised to 150° C. for two hours. The plates with the catgut are then placed in a hermetically sealed jar with ninety-five per cent. alcohol. The catgut which is prepared by this method retains its physical properties, and a surgical knot made with it is very secure. Bacteriological examinations showed this catgut to be absolutely sterile, and it was used with complete success in suturing peritoneal surfaces, and in performing other operations in which sterile material was essential. This catgut, therefore, answers all the requirements of modern surgery.

Surgery and Hepatic Opothery in Banti's Disease.—Schiassi (*Gazzetta degli ospedali e delle cliniche*, June 21st) recently presented a patient with Banti's Disease to the Medical and Surgical Society of Bologna, and demonstrated some brilliant results obtained with hepatic organotherapy in this affection. The patient was admitted in the ascitic stage of Banti's Disease, and so first the author performed the operation for portal anastomosis devised by himself, but, as the ascites returned, he opened the abdomen in the splenic region and produced artificial adhesions between the spleen and the peritoneal surface lining the abdominal cavity. The ascites thereupon diminished considerably, and did not return. However, the anæmia and cachexia continued to grow worse, and two months later Schiassi began to employ organotherapy and to give from twelve to fifteen grammes (180 to 225 grains) of fresh bone marrow from the epiphyses and from 1 to 3 grammes (15 to 45 grains) of hepatic extract daily. The amount of urine and the elimination of urea in-

creased immediately upon the commencement of this treatment. After three months, the patient's improvement was very marked, the anæmia was improved by an increase from 2,800,000 red cells to 4,200,000 and the spleen was diminished in size. The author concludes, a year after the operation, (1) that the disappearance of the ascites has allowed the other organs to functionate more freely and normally, and that the newly formed vessels in the peritonæum about the spleen have enabled the toxins of this organ to be eliminated more promptly or to be neutralized by healthy blood. (2) That probably the bone marrow helped to combat the anæmia, acting upon the spleen, or on the other blood-forming organs. (3) That the diminution in the congestion of the liver obtained by the first operation enabled the still healthy cells to respond by an oversecretion to the stimulus given them by the liver extract administered to the patient. Schiassi recognizes, with Banti, that splenectomy is the operation indicated in Banti's disease, but in many cases, he thinks, this operation is too grave for the patient's weakened constitution. But two cases of Banti's disease have been known to be cured by surgical means after they have reached the third stage of the disease, and both after the present case had been successfully treated.

OBSTETRICS AND DISEASES OF WOMEN.

Hæmorrhage During the Later Months of Pregnancy and Early Stages of Labor.—Dr. Robert Jardine (*Scottish Medical and Surgical Journal*, September) writes of unavoidable hæmorrhages, which arise from the separation of an abnormally situated placenta, that is, one entirely or partly attached below the retraction ring. If the first attack of bleeding occurs before the fœtus has reached a viable age, palliative measures should be adopted, unless the loss is very severe. Absolute rest in bed, with perhaps an opiate and attention to the bowels and diet, is all that is to be done. Styptics are of no use. If the fœtus has reached a viable age and the bleeding is not at all severe, prompt treatment should be adopted to check the hæmorrhage and to get the uterus emptied. If the os is not dilated, or is only slightly dilated, the vagina should be firmly plugged after it has been carefully cleaned. The cervix should be plugged first if it will allow of this. A properly inserted plug will control the hæmorrhage, but, to be effectual, it must be so packed in as to fill completely the vagina. For controlling hæmorrhage the breech of the child is the best of all plugs, so that, in cases where there is sufficient dilatation of the cervix, the leg should be brought down after bipolar version in a head or transverse case, or the leg should be hooked down in a breech case. The plug should be removed in a few hours and, as a rule, the os will be found sufficiently dilated to allow of the bringing down of a leg. Once a leg is brought down, the hæmorrhage may be checked by keeping up gentle traction.

What Cases of Placenta Prævia Can Be Best Treated by Cæsarean Section?—Dr. F. D. Donoghue (*Journal of the American Medical Association*, September 13th) believes that Cæsarean section in certain cases of placenta prævia has a fairly well defined standing; its limits can not as yet be accurately

defined. At present it seems that the conservative Snger should be performed: 1. In complete prvia. 2. In prvia in primipar in the presence of severe hmorrhage or a rigid os. 3. Where there is a history of previous operative delivery. 4. It should be considered in all cases of placenta prvia where version is indicated if a reasonably skilled surgeon is available, and only an ordinary obstetrician. 5. All of these indications are based upon a probable viable child, after twenty-eight weeks of gestation and upwards.

Pure Puerperal Staphylococcus Pymia.—Dr. A. von Magnus (*Centralblatt fr Gynkologie*, August 16th), says that the usual bacteriological findings in cases of puerperal pymia, taken from the lochia, the blood, or from metastatic abscesses, have been the *Streptococcus pyogenes* and the *Staphylococcus pyogenes aureus* and *albus*, the colon bacillus and Frnkel's penumococcus. He then records a septic case with metastases in the shoulder and breast, from which, and from the lochia, a pure *Staphylococcus pyogenes aureus* was found. As far as the diagnosis and prognosis are concerned, there is no difference between this kind of a case and one of streptococcus infection.

DISEASES OF CHILDREN.

Crd's Method of Preventing Ophthalmia Neonatorum.—Professor G. Leopold (*Berliner klinische Wochenschrift*, August 18th) again endorses emphatically Crd's method as an absolute preventive of blennorrha in newborn children. He has never seen any severe reaction and insists that if the procedure is properly carried out, no inflammatory reaction of a traumatic nature or a blennorrha is possible. He urges the universal teaching of the method and says it is simple, safe, and secure. The increase in blindness due to gonorrha he deplores as an evidence of improper teaching and of carelessness. He reiterates the steps of Crd's method. A single drop of a one or a two-per-cent. solution of nitrate of silver is placed upon the cornea of each eye, the lids being held open by means of a glass rod, in such a way that the lower curve of the drop shall just touch the cornea. The eye must be allowed to close spontaneously, and absolutely nothing else is done. If the eye is rubbed in the attempt to get the solution into the conjunctival sac, some injury may result.

LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

Remarks on Cholesteatoma of the Middle Ear. By Dr. Dundas Grant (*British Medical Journal*, August 30th).—The course of events in the development of the so-called cholesteatoma consists essentially of a membrane lining the natural or pathological cavity in the petrous bone, desquamating so that the cavity is filled with epidermoid scales, the central ones of which have broken down into cheesy masses containing cholesterin crystals. Under the influence of moisture or inflammation the desquamation is increased, and the cavity thereby filled and distended; the pressure causes the walls of this to give way at their weakest part; and if this is the part presenting towards the tympanum and external

meatus, the bone in these places is gradually eroded until the cavity is laid so freely open that there is sufficient room for the exit of the contents.

In cases where a white, slimy, uniform membrane is found lining the cholesteatoma cavity, this should be preserved instead of being scraped out, as is recommended by most operators. Should the membrane be pulpy, imperfect, and not homogeneous, complete erosion should be practised and the cavity lined by transplantation of a skin graft.

The Aims and Limitations of Intranasal Surgical Procedures in the Treatment of Chronic Non-suppurative Middle-Ear Disease. By Dr. Urban Pritchard (*British Medical Journal*, August 30th).—1. In chronic middle-ear catarrh the establishment of free nasal breathing and the removal of any cause of irritation of the nasal mucous membrane are two most important points in treatment. Nasal polypi must be removed, as they cause irritation as well as stenosis. True hypertrophy of the posterior ends of the inferior turbinals almost invariably calls for surgical intervention; hypertrophy of the rest of the inferior and of the middle turbinals should be operated on when it causes stenosis or irritation. Spurs and excessive deflections call for operation when they produce stenosis. Foreign bodies and rhinoliths should always be removed.

2. In sclerosis of the middle-ear no operation on the nose can have the least effect.

3. When the middle-ear affection arises from adhesions through acute or subacute non-suppurative inflammation of the tympanum, operative intervention on the nose is useless.

Chronic Laryngitis: Correlation of Diagnosis and Treatment. By N. C. Haring, M. B. (*British Medical Journal*, August 30th).—Cases of chronic laryngitis may be divided into three classes as follows:

1. Systemic, in connection with valvular disease of the heart, cirrhosis of the liver, alcoholism, gout, etc. These cases are but part of a large lesion, and little special attention need be paid to the local trouble in the larynx.

2. With nasal disease, which may act in three ways. By extension of the catarrh by continuity of surface, by irritation from the discharges, and by mouth breathing caused by nasal obstructions. In all cases the first indication is to treat the nasal lesion thoroughly.

3. In a small number of cases the inflammation is limited to the larynx.

The cases may also be classified as to the part of the larynx most affected, as follows:

1. *Laryngitis chronica superior.* As the upper part of the larynx contains much loose tissue, inflammation of the same is accompanied by considerable swelling. The vocal cords may be quite overhung by the false cords. Applications of a fine pointed galvanocautery under cocaine and supranal anæsthesia have given good results. This form is often difficult to diagnose from tuberculous laryngitis.

2. *Laryngitis chronica media.* When the true cords are principally affected, mild cases can be cured by resting the voice and painting with a silver solution (thirty grains to the ounce). Where the congestion is limited to the anterior portions of the

cords it is advisable to give antisyphilitic remedies, even in the absence of history or other symptoms of syphilis. In singers, faulty voice production must be rectified before they again take up their vocation. Hemorrhages are not very infrequent, due to enlarged vessels on the cords. If the cords are much swollen potassium iodide should be exhibited.

3. *Laryngitis chronica inferior*. The subglottic regions are often neglected, owing to difficulty of inspection. Thorough cocaine anaesthesia of the larynx renders it easy to inspect and treat these regions, and a methodical treatment (too often neglected) of the subglottic space will assist materially in the cure of obstinate cases.

A Simplified Method of Operating for Deflection of the Cartilaginous Septum. By Dr. Dundas Grant (*British Medical Journal*, August 30th).—The author's method consists in a combination of the operations of Roberts and Moure (Asche's?). After cocaineizing both sides of the nasal septum, a stout darning needle is introduced into the free nostril and passed through the septum on the concave side anterior to the concavity. Having passed through to the other side it is then used as a lever to press back the convex part into the concave side, and is then passed back through the septum so as to retain it in this position. Nitrous oxide gas is now administered, and Moure's (Asche's) shears introduced; the cartilage is cut through horizontally below the deflection, and then obliquely in front of it and above it, parallel to the ridge of the nose, the incisions not meeting below and in front. The cartilage is then manipulated at the incisions so as to encourage over-riding, and the needle is left *in situ* for a week, a piece of rubber tubing being placed over it, to lessen the pressure on the soft parts in front. When the deflection is accompanied by any considerable amount of thickening, this should be shaved off beforehand, preferably at an interval of a couple of weeks, though it may be done at the time.

Treatment of Hypertrophied Lingual Tonsils.—M. Côme Ferran and M. Rosenthal (*Lyon Médical*, August 24th) state that the principal symptoms of this condition are subjective, such as a sensation of a foreign body in the throat, which is increased by swallowing. Objectively, disturbances of phonation are common. Nausea is not uncommon. Pulling the tongue sharply forward will sometimes enable one to see the enlarged tonsils, but often the use of the laryngoscope is demanded. In chronic cases, gargles of natural or artificial sulphur water combined with the internal administration of the iodides, will bring about an amelioration. Cauterization and antiseptic gargles are indicated in the severe cases; and when the enlargement is very pronounced, *morcellement* or galvanocauterization is necessary. Cocaine anaesthesia is then requisite.

Static Electricity in Otology.—M. L. Bayer and M. Albert Penniuckx (*Revue hebdomadaire de laryngologie, d'otologie, et de rhinologie*, August 23rd) recommend, as harmless, sedative, and calming, as well as curative, the use of static electricity in the treatment of Ménière's disease, deafness, vertigo, and nausea, of aural origin, and disturbances of equilibrium. They record a number of cases to add to the casuistics of this form of treatment.

Urinary Incontinence and Adenoid Vegetations.—M. Étienne (*Lyon Medical*, August 24th) says that urinary incontinence due to mouth breathing was first reported by Major, in 1885. When a child suffers from adenoid vegetations in the nasopharynx, he is naturally a mouth-breather, and in about fifteen per cent. of such cases, nocturnal enuresis especially has been noted. The removal of the adenoids results in an almost immediate cure; that is, the enuresis ceases in about fourteen days, the length of time required for the healing of the nasopharynx after the operation.

The Operative Cure of Laryngeal Papillomata. By Dr. Greville MacDonald (*British Medical Journal*, August 30th).—For the removal of laryngeal papillomata the author uses but one instrument—Mackenzie's spoon-blade forceps. He condemns thyrotomy for two reasons: First, that it is never necessary; secondly, it gives no more guarantee by recurrence than intralaryngeal operation.

The important details in the operation are complete cocaine anaesthesia, the intelligent and fearless cooperation of the patient, to secure which infinite patience and ungrudged time are often required, good illumination, and perfect eyesight, manipulative skill, and, if possible, ambidexterity. In small children, if the growths do not interfere with respiration, operation is best deferred until such age is reached as will make selfcontrol possible and minimize the risks of cocaine. No force must ever be used; as a rule, all the supraglottic growths are easily eradicated—it is the subglottic and commissural growths that are difficult to remove. There is no difference in the liability to recurrence in the different localities; the difference lies solely in the completeness of the operation. The author's plea is for bold operation; if the forceps is thrust with some pressure into the diseased surface, so as to bite deeper, the chance of eradication is greatly increased. The real difficulty lies in attacking the shelving under surfaces of the cords, and the most difficult point of all is the anterior commissure and the region immediately below it.

Results of Operations on Frontal Sinus and Antrum. By Dr. H. Tilley (*British Medical Journal*, August 30th).—In mild cases of acute suppuration of the frontal sinus, the inhalation of mentholized steam and the application of cocaine or suprarenal extract to the swollen mucosa of the middle meatal region may sometimes be sufficient to promote spontaneous discharge from the sinus. Failing with these the anterior end of the middle turbinal may be removed with the scissors and cold snare. Should symptoms of pus retention still persist, the external operation will be called for. Acute cases nearly always do well and give rise to but little anxiety.

In chronic suppuration of the frontal sinus intranasal treatment is an indispensable preliminary to any external operation; indeed it may give relief to all symptoms. The external operation should be advised when symptoms such as severe headache or profuse discharge persist in spite of all treatment; when a suppurating external fistula is present; when the purulent discharge seriously affects the general health; and when patients are going to situations where skilled help is unattainable.

In chronic empyema of the maxillary antrum the objects to be attained are free drainage, and the promotion of the return of the diseased mucous membrane to its normal state. To secure these ends we may adopt any one of the following methods:

1. To make and keep patent an opening in the inferior meatus of the nose, and irrigate the antrum daily with suitable antiseptic washes.

2. To establish a communication through the canine fossa, keeping it patent by means of a special tube or plug.

3. To extract a carious second bicuspid, or first or second molar, drill into the antrum through the empty socket, and insert a tube or plug.

4. Failing cure by these methods, we may open the anterior wall of the sinus, remove the diseased mucous membrane, and insure efficient drainage, into either the mouth or nose, or both.

The Treatment of Deafness of Middle-Ear Origin. By C. Watson, M. B. (*British Medical Journal*, August 30th).—The principles upon which the author's method of treatment of this affection are based, are as follows:

1. The promotion and maintenance of a more vigorous circulation in the middle-ear, with the view of (a) increasing the resisting powers of the tissues, and (b) the promoting of the absorption of morbid products where possible.

2. The maintenance of thorough aeration of the nasopharynx and middle-ear.

3. The restoration of a greater degree of flexibility to the tympanic membrane and associated structures. For this purpose the author uses what he calls "myelocene," an oil which is an internal animal secretion, being derived from the bone marrow.

The method of treatment is as follows: Half a drachm of equal parts of warm rectified spirit and glycerin is instilled into the ear, and an equal quantity applied to the skin of and around the ear. This is accompanied by massage of and around the ear and intermittent pressure over the meatus. The excess of fluid is then removed, and from five to ten drops of warm myelocene are dropped into the ear from a warmed pipette; and about ten to twenty drops of the oil are rubbed on outside the ear. In most cases the treatment was carried out daily. Sometimes the oil was not absorbed, and so interfered mechanically with the hearing power. The cases in which improvement may be looked for from the treatment recommended, are those in which the pathological process has apparently been arrested, as evidenced by no deterioration of the hearing power for some years. The coexistence of internal ear disease does not contraindicate the trial of this treatment. Any case that is not improved by the local application of myelocene alone, and where the hearing is made worse by even a small amount of mechanical stimulation, is unfit for this mode of treatment.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Hypodermic Injections of Atropine in Asthma.

—Dr. G. Campanella (*Gazzetta degli ospedali e delle cliniche*, June 22nd) reminds us that Trousseau's treatment for asthma involved the use of atropine in increasing doses. The theory underlying the action of atropine in asthma is that it decreases reflex excit-

ability and diminishes spasm and secretion in the bronchi. The author reports successes in two cases of asthma treated in this manner. The investigations of Rossbach showed that the administration of atropine was followed by a suspension of the secretion of the bronchial mucosa on account of the inhibitory action the drug exercised upon the bronchial glands. He used atropine in hypodermic injections and believes that it is indicated whenever we wish to arrest an asthmatic paroxysm, as it calms the access in a few minutes and renders the recurrence thereof much less frequent. It is, in his opinion, one of the most satisfactory palliative remedies in asthma.

The Therapeutic Uses of Gelatin.—Dr. Alessandro Geraldini (*Gazzetta degli ospedali e delle cliniche*, June 21st). In 1900, Pensuti and Teresi published cases of enterocolitis and dysentery cured by hypodermic and rectal injections of solutions of gelatin. The author reports a number of cases of dysentery and chronic enterocolitis accompanied by grave intestinal hæmorrhages, in which he has used gelatin, and concludes (1) That gelatin acts most efficiently in enterorrhagias and in obstinate cases of dysentery. (2) That gelatin constitutes one of the best means of arresting intestinal hæmorrhage, either in the form of hypodermic injections, or of æmematoma. Until serum therapy shall have been firmly established in dysentery, gelatin will therefore remain the most trustworthy therapeutic resource in this disease. Of late, cases of tetanus due to the use of hypodermic injections of gelatin have been reported, and this method of administration had, therefore, better be abandoned, and the rectal method used exclusively, as it is equally efficient. Gelatin in two-per-cent. solution, sterilized, should be used, although it is said that the process of sterilization destroys the hæmostatic properties of the gelatin. The amount of solution injected by the rectum is 200 cubic centimetres, repeated as often as is needed.

The Treatment of Heart Disease in Thermal Springs.—Dr. Giuseppe Licata says (*Riforma medica*, July 7th, 8th, and 9th) that it is a pity that cardiac hydrotherapy has not been sufficiently cultivated until now in Italy, although the natural conditions of the thermal springs in that country favor the applications of these methods to the treatment of heart disease. The progress which has been made in the diagnosis of heart disease has not been equalled by the advances made in the therapy of these affections within recent years. Senac is right in declaring that the results of the study of the different methods of treating heart disease by drugs have simply been repetitions of the sad fact that nothing can be done with medicinal treatment for cardiopathies. The author asserts, contrary to the statements of Eichorst and of Huchard, who attribute the credit for the initiation of the thermal treatment to the German and the French schools respectively, that Tommasi and Cardarelli, of Naples, were the first to recommend thermohydrotherapy in heart disease. Capozzi recommended thermomineral baths for heart disease twenty-five years ago, but somehow, in Italy, this method did not develop. On the other hand in Germany Jacob, in Cudowa, and Schott, in Naheim, have established sanatoria which are now regarded as the Meccas of persons with heart disease. In France there are the thermal

springs at Nérès, Plombières, Bagnols, and especially at Bourbon-Lancy, which is so highly recommended by Toussaint. In Switzerland there are the saline waters at Bex, which, according to the assurances of Exchaquet give very good results in heart disease. In Westphalia there is Behme, and in Bavaria there is Kissingen. In Italy there is at present no establishment that can compare with Nauheim, but there are attempts at the Nauheim treatment in Rocco di Bagnoli, in Montecatini, and in Sciacca, the latter under the author's direction. In the latter there are three distinct varieties of mineral springs. One containing a sulphur water, with 1.49 grammes of carbonic acid, and 8.26 grammes of sodium chloride to the litre; a ferruginous water containing 0.83 gramme of iron carbonate, and 1.58 gramme of free carbonic acid; and the Holy Spring, which contains two grammes of sodium bicarbonate and nearly thirty-two centigrammes of lithium chloride. The latter is prescribed by the author for cardiac diseases, and is employed, both in the form of baths, and for internal use. It can be taken in quantities of a litre a day, and can be drunk freely as a table water. For bathing purposes it is used as such or mixed with equal quantities of plain water. Sometimes a little sulphurated water is also added, especially when the temperature is to be raised to from 32° to 35° C. (89.6° to 95° F.). After a few baths and a short time of internal use, the patients who have been subjected to this treatment show an improved pulse, and complain less of the rheumatic pains to which they are subject, while their attacks of dyspnoea become less severe and less frequent. With a few exceptions the patients bear baths in the "acqua santa" raised to 32° or 35° C. very well for from about five to fifteen minutes at a time. The best temperatures for cardiac patients are these medium ones, 32° to 35° C., and not the higher or the lower temperatures. While it is difficult as yet to define the physiological action of the saline baths in cardiac disease, yet something has been done, at least from the chemical viewpoint. We know at present that the mineral springs do not merely act as solutions of certain salts, but that the salts contained therein exist partly as their constituent ions, which may have certain affinities for some of the substances of the body. Thus, it is known that lithium has a great affinity for uric acid, and easily combines with the latter to form lithium urate. It is useless to speculate upon the various theories offered in explanation of the action of the mineral baths and waters in heart disease, but it is certain that the thermohydrotherapeutic treatment has done more good in cardiac disorders, functional as well as organic, than any other method hitherto devised.

The Influence of Mineral Waters upon the Elimination of Bile.—Professor P. Casciani (*Riforma medica*, July 11th) in a preliminary note reports his researches regarding this subject. It is well known that the waters of Carlsbad, Vichy and of several other springs are noted for their efficiency in stimulating the flow of bile and, therefore, for the benefit which they give to persons with a tendency to gall stones. The author's purpose is to demonstrate directly what modifications human bile undergoes under the influence of the waters mentioned. He

concludes that under the influence of the water from Montecatini the amount, the specific gravity, and the amount of solids in the bile are increased. The amount of bile secreted is, on the other hand, not increased by the Carlsbad water, but the specific gravity and the solids of the bile are increased thereby. This increase, however, is less marked than that obtained with Montecatini. Therefore, the waters of Montecatini exercise a more marked influence over the secretion of bile than those of Carlsbad. The waters of Montecatini are, therefore, particularly indicated in diseases of the liver, and especially in gall stones.

HYGIENE AND SANITARY SCIENCE.

Disinfection of Books by Powdered Formol.—M. Barbe (*Presse médicale*, August 23rd) has proved experimentally that books may carry tuberculosis, as he has found the bacteria upon leaves which have been impregnated with the sputum of tuberculous subjects, and has infected animals with the disease. They can be thoroughly disinfected, he has found, by the use of the commercial powdered formol or in a formalin-generating autoclave. The animals inoculated after disinfection of the books have remained well.

PHYSIOLOGY AND PATHOLOGY.

Circumcellular and Peridendritic Non-medullary Fibres in the Brain Cortex. These fibres were recently studied by Dr. L. Roncoroni (*Riforma Medica*, May 25th and 27th, who concluded his investigations with the following statement. Around the cell body and the larger branches of the protoplasmic processes of the neurones of the submolecular strata of the grey matter of the cortex, there is a nonmedullated network of very numerous and fine fibres, much more abundant and complex than in the other parts of the central nervous system, and this nonmedullated network performs an important function in the nervous system, which the author proposes to study in a forthcoming publication. The mode of action of the nerve cells is far more complex than may be supposed from a study of the "neurone theory."

Myxœdematous States and Soft Cutaneous Fibromata.—Dr. Francesco Calderonio (*Riforma Medica*, June 11th and 12th) says that myxœdema is to be regarded clinically ætiologically, and histologically, as a soft fibromatous phase of the skin, as the same process that occurs in soft fibromata, not as a mucoid degeneration. According to Professor Campana and his school, the soft fibromata are the result of two concurrent factors, a neuropathic predisposition and a general or local infection, which may be syphilitic or simply pyogenic. In one of the cases which was marked by corroborating clinical phenomena (neuropathic signs; unilateral nature of the process) the histological and bacteriological examination of the tumor, showed that there were three concurrent factors: syphilis, neuropathy, and a pyogenic infection. In all these neuropathic fibromata of syphilitic origin, a mere removal of the soft tumor is not sufficient, but the base must be

well cauterized, because in this way the formation of a scar is promoted and the possibility of recurrence made less probable.

The Causes Which Prevent the Restoration of Normal Valve Function in Rheumatic Endocarditis. By Dr. R. Caton (*Lancet*, August 23rd).—In acute articular rheumatism, no matter how severe the joint lesions may be, yet in most cases, and under the proper treatment, the joints are restored to their normal condition. The reason why a like restoration of the endocardium does not take place when the heart is attacked in rheumatism, is undoubtedly found in the fact that joints can rest; the merciful influence of pain automatically ensures repose for each affected joint. Rheumatic inflammation of the valve cusps usually does not cause any pain, but whether there is pain or not, the toiling heart must go on. In fact the joint pain and fever augment and accelerate ventricular effort, thus increasing the peril of the heart. So that the salicyl compounds, in allaying pain and fever, have an important indirect beneficial effect upon valvulitis.

The principle of treatment of beginning endocarditis advocated by the author, is to give the heart the greatest amount of rest that is practicable. Pain and fever are subdued as rapidly as possible, absolute quiet is enjoined, no excitement is permitted, and a light nonstimulating diet is given.

Slow ventricular contraction, low vascular tension—in fact a minimum of work—is essential if the inflamed and thickened endocardium is to be restored to its normal condition. Other methods of less importance are also employed: (1) gentle blistering of the skin; and (2) the administration of moderate doses of sodium iodide.

The author reports four illustrative cases. The first two show the evil effect of too early a return to muscular activity and higher blood-pressures during convalescence from valvulitis; the third shows the disastrous influence of rapid heart action and dyspnoea on coincident valvulitis; and the fourth exemplifies the evil result of mental agitation on a subsiding endocarditis, even though absolute rest of trunk and limb be maintained.

The Rôle of the Pneumococcus in the Clinical Pathology of Conjunctivitis in Man. By Dr. F. F. Rymovitch (*Roussky Vrach*, August 10th).—The author has studied the significance of the pneumococcus in the production of conjunctivitis in Kasan for the past four years, and finds that this germ plays a far more important part in the aetiology of conjunctivitis in that part of the world than in any other. During the past four years eighteen per cent. of all cases examined bacteriologically proved to be due to the pneumococcus. In thirty-eight per cent. of all acute conjunctivitis cases there were pneumococci found, while fourteen per cent. of all the chronic cases were caused by the same germ. Only in one case was there a combination of pneumonia and pneumococcus conjunctivitis, but the author has found that the coryza often complicating lobar pneumonia is due to this germ. In a considerable propor-

tion of cases the persons affected with pneumococcus conjunctivitis were adults, so that age does not play such an important rôle in the causation of pneumococcus infection of the conjunctiva as is asserted by some authors.

Clinically, the pneumococcus conjunctivitis is not characterized by any special features. In some cases there were complications in the form of plastic iritis and iridocyclitis, and these probably depended upon the fact that toxic products of the pneumococcus penetrated into the anterior chamber of the eye and there set up pathological changes. In one case the author observed the disappearance of a trachoma under the influence of a secondary infection with pneumococcus conjunctivitis. The first to observe this beneficial action of the pneumococcus in trachoma was Gasparini, and he proposed to utilize this property of the germ in the treatment of trachoma.

Thyreotoxine; a Contribution to the Study of Cellular Poisons, Cytotoxines.—Professor A. Mankovsky (*Roussky Archiv Patologii, Klinicheskoy Meditsiny y Bakteriologii*, July 31st) announces the discovery of a new cytotoxine, the thyreotoxine, a cell poison prepared from the thyroid gland, which acts specifically upon the cells of that organ. An emulsion of the thyroid glands of the dog was injected into the peritoneal cavity of cats at intervals of fifteen days. The author found that the serum of the cats so treated assumed after three injections the property of a toxine affecting specifically the cells of the thyroid gland of the dog when injected into it. The morbid phenomena observed in the dogs so injected were analogous to those seen in dogs deprived of their thyroid glands, and if the dose of the serum was considerable, from eight to ten cubic centimetres of serum per kilogramme of weight, the dogs presented intense symptoms, tetanic convulsions, and died in from two to forty-eight hours after the introduction of the serum into their system. If small doses were used, the animals presented mild attacks of convulsions. Check experiments proved that the action of the serum was specific, affecting the thyroid gland alone. The thyroid glands of dogs so affected were found to be the seats of extensive pathological changes, and these changes were most marked in cases in which the serum was injected directly into the parenchyma of the gland. On section, the colloid substance of the thyroid gland was found altered in color and diminished in amount in the lobules of the gland, and in many lobules it was entirely absent. The shape of the lobules was found altered and their cells swollen and vacuolated. After the injection of the specific serum into the blood of the dogs, the changes in the thyroid gland were not quite so well marked, and were principally characterized by a hyperemia of the blood vessels of the thyroid, and by cloudy swelling of the cells of this gland. Check experiments with the serum of normal cats proved that the action of the serum prepared by the author was specific. The author therefore claims to have prepared a toxine which will affect the structures of the thyroid gland to the exclusion of all other structures of the body, in other words, a thyreotoxine.

Letters to the Editor.

THE VACCINATION OF PUBLIC SCHOOL CHILDREN.

154 EAST THIRTIETH STREET,
NEW YORK, September 14, 1902.

To the Editor of the *New York Medical Journal*.

SIR: Permit me a few words in answer to your editorial criticising my statement that the exclusion of the unvaccinated children from the public schools is either in the highest degree illogical or must be considered as an admission of the insufficiency of vaccination as a safeguard against the smallpox infection. You say that the immense value of vaccination has been so repeatedly and so incontrovertibly proved that no harm can result from its being questioned to any extent by those who argue honestly and intelligently. In this, Mr. Editor, I agree with you perfectly. I am myself a thorough believer in the benefits of vaccination, having seen its benefits in Mexico some years ago, when I took some pains to inform myself as to its results on some ranches where smallpox had been nearly endemic. This, however, has nothing to do with the present controversy.

You state that it seems to you that in my deductions against the exclusion of the unvaccinated children from the public schools I miss the point entirely. You state that it is true that the vaccinated child is protected against infection by having been vaccinated, but that the unvaccinated child is excluded so as to protect it against the risk of mediate infection from the vaccinated children, who may have come in contact with the smallpox infection.

This point, Mr. Editor, I have not overlooked. You will notice that I have mentioned the danger of mediate infection through the vaccinated children to the unvaccinated in the fifth and sixth lines of page 461; yet, as I did not think that the public school system had passed this law for the protection of the unvaccinated children, which it excludes, but for the protection of the vaccinated children, which it admits, I refrained from following up this line of argument, which seemed to me not to belong to the discussion.

The State claims the right to protect children, at any rate, against the ignorance, wilful or otherwise, of their natural guardians—so you say. If this is true, then it is for the State, by its health officers, to enforce vaccination. The school board, however, while I admit its right to protect the health of all school children by means of the help of the health board, has no right, at least logically, to try to teach those by means of "object lessons" which it excludes from the benefits of its public schools. It must be admitted, I think, that the unvaccinated children are exposed to so many chances of catching smallpox that the slight additional danger of being infected through the medium of a vaccinated child is comparatively infinitesimal. If this danger seems, however, so great to the board of public instruction that it cannot be overlooked, then children who have not been vaccinated ought to be placed in schools in which no vaccinated children are admitted. Thus the poor ignorant unvaccinated children might be instructed not only in the subjects taught in the public schools generally, but little by little they might be in-

formed of the benefits of vaccination and their parents' scruples overcome.

It seems queer to me that the school board should stoop to police measures instead of instructing the ignorant. Nothing should ever be done to prevent the spread of knowledge; the exclusion of anybody from the public schools evidently does this. Is this logical?

ALFRED W. HERZOG, M. D.

A DEFENSE OF CHRISTIAN SCIENCE.

1133 BROADWAY,
NEW YORK, August 25, 1902.

To the Editor of the *New York Medical Journal*.

SIR: The review of a brochure on Christian Science which appeared in a recent issue of your paper brought forward some of the deepest and most elemental problems for solution. The author of this brochure did not underestimate the seriousness of his subject, as some critics have been tempted to do, but he recognized that if the teachings of Christian Science were true, then his personal views, and those of many others, must be reconstructed upon different lines. He went so far as to state: "If the Christian Science position were true, the whole sequence of mind developed as we actually know it would be absolutely reversed"—a statement which is not correct in itself, but certainly concedes the importance of Christian Science teachings in the world to-day.

After careful scrutiny of such quotations as were reprinted in the review under consideration, I find that the author of the brochure not only sets himself against the teachings of Christian Science, but first of all against idealism in general, and thus against the tendency of many modern physicists and psychologists who admit that matter is but a subjective image or sense perception of mind. This attitude of his should make it incumbent upon him first to dispose of the statements of philosophic idealism before he can attempt to attack Christian Science, which is ultimate or spiritual idealism.

It is a welcome feature of this brochure that the position of idealism is stated therein with great clearness by the author. I quote the following as illustrating this position:

"To conceive that all perceptions and objective phenomena are the creations and products of mind, is to assume that consciousness and idealization are states existing prior in time to the objective phenomena supposed to surround us. If mind in the world and the human being is the all, then it must have within it ready made the ideal conceptions of each of the so-called material forms of Nature from the beginning. Mind, then, within itself, must be the perfect embodiment of all facts and all possibilities of the universe. It precedes all things that seem; and from it all things are projected. It apprehends them subjectively before it creates them objectively."

Without in any way admitting that modern physicists or psychologists have stated the precise teachings of Christian Science, it may be well to quote here the statements of recognized authorities in these branches.

Professor Huxley writes: "After all, what do we know of this terrible matter except as the name for the unknown hypothetical cause of states of our own consciousness?" Professor Wilhelm Oswald,

of the University of Leipsic, Germany, writes: "Matter is a thing of thought which we have constructed for ourselves rather imperfectly to represent what is permanent in the change of phenomena." Professor Ziehen, of Jena, Germany, in his work on *Physiological Psychology*, pp. 303-4, writes: "This so-called matter, apart from its hypothetical casual relation to the sensations, is otherwise an entirely unknown element." Professor Noah K. Davis, of the University of Virginia, though a materialist, says, in his *Elements of Psychology*, p. 8: "Hearing is a specific sense perception, a state of mind; sound is its object, the thing perceived. Sound, then, is a phenomenon of brain." Of the sense of taste he says, p. 6 of the same work: "It is merely an excited state of an intracranial sensory, and what is immediately perceived is not something in the mouth, but something in the sensorium." Professor Borden P. Bowne, a modern idealist, professor of philosophy in the Boston University, says, in his *Theory of Thought and Knowledge*, p. 296: "Objects exist for us only as the mind builds up valid conceptions within itself." In his work on *Metaphysics*, p. 294, this same authority declares: "A thought world is the only knowable world; and a thought world is the only real world."

Never was the trend of physics into metaphysics more pronounced than it is to-day. The deeper so-called material laws are observed, the more surely do they point to mental concepts. But mankind proceeds timidly from the supposedly known to the traditionally unknown, clinging with one hand to the testimony of the physical senses, while with the other it gropes for that which can only be spiritually apprehended, not knowing that it is holding to the shadow before it touches the substance.

The foregoing quotations reveal some of the conclusions to which noted scholars who are not Christian Scientists have arrived, and they are not in accord with the position assumed by the author of the brochure in question. In fact, in explaining "the growth of perception in infants," he finds himself obliged to use as cause for action a term which is inexplicable except as a mental quality. He uses the expression "the instinct for food, which is ever present in the very lowest forms of life." What is the nature of "instinct" if it is not mental? Instinct is clearly a rudimentary desire of some sort, acting as motive for action.

Now, if physicists and psychologists have arrived at the conclusions previously quoted in regard to mind and matter, what are the teachings of Christian Science on these questions? I can best answer this by quoting from the Christian Science text book, *Science and Health, with Key to the Scriptures*, by Mary Baker G. Eddy:

Page 551: "Either Mind produces, or it is produced. If Mind is first, it cannot produce its opposite, matter. If matter is first, it cannot produce Mind. Like produces like. In natural history, the bird is not the product of a beast. In spiritual history, matter is not the progenitor of Mind."

Page 243: "Mind is the grand creator, and there can be no power except that which is derived therefrom. If Mind was first chronologically, is first potentially, and must be first eternally, then give to Mind the glory, honor, dominion, and power everlastingly due unto its holy name."

Page 209: "The world would collapse without Mind, without the Intelligence which holds the winds in its grasp."

Page 128: "The term Science, properly understood, refers only to the laws of God, and to His government of the universe, inclusive of man."

According to my apprehension, the teachings of Christian Science upon the points under consideration culminate in the Scientific Statement of Being, on page 468:

"There is no life, truth, intelligence, or substance, in matter. All is infinite Mind and its infinite manifestation, for God is All in all. Spirit is immortal Truth; matter is mortal error. Spirit is the real and eternal; matter is the unreal and temporal. Spirit is God, and man is His image and likeness; hence, man is spiritual and not material."

The author whose brochure was reviewed in your columns is quoted as writing of Christian Science: "To shut our eyes to its evil consequences is no longer possible." But, judging from this review, he has succeeded in performing the difficult task of shutting his eyes to the blessed and beneficent consequences of Christian Science, although such results are apparent on every side, from end to end of this country and in many quarters of the world at large.

The strength of Christian Science lies in its practical results. It is a positive force. It arrests attention by its dynamics. On every hand people speak of the happy changes it has wrought in their friends or families. They know of former drunkards who through it have lost all desire for stimulants, morphine fiends who are freed from the drug, dishonest men and women made honest and pure, boorish and selfish persons becoming refined and loving, lifelong invalids rendered hale and hearty, chronic grumblers turned into cheery good fellows, consumptives healed, and the insane restored to their right minds. They see husbands and wives reunited and harmony enter homes where discord once reigned. They find gross materialists taking pleasure in spiritual matters, and agnostics and so-called atheists coming like little children to learn of the Scriptures.

If Christian Science had done nothing more than to supply the "Key to the Scriptures," which has unlocked the treasures of the Bible to those who were once indifferent or actually hostile, this alone would have sufficed to earn for it the high place among the older Christian denominations which it is taking to-day.

W. D. McCrackan.

* * * Our correspondent has selected his citations ingeniously, but, however eminent their authors, we feel sure that they will not be generally accepted as sustaining his main contention to any great extent. As to the blessings that he traces to Christian Science, we could not, even if we were to take his view of the matter, shut our eyes to the immense evil it has unquestionably wrought.

The Medical Society of the State of New York.

—The president, Dr. Henry R. Hopkins, has appointed Dr. Ernest Wende, 471 Delaware avenue, Buffalo; Dr. Hamilton D. Wey, of Elmira, and Dr. J. Montgomery Mosher, of Albany, the Business Committee to have charge of the programme of the next meeting, which will take place on January 27, 28, and 29, 1903, in Albany.

Book Notices.

A Practical Manual of Insanity. For the Medical Student and General Practitioner. By DANIEL R. BROWER, A. M., M. D., LL. D., Professor of Nervous and Mental Diseases in Rush Medical College, etc., and HENRY M. BANNISTER, A. M., M. D., formerly Senior Assistant Physician, Illinois Eastern Hospital for the Insane. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 5 to 426. (Price, \$3.)

From the standpoint of the practitioner, psychiatry is not a progressive science. We have, it is true, emerged from the period of retributive treatment, but further than that there are few practical additions to the subject to be recorded. Yet the number of text-books appearing every year on this subject is astonishingly large. The value of any one of them, therefore, must rest almost entirely upon the author's literary style, upon his familiarity with mental diseases as reflected in the chapters, and upon the choice of what should be inserted and what should be omitted in a book of moderate dimensions. The literary style in the present volume is extremely lucid and agreeable. The authors also show satisfactory familiarity with mental diseases and with the literature pertaining to them. The classification adopted is very similar to that formulated by Kraepelin, with such modifications as most American alienists deem necessary.

The present book reflects the influence of Kraepelin and Régis more than that of any other two authors. The scope of the book is on the whole very well adapted for medical students and general practitioners. There is also considerable matter in regard to the medicolegal relations of insanity. The authors are bold enough to attempt a definition of insanity for use in court, but they admit that the definition is not satisfactory out of court. We are inclined to think that a clever cross-examiner would object to a definition being given which was good enough for him, yet not good enough for other people.

The book is written from the point of view of the expert in mental diseases rather than from that of a trained neurologist. Consequently the descriptions of the mental symptoms of insanities are more satisfactory than the descriptions of the physical symptoms. Defects in the physical sphere are especially noticeable in the chapters on general paresis and alcoholism.

The book comes in the attractive form characteristic of the work of its publishers.

Sémiologie pratique des poumons et de la pleurè. Signes physiques, inspection, palpation, percussion, auscultation. Par HENRI BARBIER, Médecin de l'hôpital Hérod. Préface de M. le Professeur GRANCHER. Avec 20 figures noires et coloriées. Paris: J. B. Baillière et fils, 1902. Pp. xi-252.

This little handbook is an excellent exposition of the methods of clinical examinations in diseases of the lungs and pleura. It deals almost exclusively with the physical signs of pulmonary and pleural affections and explains the causes of the deviation from normal. It is a very practical book for medical students.

Morphinism and Narcomanias from other Drugs. Their Ætiology, Treatment, and Medicolegal Relations. By T. D. CROTHERS, M. D., Professor of Mental and Nervous Diseases, New York School of Clinical Medicine, etc. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 5 to 351. (Price, \$2.)

Dr. Crothers's name has long been familiar as that of a writer on alcoholism, morphinism, and other drug additions, and it is not surprising that he has brought his experience and previous publications within the compass of a single volume. He writes with the ease of one long practically familiar with the treatment of drug victims, and the book has its highest claim to attention by reason of the information it gives as to the management of such cases. The subjects especially treated are morphinism, cocaineism and the rarer habits of chloral, chloroform, ether, and some other drugs. His chapters on coffee and tobacco inebriety show the bias inevitable to anyone who deals almost exclusively with drug additions. We cannot agree with him at all that tobacco is injurious to all people, for example; but the hints which this volume contains in regard to the management of drug-takers, how to control them, how to recognize the various ways in which such patients deceive their physicians, and how to treat the symptoms which follow breaking off of drugs are useful in the extreme.

Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie. Compte-rendu du service des enfants idiots, épileptiques et arriérés de Bicêtre pendant l'année 1900. Par BOURNEVILLE. Volume XXI. Avec 19 figures dans le texte et XI. planches. Paris: Félix Alcan, 1901. P. cvii-236.

This pedagogical and medical report for 1900, issued by Bourneville and his associates, sustains the high standard of the series. The work done at the Bicêtre is worthy of the highest commendation. The present volume contains, in addition to the report on pedagogics, clinical and anatomical descriptions of idiocy in its various forms and very valuable deductions on the causation of idiocy and feeble-mindedness. These are drawn from the carefully kept records of the large number of patients within the walls of the hospital.

Text-book of Histology, including the Microscopic Technic. By Dr. PHILIP P. STÖHR, Professor of Anatomy at the University of Würzburg. Fourth American based upon the Ninth German Edition. Translated by Dr. EMMA L. BILSTEIN, Woman's Medical College of Pennsylvania. Edited, with Additions, by Dr. ALFRED SCHAPER, Professor of Anatomy, University of Breslau, etc. With 379 Illustrations. Philadelphia: P. Blakiston's Son & Company, 1901. Pp. xx-17 to 503. (Price, \$3.)

Not quite two years have elapsed since the appearance of the preceding edition of this popular textbook. The present edition is the translation of the ninth German edition, but the book has not undergone any notable or material changes since its last appearance. All the essential facts in histology which are requisite for the clear understanding of the subject are detailed, but an occasional carelessness in translation obscures the author's meaning.

Technical details are scattered throughout the book, and these materially increase its usefulness as a practical laboratory work. The clear typography and abundance of superb illustrations that were so characteristic of the earlier editions are preserved. The latter, in our opinion, render this book more valuable to the student than many other text-books on the subject with which we are acquainted, and we are pleased again to commend it to the student.

BOOKS, ETC., RECEIVED.

Text-book of Anatomy. Edited by D. J. Cunningham, F. R. S., M. D., D. Sc., LL. D., D. C. L., Professor of Anatomy and Surgery, Trinity College, Dublin. Illustrated with 824 Wood Engravings from Original Drawings, many Printed in Colors. New York: The Macmillan Company. Edinburgh and London: Young J. Pentland, 1902. Pp. xxix-1309. (Price, \$9.)

The Principles and Practice of Gynecology. For Students and Practitioners. By E. C. Dudley, A. M., M. D., Professor of Gynecology, Northwestern University Medical School, etc. Third Edition, Revised and Enlarged. With 474 Illustrations, of which 60 are in Colors and 22 Full-page Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 7 to 761. (Price, \$5.)

Development and Evolution, including Psychophysical Evolution, Evolution by Orthoplasy, and the Theory of Genetic Modes. By James Mark Baldwin, Ph. D., Hon. D. Sc., LL. D., Stuart Professor in Princeton University. New York and London: The Macmillan Company, 1902. Pp. xvi-395. (Price, \$2.60.)

Applied Surgical Anatomy Regionally Presented. For the Use of Students and Practitioners of Medicine. By George Woolsey, A. B., M. D., Professor of Anatomy and Clinical Surgery in the Cornell University Medical College, etc. With 125 Illustrations, mostly Colored. New York and Philadelphia: Lea Brothers & Company, 1902. Pp. vii-17 to 521. (Price, \$5.)

The Diseases of the Nose, Throat and Ear. By Charles Prevost Grayson, A. M., M. D., Lecturer on Laryngology and Rhinology in the Medical Department of the University of Pennsylvania, etc. Illustrated with 129 Engravings and 8 Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. vii-2 to 540. (Price, \$3.50.)

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, other than Drug-giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis-Cohen, A. M., M. D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic, etc. Volume VI. Dietotherapy and Food in Health. By Nathan S. Davis, Jr., A. M., M. D., Professor of the Principles and Practice of Medicine in Northwestern University Medical School, etc. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. ix-17 to 372.

The Practical Medicine Series of Year Books, comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus F. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume IX. Physiology, Pathology, Bacteriology, Anatomy. August, 1902. Chicago: The Year Book Publishers, 1902. Pp. 3 to 212.

Typhoid Fever. By J. T. Moore, M. D., M. C. P. S., Professor of Theory and Practice of Medicine, Medical Department of Hamline University, Minneapolis, Minn. Chicago: G. P. Engelhard & Company, 1902. Pp. 7 to 155. (Price, \$1.)

The Standard Medical Directory of North America, including a Directory of Practising Physicians in the United States of America, Canada, Cuba, Mexico, and Central America; also Directories respectively of Medical Officers of the United States Army and Navy, Medical Societies, Medical Colleges, Medical Laws and Boards, Medical Publications (Books and Periodicals), Hospitals and Sanitariums, Mineral Springs, Drugs and Medicines, Medical and

Surgical Products, Manufacturers, Life Insurance Companies, etc. Chicago: G. P. Engelhard & Company, 1902.

Photographic Atlas of the Diseases of the Skin. A Series of Eighty Plates, comprising more than One Hundred Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A. M., M. D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York, etc. Part XV. Philadelphia and London: J. P. Lippincott Company, 1902. Pp. 197 to 210.

La prostitution réglementée et les pouvoirs publics dans les principaux états des deux-mondes. Par Louis Fiaux, Ancien membre du Conseil municipal de Paris. Paris: Alcan, 1902. Pp. xiv-354. Publications du *Progrès médical*.

Transactions of the Obstetrical Society of London. Volume XLIV. For the Year 1902. Part II. for March, April, and May.

Miscellany.

Symphysiotomy in the Twelfth Century.—In the twelfth-century poem, variously attributed to Jean de Milan, Arnaud de Villeneuve, and others, entitled by several names, as *Regimen Sanitatis*, *Flos Medicinæ*, *Regimen Virile*, or *Schola Salernitana*, respectively, and known in mediæval English translations as the *Schoole of Salerne*, there occur, according to the *Journal médical de Bruxelles* for July 17th, the following lines:

Nec jam cæsareum vulnus Lucina* requiret:
Symphyseos pubis dissectio rite peracta,
Damnatos telo partus simul atque parentes,
Protinus et certo, dulces servabit ad auras.
At mittenne adeo pubis divisa medelam
Matribus ac pueris feret, ars ut mitius ullum
Auxilium nequeat, vel convenientius ullum,
Quod possit repeti quoties natura jubebit?

In default of a better, the following version is submitted:

The Cæsarean wound Lucina shall exact
Henceforth no more; instead, in very fact,
Dissection of the pubic symphysis
Shall save for lovely life, with skilful tact,

Both child and parent destined to the steel.
In truth, shall not the pubic section deal
Alike to mothers and to children too
A means at once so mild, yet strong to heal,

That all our art itself shall not prevail
A milder one to find, nor yet to hail
One more convenient, which may be renewed
As oft as Nature shall the need entail?

K. W. M.

* Lucina, one of the epithets of Diana, who presided over childbirth. The Romans were superstitiously careful, in invoking the aid of a deity, to include in the address the various titles by which the deity was known. Cf. Horace: *Carmen Saeculare*, vv. 13-16.

Rite maturos aperire partus
Lenis, Ilithyia, tuere matres,
Sive tu Lucina probas vocari
Seu Genitilis:

Or in English:
Ilithyia, opening wide with tender
Care the gates of ripening birth, protect our
Matrons, be thy favorite name Lucina
Or Genitilis.

K. W. M.

Pregnancy in Double Uterus.—Mr. M. Jay, M. R. C. S. (*Australasian Medical Gazette*, May 20th) reports the case of a woman twenty-five years of age who had been married three years, and had one child two years old. Her confinement was natural and nothing abnormal had been noticed by the attending physician. She had a miscarriage seven months after the birth of the child. Neither before nor after marriage had she any abnormality of menstruation.

In September, 1901, she complained of backache, lassitude, and a vaginal discharge, which commenced after her miscarriage a few months previously. On examination, Mr. Jay found some erosion of the os, the uterus enlarged, retroverted, and pushed over to the right; an ill-defined swelling to be felt in left broad ligament. On September 5th he examined her under an anæsthetic, and at the same time curetted the uterus. The swelling on the left appeared to spring direct from the left uterine wall, and was solid in character; left ovary and tube not to be felt. He told her she would have to undergo an operation to rectify the position of the womb, and at the same time examine the growth, with a view to removal, if thought necessary.

In November she became pregnant, and the operation was postponed. In December she began to suffer from uterine hæmorrhage, recurring daily, and after three weeks the discharge became slightly offensive, and dirty brown in color. On January 30th he again curetted the womb. He found the uterus enlarged, and pushed still more to the right, containing nothing but a little, broken-down blood-clot; the tumor on the left had considerably enlarged. After the curetting, the discharge completely ceased, and she appeared quite well, except for persistent sickness, which would not give way to any of the ordinary remedies. She went home for one week, and returned on February 17th, when he operated upon her.

On opening the abdomen, a swelling presented itself to the left of the middle line, resembling an ordinary pregnant uterus, but on searching to the right the uterus was brought into view, with, however, only one tube and ovary (the right) attached, both normal; the left tube and ovary also both perfectly normal, were found to spring from the left side of the tumor. There was a distance of two inches from the fundus of the uterus to the point where the tumor was attached to the uterine wall. With the patient in the Trendelenburg position, he tied the left ovarian artery, and opened the layers of the broad ligament; then enucleated the tumor until the uterine artery was exposed, entering it below. This was carefully tied, and the tumor, after further enucleation, was found springing from the uterus, at the junction of the cervix with the body by a pedicle an inch in diameter. This was transfixed and tied, and the tumor removed, making a sleeve which was afterwards brought over the surface of the stump. On cutting through the pedicle, which in every respect resembled an ordinary cervix, a small opening was exposed in the tumor, from which a thick plug of mucus exuded, and similar mucus was filling an opening in the stump, which evidently led into the uterine cavity, but was now, of course, tied off. This was scraped away, and the stump covered.

The wound was washed out with hot saline, and the cut edges of the broad ligament carefully sutured with catgut, so that the pedicle of the tumor was entirely extroperitoneal. The uterus, which presented a curious, lopsided appearance, with its one tube and ovary only, was then fixed to the parietal peritonæum in the ordinary way, and the wound closed.

On opening the tumor a three-months' fœtus was found, and the specimen proved to be a pregnant uterus, removed at the cervix, and having only one tube and ovary. The patient made an uninterrupted recovery, and on examination the uterus was found firmly suspended to the abdominal wall, and a small notch could be felt through the left wall of the vagina, corresponding with the seat of the pedicle.

This case, says the author, differs from any of the ordinary forms of uterus biconis duplex. Here the Müllerian ducts have been separated from one another in that portion of their course which would correspond with the body of the uterus, so that the organ at its upper end is divided into two parts, but in almost all the cases recorded there is merely a partition between the two cavities, while here we have two entirely distinct and separated bodies, each corresponding in every respect to a normal uterus. Below, the Müllerian ducts have been fused together in the ordinary way, forming a single cervix. This condition would correspond more closely with the uterus bicornis unicollis or semi-duplex than with any other, though one would almost be disposed to class it as a case of "pedunculated accessory uterus."

The Solid Foundations of Medical Science.—Dr. Jonathan Wright closes his intensely interesting and instructive series of articles on *The Nose and Throat in Medicine*, in the June number of the *Laryngoscope*—a series which has been running now for about twelve months—with the following weighty words, which apply with equal force, as well to the entire science of medicine, as to any part thereof:

"And now having followed the story of our art over its period of three thousand years and more; from the dim and misty past of incantations and exorcisms, from the early days of Grecian civilization when Hippocrates made a specialty of medical science separating it from the other sciences, to the days of the microscope, and the spectroscope, and the stethoscope, and the laryngoscope; when the space of one man's life is insufficient for him to know anything but the rudiments of our art in many branches, and be, at the same time, in a position to advance in any degree the boundaries of even its smallest province, we may pause with, I trust, a just consideration and appreciation of the labor of our predecessors. Our knowledge has been built up, we have seen, not by the mushroom activity of any one period, or of any one school of medicine, or by the premature birth of an idea or theory, but by the patient, painstaking, laborious exertions of many generations of earnest men, working, for the most part, without expectation or perhaps desire; certainly without the attainment of those rewards, by which not only the layman, but alas, even the average member of our own art, measures what he calls success. To him who knows the joy of work, this phenomenon

needs no explanation. To the rest of mankind no explanation would suffice."

Surely, if anything could avail to counteract the tendency to ephemeral quackeries, to shibboleths, to cure-all systems, physical or metaphysical, it would be a due appreciation of the glorious catholicity, of the unbroken continuity, of the heritage of history, of the solid acquisition and progress through centuries of evolution, that have brought the science of medicine to its present status—still a-building it is true, but upon firm foundations and with corner stones well and truly laid. Strange, indeed, it is that, interested motives aside, any persons of intelligence and honesty, relying as they do upon firmly laid scientific principles in other matters, should be so ready, nay eager, to forsake such principles for false gods in regard to the healing art!

A New Method of Resuscitation in Asphyxia.

—M. Ogata and J. Futagawa (*Sei-I-Kwai; Medical Times*, September) recommended what they call the "stroke resuscitation" for asphyxia, and the shaking resuscitation for anæsthesia (anæsthesia?). The former consists of a light stroke with the palmar side of the extended fingers over the antero-inferior margin of the chest, repeated ten to fifteen times a minute. The respiration is stimulated, the heart's action excited, and the circulation accelerated. Shaking resuscitation is performed as follows: The feet of the child are grasped by one hand and the shoulders held by the other; the trunk is gradually raised, and the head brought near the feet, the body being strongly flexed at the hip-joint, while the chest is pressed with the hand. The head is then raised, the trunk gradually extended, and the child returned to its former extended position. Thus, expiration and inspiration are secured. Should a repetition of this procedure be fruitless, after a moment's pause in the second posture, the hand on the back is suddenly removed, the upper part of the child's body being thus thrown down and shaken. This should be done eight or ten times a minute, and a warm bath given after each eight or ten shakings. The authors assert that this method of resuscitation surpasses all others.

The Quidditas of the Non-existent.—Under the heading Diagnosis by Exclusion, *American Medicine* for August 23, quotes from the *Philadelphia Press* a discussion the subtlety of which rivals the questions of the schoolmen of old:

"There is nothing the matter with you," persisted the Eddyite, "absolutely nothing. Can I not convince you?"

"Let me ask you a question?" replied the sick man.

"A thousand, if you like."

"Well, suppose a man has nothing the matter with him, and he dies of it, what didn't he have the matter with him?"

Artificial Feeding of Infants.—Dr. A. D. Blackader (*Montreal Medical Journal*, July) concludes a paper read recently before the Montreal Medico-Chirurgical Society, by emphasizing the following practical points: An infant fed at the breast, who suffers from persistent indigestion and at the same time fails to gain in weight, should be taken from that breast. If, however, the infant gains in

weight, it is better to try and correct the indigestion by treatment directed both to mother and child. To attempt artificial feeding in such a case often only adds to our troubles.

In commencing artificial feeding begin with a weak mixture, and work up by frequent but slight changes to a point of tolerance. By still continuing a gradual but steady increase, never beyond the point of easy digestibility, we can in a few weeks attain to a food sufficiently nutritious in all its ingredients and yet fully digestible and assimilable. It is a serious mistake to begin on a mixture too strong, and work down after weeks of indigestion to the point of tolerance.

The question how long an infant should be kept on a modified milk diet is an important one. It is generally conceded that, by the tenth or twelfth month, a child should be able to digest almost pure milk. By this time, however, I prefer a mixed dietary. Milk is very deficient in iron. An infant comes into the world with a high percentage of hæmoglobin; this gradually diminishes so long as he is fed on milk alone. Only when a mixed diet is substituted for a pure milk diet does the percentage begin to rise again. Cereals and meat juice and broths are rich in iron.

Oatmeal is amongst the richest in iron of the cereals and properly cooked forms a useful addition to the infant's dietary. Shortly after the first twelve months eggs lightly cooked may be permitted at one of the meals in the day. The great richness of the yolk in fat, lime salts, and in the organic compounds of phosphorus and iron, makes it a valuable food for the rapidly developing child. At this period also, food involving somewhat long mastication, such as biscuits and crusts of bread, becomes necessary. The process of mastication develops the maxillary bones and the associated muscles, while disuse of the jaws starves the area supplied by the maxillary arteries, leading to their imperfect development. The bone remains small, the teeth are crowded and imperfectly nourished, and dental caries, so disastrous to the growing child, becomes inevitable.

The Therapeutic Action of Yeast.—MM. Hal lion and Carrión (*Annales de médecine et de chirurgie infantiles; Journal des sciences médicales de Lille*, August 16th) in a paper presented to the Congress of Medicine of Toulouse give the following conclusions as the result of their researches: (1) Brewer's yeast exercises on diphtheria toxine a direct and very energetic neutralizing action. (2) Fresh or dried, it remains active and ferments actively in the gastric juice, even when strongly acid. From these facts the following inferences may be drawn: (1) The painting of accessible diphtheritic false membranes with brewer's yeast is indicated. (2) Living yeast in the gastrointestinal tract acts in two ways: In the struggle for existence it impedes the propagation of noxious germs; and it destroys certain toxins in the same way as it destroys the diphtheria toxine. (3) It is doubtless in consequence of these properties that it acts in ameliorating diarrhoeas (Thiercelin, Chevreyl). In like fashion it acts upon furunculosis and acne, affections that are often caused, favored, or aggravated by vicious digestive fermentations and by their resultant self intoxication.

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Original Communications.

PERFORATING ULCERS OF THE DUODENUM.

By JOHN B. MURPHY, A. M., M. D., AND
J. M. NEFF, M. D.,
CHICAGO.

(Concluded from page 503.)

Surgical Treatment.—We shall concern ourselves with the surgical treatment of the perforations only, and not consider the various operations, such as gastroenterostomy, excision, and the like, which have been advocated for the non-perforating ulcers.

The cases in which perforation has taken place should be submitted to operation at the earliest possible moment, as all statistics show that the earlier the operation the greater were the chances for recovery.

The abdomen should be opened as recommended by Weir, through an incision four to six inches in length, in or along the outer edge of the right rectus muscle. The transverse incision is rarely necessary, as ample room is secured without it.

In most cases the diagnosis of perforating appendicitis will have been made, for this organ is the first to be examined. The gall bladder is next inspected, and after determining that it is not the seat of perforation, the region of the duodenum is explored. When the opening is found, it is closed with a double or triple row of interrupted silk sutures of the Lembert type, taking care to bring large areas of serous surface in opposition without tension. Lennander says: "If it is not possible to close the opening in this way, the edges should be brought together as well as possible and the line of suture covered with omentum." This method should never be resorted to; it is insufficient and dangerous. There is a well recognized rule governing the closure of intestinal fistulæ wherever situated, viz.: Where the intestinal wall is indurated and adherent to neighboring tissues it must first be sufficiently liberated and freed to admit of an easy apposition of its convex surfaces with two rows of suture. The failure to free the intestine from neighboring structures is the most common cause of failure of union. The line of suture should usually be transverse to the long axis of the bowel, in order to avoid constriction when healing is complete, and the line of suture should

always be supplemented with an *omental* support.

After closure of the perforation the peritoneal cavity is thoroughly cleansed by sponging or irrigation and the abdominal wound closed with or without drainage, depending upon the pathological condition of the peritonæum at the time of operation.

It is not best to attempt to excise the ulcer, as the danger is greatly increased by this procedure. Bolton, however, recommends excision and closure by Czerny-Lembert sutures, as in pyloroplasty. For cleansing, he advocates irrigations with saline solution through the Chamberlain tube until the fluid returns clear, and afterward sponges the peritonæum dry. He puts in a gauze drain down to the line of suture. Some surgeons recommend the use of glass drainage tubes inserted into the pelvis through a separate incision above the pubes. Peritoneal irrigation should not be resorted to except where there is a pronounced exfoliation or destruction of the endothelium of the intestines. This destruction is recognized by the absence of peritoneal gloss and the presence of a roughened or blistered endothelium. We have taught as a result of our experiments, since 1892, that the peritonæum is not a lymph sac, as physiologists would have us believe. Under normal physiological conditions the peritonæum absorbs, like the skin, only small quantities. When it becomes blistered or eroded, like the skin, it becomes a rapid absorbing surface. Its endothelium is more easily removed, abraded, or destroyed than the epithelium of the skin, and therefore requires more respect and more delicate treatment. Where the peritonæum is not eroded it should not be irrigated. When it is eroded irrigation may be of service. In our practice we have used solutions in the peritoneal cavity only fourteen times since 1889, and believe that better results can be secured by delicate swabbing and extensive tubular and gauze drainage.

After operation, the patient should always be put into the sitting posture, so that all fluids may gravitate into the pelvis, as it is well known that the pelvic peritonæum can take care of a large quantity of infectious material, as absorption takes place slowly and the patient is not immediately overwhelmed with the toxic products.

Periduodenal abscesses are to be opened through the abdominal wall in front, and subphrenic abscesses through the anterior or lateral walls of the

abdomen, or a low intercostal space posteriorly.

The following is the history of a case in which we recently operated at Mercy Hospital:

F. K., laborer, aged twenty-four years. Family history negative. Personal History:—Had always been well and worked hard. Appetite had been good and bowels regular. No previous illnesses. States that prior to onset of present illness he was perfectly well, and had had absolutely no gastric or intestinal symptoms. Admitted to Mercy Hospital May 22, 1902, at 6:00 A. M. Illness began at half past two on the morning of admission with sudden and severe cramping pain in abdomen. Patient had been working on night shift at the time of onset, but had to stop his work on account of the severity of the pain. In a few moments the pain subsided, but returned shortly afterward and continued until his admission to the hospital. It was diffuse over the abdomen at first, but soon became more intense and at the time of admission was localized in the right-side. He walked several blocks to the hospital. The abdomen was very tender on pressure, especially on the right side. About 5 A. M., before coming to hospital, he swallowed a little coffee, which caused nausea and vomiting. On examination of patient, abdomen was found uniformly distended and motionless during respiration. It was very sensitive all over, but more so on the right than on the left side. Over the entire right side there was dulness on light, piano, percussion, resonance on deep percussion. The right abdominal muscles were very tense, and would not permit of deep palpation. On admission, pulse was 68 a minute, and temperature in the axilla, 98° F. At 8 A. M. temperature by mouth was 100°, pulse 74. A leucocyte count was made, and 23,400 to the c. mm. were found. A diagnosis of perforative peritonitis was made, probably of appendicular origin. The patient was at once prepared for operation. His depression was not sufficiently marked to consider it a case of fat necrosis. (Eight hours after the onset of symptoms): Incision was made through the outer border of the right rectus muscle, as for appendicitis. When peritonæum was opened, there was an immediate escape of viscid green fluid, which was odorless and clear, with the exception of some white flakes floating in it. The fluid appeared to be tinged with bile. The peritoneal covering of the intestine was considerably congested and reddened; an adherent fibrinous exudate was present in patches here and there. The endothelial covering, however, was not blistered nor eroded; it seemed to be intact throughout.

The caput coli was easily brought into the field, and the appendix was examined; it was thickened and adherent to the lower surface of the caput coli, showing that it had been the seat of previous inflammation; as there was no acute inflammation, and no perforation at this point, it was not the cause of the present trouble. The peritoneal cavity continued to fill with fluid as rapidly as it was sponged out, and this fluid seemed to come from the direction of the gall bladder. The caput coli was replaced and the incision was extended upward toward the costal arch. The gall bladder was next carefully examined, and found only slightly thickened and moderately distended with bile. The liver extended slightly below the costal arch. The stomach was examined,

but found normal. Examination of the duodenum showed a perforation, about $\frac{1}{8}$ inch in diameter, in the anterior wall of its outer portion, about $1\frac{1}{2}$ inch below the pylorus. Through this opening jets of the greenish fluid came with each inspiration. The perforation was closed with three rows of silk Lembert sutures, and the peritoneal cavity was sponged out and irrigated with normal salt solution. The abdomen was closed by means of separate layers of catgut for the peritonæum and fascia, the skin being approximated with a continuous silk worm gut suture. No drainage was used. One quart of saline solution was injected into the peritonæum just before complete closure of the abdomen and was retained. In closure without drainage I had the support of Dr. Roswell Park and Dr. Arthur Dean Bevan, who were present at the clinic.

The notes on his condition after the operation are as follows:

May 22d.—10:00 P. M., pulse 140, temperature 101°, resting well.

May 23d.—8:00 A. M., pulse 110, temperature 99.2°. Quite thirsty, but no pain. 8:00 P. M., pulse 98, temperature 99°. Somewhat restless, but no pain.

May 24th.—8:00 A. M., pulse 74, temperature 98.6°, some pain in abdomen, considerable tympanites. Mag. sulph. and spt. terebin, administered by high enema. Patient passed considerable flatus and was much relieved. 8:00 P. M., patient resting well. Pulse 76, temperature, 99°.

May 25th.—8:00 A. M., pulse 72, temperature 98.6°. Patient had a comfortable night. 8:00 P. M., pulse 96, temperature 98.6°; had some pain during the day and was given an enema, passing considerable flatus afterward.

May 26th.—8:00 A. M., pulse 124, temperature 101.4°. No pain and patient quiet. Wound discharged a small quantity of foul-smelling pus. A number of stitches were removed, and an extensive infection of the cellular tissue was found. A pure culture of the *Bacillus coli communis* was obtained from the pus, which accounted for the odor. He was quite restless during the day, with involuntary urination. Slept at intervals. Stools watery and brown. 8:00 P. M., pulse 120, temperature 101.4°.

May 27th.—8:00 A. M., pulse 124, temperature 100°. Patient resting quietly; slight delirium during the day; perspiration very free and great thirst. 8:00 P. M., pulse 100, temperature 99.6°.

May 28th.—8:00 A. M., pulse 98, temperature normal. 8:00 P. M., pulse and temperature same as morning. Had been delirious at times during the day.

May 29th.—9:00 A. M., pulse 92, temperature 98.6°. Patient feeling quite comfortable, some pain in the wound. 8:00 P. M., pulse 88, temperature 98.6°. Very comfortable.

May 30th.—9:00 A. M., pulse 92, temperature 98.6°. Resting well. 9:00 P. M., pulse 68, temperature 98°. Resting comfortably.

From this date on the patient continued to have practically a normal temperature and pulse, resting quite comfortably most of the time. The wound continued to discharge and the edges of the skin and muscles separated considerably owing to the

Bacillus coli communis infection of the cellular tissue. We have observed that infections with this organism produce rapid destruction of the fatty tissues, and that the best means of controlling them is with a saturated solution of bicarbonate of sodium.

The foul-smelling purulent discharge, which was abundant at first, rapidly decreased in quantity, and by the 7th of June had lost its odor. The wound gradually closed, and the discharge had practically ceased by June 14th. On June 15th the patient was seized with a localized bronchopneumonia and pleurisy on the right side, which gave rise to considerable pain, and his temperature rose to 101.2°. This had subsided by June 20th. On July 8th he had another attack of the same trouble, the temperature rising to 102° on the 9th, gradually subsiding to normal on the 19th. No tubercle bacilli were found in the sputum.

On July 24th the patient was discharged with the wound entirely healed and feeling well. Subsequent reports showed that he progressed to complete recovery. The following is a synopsis of the cases which we have collected. It includes all the cases in the literature from the time of Weir's publication, May, 1900, to July 1, 1902:

CASE I.—Carter—Boulton (11). Woman, aged twenty years. Admitted to Royal Halifax Infirmary October 29, 1900. Patient presented a large fluctuating mass in the right iliac region. Temperature 101.6° F. Appendicular abscess diagnosed. Operation: Oblique incision internal to right anterior superior spine. Large quantity of fœtid pus evacuated. Abscess cavity walled off from peritoneal cavity by adhesions. Appendix not found. Cavity flushed out. Rubber drainage tube inserted. Patient improved until November 8th. On the 9th blood escaped from the wound, the patient complained of severe pain over abdomen, and began to vomit. Pulse reached 120, and she became collapsed. Died of general peritonitis November 10th. Necropsy: General septic peritonitis; appendix sloughing, but no pus in neighborhood. Blood clot in right lumbar region, which came from a perforating ulcer in anterior wall of second portion of duodenum. In this case there was no history of previous gastric trouble.

CASE II.—Clarke, Franklin (7). Man, aged forty-five years. Admitted to Leicester Infirmary November 7, 1900. Patient had passed no urine for six days. Complained of pain in right lumbar region. On third day kidney was explored, but no stone found. Recovered from urinary suppression. Discharged January 1, 1901, well. Re-admitted June 1st, under Mr. Franklin. Eight days before he was suddenly seized with acute pain in abdomen, and confined to bed since. No vomiting. Some diarrhoea and abdominal distention. On admission, expression anxious and eyes sunken. Pulse 130 and small. Temperature normal. Abdomen distended, but not tender. No liver dullness present, and no dullness in flank; tympany all over. General peritonitis diagnosed, and abdomen opened in median line,

midway between pubes and ensiform. Abdominal cavity full of fœcal-smelling pus. Incision extended downward, and inflamed appendix removed. Peritoneal cavity flushed out and wound closed, with drainage. Patient died five hours after the operation. Necropsy: Large perforating ulcer on anterior wall of first part of duodenum. Two other large non-perforating ulcers present, one opposite the perforation, involving all coats except the serous, the other a little lower down, extending through the mucous coat only. Two small superficial ulcers in stomach.

CASE III.—Fairchild, D. S. (16). Woman, fifty-years of age. Patient had been ill three weeks, with apparently increasing obstruction of the colon near the sigmoid. Had been in poor health for several years. Operation, January, 1901. Incision to the left of the umbilicus. Intestinal contents were seen escaping from beneath the transverse colon. Three perforations in the duodenum were found and sutured. Abdomen irrigated and closed, with drainage. Patient died four hours later.

CASE IV.—Blum, reported by Grivot, Aguinet (17). Man, aged 31 years. Vomiting began October 13, 1900, and this increased during the 14th and 15th. On the afternoon of the 16th patient suffered severely from pain in right hypochondriac region. The vomiting persisted, and he entered the hospital October 18th. He had had no movement of the bowels for two days. Examination showed tympanites, with diffuse tenderness over the abdomen, more pronounced in the right hypochondriac region, in which neighborhood there was a well marked dullness on percussion. Temperature 37° C. Pulse 120. Intestinal perforation, probably of appendicular origin, was diagnosed. Operation performed by Dr. Blum. Incision same as for appendicitis; foul fluid removed from peritoneal cavity. Appendix removed. Pain disappeared after the operation, and condition temporarily improved. He soon grew rapidly worse, and died October 27th. Necropsy: An abscess cavity was situated on the lower surface of the liver, and lined with false membrane. A brownish liquid escaped from the duodenal region. On the anterior surface of the first portion of the duodenum, about 10 cm. from the pylorus, a circular perforation was found, about 1 cm. in diameter. It was evidently an old cicatrized ulcer which had ruptured during an effort at vomiting.

CASE V.—Kinnicutt, F. P. Man, aged forty years. Admitted to hospital January 10, 1899. Patient had been drinking to excess for three days previously and had been suffering from loss of appetite, nausea, and vomiting. Had had constant epigastric pain and bowels had been constipated. Examination showed a prominence of the right epigastric region, where a mass could be felt—tender to pressure. Temperature ranged from 99.2° to 102° F. Mass increased in size, and three days after admission patient vomited blood. After several hours abdomen was opened. Stomach and liver adhered. Stomach full of blood, as was also the lesser peritoneal cavity. Circular ulcer two inches in diameter had perforated the peritonæum in the posterior wall of the duodenum, just below the pyloric ring. Patient's condition was such that it was impossible to proceed, and he died a few moments later.

CASE VI.—Labbé, Marcel (18). Man, aged thirty-one years. Had been in good health, with no previous symptoms of hepatic or intestinal trouble. Was taken suddenly with severe abdominal pains one morning after breakfast. After admission to hospital, pain became somewhat less severe and the next day was localized in the right side of the abdomen, with maximum intensity in the right iliac fossa. Pain soon increased, abdominal muscles became tense; there was absolute constipation; no vomiting and no fever. The diagnosis was between appendicitis and hepatic colic. On the third day condition became worse, pulse small and rapid, temperature 39° C. Tympanites became extreme, and fecaloid vomiting set in. Operation showed general peritonitis, with pus in the peritoneal cavity. Drainage established, the wound was closed. Death took place that evening. Necropsy: Under the right side of the diaphragm was a localized abscess containing pus, gas, and fecal matter and lined by a false membrane. Close to the entrance of the bile duct in the duodenum was an oval-shaped perforation, $\frac{1}{2}$ cm. in diameter. This perforation connected the interior of the abscess cavity with the duodenum. In the duodenum itself an old ulcer was found on the lower portion of the anterior surface.

CASES VII., VIII., and IX.—Littlewood, H. (10). In the transactions of the Leeds and West Riding Medico-surgical Society, May 3, 1901, Mr. H. Littlewood states that he operated on three cases of acute perforating duodenal ulcer. All were in men, and the operations took place after thirty-six hours from the time of perforation. All died.

CASE X.—Lowson, D. (20). Girl, aged fifteen years. Illness began previous February, with pains in the left side. Two weeks later had rigors, with depression and cyanosis. March 17th, suffered profound collapse, with severe pain to the left of navel, pallor, and cold sweats. March 20th, began to vomit, but this ceased on the 25th, when the temperature went up and pulse increased in rapidity. April 4th, the respirations were shallow, abdomen was distended, and there was a localized swelling just below the liver. The next day the swelling had disappeared, and the note was tympanitic. Operation, vertical incision through the rectus muscle, showed gas in the peritoneal cavity, with shreds of food. The odor was putrid. The abscess cavity was formed by adherent intestines. A perforation which admitted a No. 6 catheter was found in the duodenum. The granulations were scraped away and the opening closed with Lambert sutures, with silk. Gauze drainage was left in the wound. The ultimate result in this case is not stated in the report.

CASE XI.—Mauclair (21). Man, age not stated. Had pain between the margin of the ribs on the right side and the umbilicus, and later all over the abdomen. Pains came on suddenly and were very severe. Patient was seen thirty-six hours after the onset, when the vomiting had ceased; temperature was normal and his general condition grave. Abdomen was tympanitic. A diagnosis of intestinal perforation was made and laparotomy at once performed. Death occurred sixteen hours later, or fifty-five hours after the onset of the attack. Autopsy showed general plastic peritonitis following the perforation of an ulcer of the duodenum 2 cm. below the pylorus.

CASE XII.—Moynihan (4). Man, aged forty-four years. Admitted to Leeds Infirmary April 24, 1900. Symptoms had been present for eighteen months, chiefly pain after taking food; vomiting of blood, which occurred irregularly one half to four hours after eating. On the 25th patient became worse, and the symptoms of peritonitis developed. Perforation was diagnosed and laparotomy performed. A perforating duodenal ulcer three quarters of an inch in diameter was found in the beginning of the second portion. The sutures introduced held imperfectly, and, as the gut was considerably narrowed, gastroenterostomy with the Murphy button was performed. Abdomen was cleansed and drainage tube introduced. Patient died May 22nd.

CASE XIII.—Moynihan. Man aged twenty-five years. Admitted to Leeds Infirmary June 18, 1901. For four weeks had experienced pain after taking food, and had vomited almost at once after meals. Had sudden, acute pain in the upper part of the abdomen, in the median line, profound collapse, and persistent vomiting. The abdomen was opened three hours and fifty minutes after perforation. Some gas in peritoneal cavity was found. On examining the duodenum, a perforation in the anterior wall, one inch below the pylorus, was found. The opening was stitched with a continuous suture, applied vertically, the abdomen was flushed out, and a drainage tube inserted into the pelvis. No fluid was allowed by mouth for twenty-four hours, and saline enemata were given every six hours. Drainage tube taken out in thirty-six hours and patient allowed to sit up on the nineteenth day. Recovery was uneventful.

CASE XIV.—Moynihan. Woman, aged twenty-nine years. Admitted to Leeds Infirmary September 29, 1900. Had several acute attacks of pain and vomiting during last five years. There was blood in the vomitus the first time, and has been irregularly since then. Always experienced a sense of discomfort from one to four hours after meals. October 4th, had one of these attacks, with temperature 104° F., vomiting, tenderness in right hypochondrium, and severe pain to the right of the umbilicus. October 12th, laparotomy performed and many adhesions found around the duodenum, pylorus, and gall bladder. An abscess was found between the liver and the duodenum; the duodenal wall was thickened and presented a perforating ulcer at the junction of the first and second portion. Tube and gauze drainage were employed, and the patient left the hospital November 5th, with the wound entirely healed.

CASE XV.—Murphy, J. B. History of case given previously.

CASE XVI.—Pegram, J. C. (22). Man, aged fifty-six years, farmer. Ten years ago had stomach trouble for two years, but since then had been well. December 8, 1899, patient ate a hearty meal in the evening and that night had dull, unlocalized pain in the abdomen. At ten the next forenoon had violent pain in the right side of the abdomen and the bowels had not moved. Examination showed flat, rigid abdomen, with marked tenderness, especially in the right hypochondrium. Abdomen became distended and he vomited frequently. Operation disclosed perforating ulcer in the anterior wall of the duodenum, near the pylorus, with subphrenic abscess. Abscess

was evacuated. No attempt was made to close the ulcer, but it was walled off with gauze. Patient died thirty-six hours later with general peritonitis.

CASE XVII.—Vince (23). Woman. Presented every symptom of intestinal obstruction. All medication being useless, an operation was performed. Upon opening the abdominal cavity, gas escaped and the intestines were found to be covered with purulent, fibrinous exudate. There was no faecal matter in the peritoneal cavity. Drainage was effected through a lumbar incision and through the cul-de-sac of Douglas. Patient died. Necropsy showed a localized abscess in a space limited by the liver, stomach, diaphragm, and transverse colon. This cavity contained the contents of the duodenum, which had escaped through the perforation in the anterior wall. The perforating ulcer was evidently a chronic one, as the edges were indurated.

CASE XVIII.—Vince (24). Man, age not given. After lifting a heavy log, was taken with severe, acute pain in the abdomen. Upon examining the abdomen, liver dullness was found to be obliterated, and there were all the evidences of ascites. A diagnosis of intestinal perforation was made, and patient was taken to hospital and operated on within twenty-four hours from the onset. Gas escaped from the abdominal incision and bile flowed out. A perforation was found in the duodenum at the site of an old ulceration, about which there were numerous peritoneal adhesions. The violent effort of the patient had evidently caused the ulcer to perforate. Patient died the evening after the operation.

CASE XIX.—Wilson, A. Christy (25). Man, aged forty-eight years. For several years had been troubled with indigestion. While employed at his usual labor one morning, was suddenly seized with severe pain in the epigastrium. He had all the symptoms of perforation, but refused operation until twenty hours after the onset. At that time a median incision was made, and upon opening the peritonæum, a quantity of bile-stained mucus escaped. Perforation was found in the anterior wall of the duodenum, one inch below the pylorus. This was closed with a double row of sutures, after which the intestines were drawn out, scrubbed, and put back. The liver, stomach, and pelvis were also cleansed thoroughly, normal saline solution being used freely. Recovery was slow, but steady, and the patient is at present employed at his regular hard work.

An analysis of these cases shows: Average age in the thirteen cases in which age was stated, thirty-five years. Of the nineteen cases, five were in females and fourteen in males. Of the twelve cases in which it was stated whether or not there were symptoms present previous to the perforation, in nine cases there were symptoms (previous). In three cases there were no previous symptoms. In only five cases did the symptoms point to the stomach or duodenum. In six cases it was stated that the perforations were sutured. Of these, two died, three recovered. In one the result is not stated. In eight cases drainage only was used. Of these, seven died and one recovered.

Conclusions.—The diagnosis of perforating duo-

denal ulcer is difficult, or, better, practically impossible without an exploratory laparotomy.

In many cases there is no evidence of duodenal disease previous to the perforation.

The most important physical sign, in addition to those of perforative peritonitis from perforations in other portions of the intestinal tract, is the flatness of the superficial, piano, percussion note.

The leucocytosis in our case, the only one in which it was given, was pronounced, showing an inflammatory condition in contradistinction to the absence of it in intestinal obstruction and fat necrosis of the pancreas.

It must be borne in mind, however, that leucocytosis is not a necessary manifestation of perforation or of inflammation. It is a manifestation of the reaction of blood to infections. It is often entirely absent in typhoid perforations, as we have observed in repeated blood examinations after perforation during the present epidemic in Chicago.

Collapse is absent in duodenal perforations, except where associated with severe hæmorrhage. Collapse in intestinal perforation is the *manifestation of the absorption of the products of infection*, and not a manifestation of the perforation *per se*. Collapse is always secondary to abrasion or denudation of the endothelial covering of the peritonæum, which abrasion permits of rapid absorption.

Time of Operation.—In all cases of perforative peritonitis, to which duodenal perforations are no exception, an operation should be performed at the earliest possible moment after perforation has taken place; and clinical experience shows that the mortality is in direct proportion to the length of time that elapses between the occurrence of perforation and the operation.

In perforation, the longer the escaping material is in contact with the peritonæum, the greater the danger of destruction of its endothelial covering, and thus the greater the danger of absorption. Of thirteen cases operated on thirty hours after perforation, all terminated fatally; while in twelve cases where less than thirty hours had elapsed, 66½ per cent. recovered (Weir).

These comparisons emphasize more than words can the importance of early operation.

The operation must be complete; that is, it must be pursued to an effective suture of the perforation. Drainage is insufficient, as eighteen patients treated by drainage alone all died (Laspèyres). Suture of the opening can be easily accomplished, as in 98 per cent. of the perforating ulcers the opening was in the first portion of the duodenum, its most accessible portion.

Where duodenal perforation is suspected, the incision should be through the right rectus muscle. It can then be carried upward to the costal arch or

downward to the symphysis pubis without dividing any of the transverse muscles. The incision through the rectus muscle is the one which we commonly make in operating for appendicitis. It can be enlarged upward or downward without interfering with the muscle.

Drainage or no drainage is a matter of personal election, influenced more or less by the pathological condition present at the time of the operation.

The after-treatment is that commonly followed after abdominal section, except that the patient is kept elevated in bed at an angle of 35° for the first forty-eight hours after the operation.

The prognosis depends:

First, on the virulence of the peritonitis produced.

Second, on the time the material has been allowed to remain in the peritonæum.

Third, upon the presence or absence of blistering or abrasion of the peritonæum at the time of operation.

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PLACENTA PRÆVIA; ITS EARLY RECOGNITION AND TREATMENT.*

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The first thought that presents itself in considering the subject of placenta prævia is the great need of early diagnosis. Few women would die from this disarrangement if the diagnosis could be made in advance of hæmorrhage, although the mortality would always be heavy for the children.

In attempting to locate the placental site during the late months of pregnancy investigators have been guided both by purely theoretical deductions and by actual demonstrations. We know at the present time that the portion of the uterus to which the placenta is attached is more vascular than the remaining parts, that there is here a stronger and swifter circulation, that this is thicker and softer than the other parts. This latter fact is due, not necessarily to increase in muscular bulk, but to greater dilatation of the blood vessels and the presence of the blood fluid. The individual uterine muscular fibres are not always, though generally, developed to the full in pregnancy, as in cases of genital immaturity; and in such cases there may be a fuller development of muscular tissue at the placental site than in other portions. It has been asserted by some writers that there is a bulging of the uterus at the placental site, causing this part to stand out in greater prominence than the remainder of the organ.

With thin abdominal walls and lax uterine muscle the placental edge may be palpated. Its overlying a portion of the foetal body may obscure palpation of the latter and also weaken the foetal heart sounds.

In days gone by, when the blood of the mother was supposed to flow continuously from the uterus through the placenta and foetus and back to the ma-

* Read before the Brooklyn Medical Society, April 18, 1902.

ternal heart, it was natural that the circulation murmur heard should have been interpreted as the so-called placental bruit, or murmur; but that interpretation had to be given up when it was settled that the blood from the mother did not run through the foetal portion of the placenta.¹ Now this murmur is called the "uterine souffle," and is still generally considered to indicate the placental site. That this is not a safe conclusion I can myself testify, for I have many times noticed this murmur on one side of the uterus during pregnancy and afterward located the placenta in labor, by direct palpation, as attached to another part of the uterus. I believe this murmur is generally made by the larger vessels, the uterine and ovarian arteries, entering the uterus; and is created more by some twisting or compression of the vessels than by the rush of blood. I believe we can place very little reliance upon auscultation for diagnosis of placental location. Yet, there is a great possibility in this line, which we hope to see developed. What an electrical apparatus that will greatly magnify blood murmurs and mathematically register them may be able to accomplish just here is quite indeterminate, but reasonable to look forward to. Direct auscultation of the cervix through the vagina has been undertaken since 1855, and special instruments have been manufactured to aid metroscopy, but the results have not been of much service, possibly because there has not been sufficient cervical metroscopy in normal cases to enable the auscultator to recognize differences when the placenta is implanted over the cervix.

Increase in bulk at the placental site of the uterus is now a demonstrated fact, but one which has limitations that have been overridden by some enthusiasts. Leopold,² taking advantage of his frequent opportunities in performing Cæsarean section to observe the full term uterus directly, and then locate the placenta on opening the former, noticed that in attachment of the placenta to the anterior wall of the uterus the Fallopian tubes converged posteriorly, and converged forward and upward in posteriorly situated placenta. The tubes ran more posteriorly to the perpendicular line when the placenta was attached anteriorly than in the reverse with the placenta lying upon the posterior side.

Beyond this contribution of Leopold we know but little as to alterations in shape of the uterus produced by placental attachment. It seems reasonable, as Davis has put forth in his text book, to expect a bulging of the uterus when the placenta is attached

at either cornu, as there is rather an excess of muscular tissue at these sites which could expand readily under the influence of a placental blood supply. But errors of interpretation have been made, due to malformed uteri, the uterus sæptus.

When the placenta is "prævia," that is, when any portion of it is attached to any portion of the lower uterus which must dilate before the foetus can pass out, it is covered by a thinner uterine wall than when at the fundus. It is possible to recognize the placenta by direct abdominal palpation in anterior placenta prævia, depending upon the thinness of the abdominal wall. I have made such diagnosis, but it is usually not practicable.

It is possible to palpate through the rectum in suspected cases, though not without an anæsthetic. Direct palpation through the vagina should easily give us a diagnosis in cases of central implantation or where the placental border can be felt just within the internal os. In some cases a diagnosis can be made by the soft boggy or mushy character of the lower uterine segment, accompanied by a marked pulsation. Loose coils of the cord lying just above the internal os may, particularly if the amnion is thick and rough, lead to an error in diagnosis, but not if care is exercised, as the cylindrical form of the cord can be recognized.

The custom should be cultivated in the profession of examining every pregnancy patient by the sixth month, vaginally as well as abdominally. Such practice generally followed would at once cause a heavy reduction in maternal mortality from central placenta prævia.

The question of the induction of labor, when a condition of prævia has been discovered during pregnancy, requires careful judgment. In central or marginal cases I think the ideal, or elective, period for delivery is the eighth month. The lower uterine segment in such cases possesses as much softening at this time as it does in normal cases at full term, because of the succulency necessary at the placental site. Dilatation is therefore as at full term rather than at prematurity. The foetus, though less mature than at full term, is smaller and can be more quickly delivered, and this gain in time during the period of great danger from asphyxiation rather more than offsets the advantage of maturity.

Otherwise, in the interest, the paramount interest, of the mother, we must be guided by circumstances. If the mother can be placed in a hospital and have a skilful physician and nurse constantly at hand, and the pregnancy is before the eighth month, and, particularly where a living child is especially desired, it is just and conservative to delay. Should a severe hæmorrhage occur then it may be better to place the patient in bed, to give morphine until equilibrium is restored and recovery from the immediate loss of

¹ A recent writer, of well known standing, states that he has made a diagnosis of placenta prævia at four months' gestation by noting that "the lower segment of the uterus was abnormally developed on the right side, and the whirr of the blood could be heard as it rushed through the greatly enlarged uterine artery into the placenta on that side."

² *Centralblatt für Gynäkologie*, No. xii, 1895.

blood and shock is secured, and then to proceed to induce labor. It will be seen that there is room for much good judgment in making decisions. Whenever the diagnosis is uncertain, delay should be the rule. Where a patient cannot be constantly attended by a physician all the time, even though the doctor lives next door, it is best to deliver her as soon as proper preparation is made. Better many miscarriages than the death of one mother, particularly for a condition for which she is not responsible. The danger of death is fully doubled where a patient is suffering the acute conditions of much loss of blood.

Cases of partialis should seldom be put to induced labor. Practically such cases are very rarely recognized before labor, the majority of them having a more or less severe hæmorrhage at the beginning of normal labor. This bleeding usually stops as soon as the head engages. In other presentations, and whenever the hæmorrhage continues to become serious, immediate aid should be rendered.

In considering treatment I wish to discuss the handling of a case that may be taken as a type, *i. e.*, that of a woman eight months pregnant with a central implantation, having had no hæmorrhage, and not in active labor. Our objects in treatment are: to secure dilatation of the cervix without laceration and without loss of blood, and to deliver a viable child. The patient, properly prepared, should be placed upon a table and given chloroform or ether. The foetal position should be accurately determined by abdominal palpation. It will generally be found to be a shoulder, breech, or transverse presentation, and should be allowed to remain as found. It is so unusual for the head to present, and so difficult to apply the forceps to it, that this presentation is not desired. This is the reverse of true in partialis. As it will probably be necessary to bring a leg into the cervix and vagina immediately after cervical dilatation is secured, it is well to determine during abdominal palpation both where the legs lie and which should be grasped on introduction of the hand into the uterus. Readiness is of great value during that critical stage.

Before beginning cervical dilatation every preparation should be made for the three methods of applying the saline solution. In fact, this is the time to prepare for every possibility, stimulant hypodermic injections, forceps, hot water tub for infant resuscitation, gauze packing of the uterus, suturable lacerations of the cervix, etc.

There have been many methods used and advocated for dilating the cervix in this situation. Where I have a choice and am proceeding to immediate delivery, I know of but one that has given me entire satisfaction, the Barnes's rubber bag. Vaginal tamponing is often useful when one is not ready to hasten delivery, as often happens after a hurry call to a house. It helps to check hæmorrhage, but is un-

certain and must be constantly watched. It also awakens uterine labor activity. It is also useful and may rise to the value of selection where the physician's skill is insufficient for the occasion. Metal dilators are very seldom necessary to start cervical stretching, as the cervix is almost always patulous and soft in these central attachments. The use of tampons simply to awaken labor necessitates our sitting by for many hours and increases the dangers of sepsis by generally causing some abrasions of the vagina some hours before delivery. The softness of the cervix usually present lessens the need of preliminary softening by tampon. Dilatation by the fingers cannot be carried on without constant loss of blood. Bag dilatations take from fifteen to sixty, or more, minutes, though usually not over thirty minutes. The longest time I have given was one hour and seventeen minutes. The Champetière de Ribes bag has been advocated and used with satisfaction; likewise the Voorhees modification, a small and thinner bag, which can be sooner introduced than the other. The question of the relative merits of the Barnes and the de Ribes bag in these cases of placenta prævia is somewhat difficult to determine. My own experience has been largely in the use of Barnes's bag; but the de Ribes bag has received fairly strong endorsement by Pinard, who asserts that he has secured a lessened foetal mortality with it.³

The advantages claimed for the de Ribes bag over finger dilatation are: That it permits cephalic delivery, aided by the forceps if indicated, by which means fewer infants are asphyxiated; that prolapsus funis is less frequent; and, that it secures more complete dilatation of the lower uterine segment. The objections which I hold to the bag are: That it causes much more separation of the placenta than the Barnes bag, as I hope to demonstrate to you; that it is more difficult to introduce, unless the smaller Voorhees form is used, in which case its service ends short of good dilatation; and, that it does not so thoroughly prevent hæmorrhage during dilatation and delivery. The Barnes bag applies its full force directly in dilatation and also puts the tissues upon such tension as to check all bleeding; whereas, the de Ribes bag does neither of these things.

My experiences have led me to give up efforts to secure cephalic presentation and delivery, for when the placenta overlaps the os internum it generally results that the head cannot engage until the placenta has been entirely loosened and advanced in front of the head.

In using the Barnes bag, my method is to place a small table to the left foot corner of the patient's table, with a large china bowl half filled with carbolic acid or lysol solution at blood temperature; and at-

³ F. Welti, *Centralblatt für Gynäkologie*, 1897, p. 1073.

tach the largest-sized bag to a hand bulb syringe by means of a double stop-cock. The stop-cock makes it easier to let out some of the water injected into the bag, as is necessary when the bag begins to slip in or out of the cervix from over-distention. The bag is introduced by placing a large male sound in its pocket and then passing the bag into the cervix with the fingers of the left hand guiding it. The important point now is to keep the left fingers enveloping the outer portion of the bag and prevent the bag from slipping in or out. The fluid is injected by the right hand, so that careful adjustment is obtained. If a pain begins to force the bag out we can at once let out some water by the side stop-cock. With care and some skill one can sit by a patient and continue dilatation up to the limits of a Barnes bag's capabilities without the loss of a drop of blood. Further, it will seldom happen, that so much placental separation has been caused as to provoke foetal asphyxiation. When dilating the bag it is always necessary to take time enough to avoid laceration of the cervix. When bag dilatation has reached its limits, the hand should be passed at once into the cervix, through or around the placenta, the latter by preference, and that foot which is indicated by the rules of version brought down. The arm is a tampon during this manoeuvre, so no special haste is pressing to spoil good version work. The delivery of the infant is thence forward as in any breech case. Instantly after the head is out, the hand should be passed into the cervix, while the other one embraces the fundus. The placenta should be immediately removed into the vagina, while the hand remains as a tampon in the cervix. Sterilized gauze should then be passed into the cervix from a glass tube, gently packing the placental site. When all bleeding has stopped the hand can be gently removed, but the fundus should be kept firm. One drachm of the fluid extract of ergot should be given, perhaps hypodermically. This should be continued in lessening doses for twenty-four hours. The lower segment and cervix are in a state of paresis in these cases for fully twenty-four hours, and constant bedside attendance to check hæmorrhage should be sustained for that length of time.

The foregoing procedure, as stated, is intended for cases of central placenta prævia at about eight months gestation. In earlier periods, where the cervix is harder and rapid dilatation is more difficult, some modification to secure softening may be wise; such as the use of a vaginal tampon, or colpeurynter for some hours before anæsthesia and rapid dilatation. Manipulations extended over greater lengths of time than in rapid dilatation increase the danger of infection, and exact greater care accordingly.

Where symptomatic effects from loss of blood are evident, saline infusion should precede active meas-

ures, until circulatory equilibrium is restored, which is, when the bulk loss of blood fluid has been offset by the equivalent absorption of the artificial serum.

So valuable and important is the use of this solution in placenta prævia, that a word of suggestion may be wise. There will be cases in which final cessation of hæmorrhage after delivery is the result of thrombus formation in the uterine sinuses, or possibly in a torn cervical artery. If direct venous infusion of saline is applied, the blood pressure may be so greatly increased as to force out these thrombi and re-start hæmorrhage.

The balance between life or death is at times so close that the slightest additional blood loss will tip the scales adversely, but we can say that, if the patient does not die on the table, she seldom fails to recover from hæmorrhage alone, no matter how severe it has been. Another danger to avoid in using saline solution direct, is the forced production of pulmonary œdema.

A somewhat new feature in the discussion of our subject has been introduced in the advocacy of Cæsarean section in preference to delivery through the cervix.

Most of the arguments that have been advanced in favor of this proposition have not been to the point. To show first that the mortality from Cæsarean section in the hands of the best operators, given as about 5 per cent., is less than that from placenta prævia in general, given as from 10 to 40 per cent., is, of course, a *non sequitur*; but so is it to compare the former with the best results in placenta prævia, given as from 5 to 12 per cent., as the danger from placenta prævia in a Cæsarean section are not removed by performing the latter in its simple form. To perform a Sängster uterine section and then remove the child and placenta through the cut is not to escape all, or even most, of these dangers.

There are certain complicating conditions, which, in association with placenta prævia, give positive indications for Cæsarean section; such are cancer of the cervix, myomata in the lower uterine segment, pelvic contractions of sufficient degree to necessitate head moulding, if pregnancy is at full term, and other such abnormalities as ordinarily raise the question of Cæsarean section.

As an elective method we are at present rather entirely dependent upon theoretical deductions. There are not over a dozen cases on record; in fact, I know of but six, reported by Professor Zinke⁴ last November. The most that can be deduced from Zinke's report is, that the method has sufficient justification for further trial. One cannot get a per cent. estimate from a half dozen cases. A hundred would begin to average the many varying elements in-

⁴ *Gynecological and Obstetrical Journal*, November 3, 1901.

volved. We should be reserved in giving adherence to the arguments of those who are gynecologists of comparatively small obstetrical experience, however high they may stand as gynecologists. They do not appreciate the possibilities of control in delivery *per vaginam*, and take bad work as a basis of argument against the vaginal route. One writer has been so impressed with the dangers of cervical dilatation, hæmorrhage, foetal asphyxiation, infection, and what not, that he not only wonders how any patients survive, but almost makes us wonder how a child ever is born alive of a living mother. Such men do not appreciate what success can be attained by the skilful use of a Barnes's bag combined with thorough knowledge of dilatation, foetal attitude, version, and after tamponing. Aside from cases of rapid bleeding, where one may not be prepared, control of hæmorrhage during dilatation is absolute by the method I advocate; and it is rare for the foetus to become asphyxiated during this period.

Whether the obstetrical method does not, after all, require more experience and skill than the Cæsarean section, is, perhaps, a question to determine. In any case, the future holds out promise of far higher skill in the general practitioner along the lines of the more purely obstetrical vaginal method, than in abdominal section. There is far better clinical training in vaginal obstetrics than ever before, and the practitioner's work will be constantly in that line, by which he will acquire skill in the only way it can be acquired—constant practice. He will not do enough abdominal work to become experienced, and the great majority of cases of placenta prævia will always be in the hands of the general practitioner and present as emergencies.

Addendum.

Since reading the above paper the writer has read with much interest a paper on this subject of Cæsarean section for placenta prævia, by Schauta, of Vienna, which appeared in the *Interstate Medical Journal* for April, 1902. Schauta reports the mortality in his cases of placenta prævia treated by vaginal delivery, as numbering 16 out of 234, or 6.8 per cent. He further states that he refrains from performing Cæsarean section (in cases not involving placenta prævia), "in all cases which were handled before entrance (into the hospital) by untrustworthy people, provided the indication for operation was not absolute." . . . "How many of the cases of placenta prævia brought into hospital will conform to this strict but indispensable requirement for the performance of Cæsarean section? Very, very few, I believe." He further adds: "The extreme view of certain American authors, who pronounce Cæsarean section the only rational treatment for placenta prævia in general, has been very prop-

erly repudiated by those who would confine this heroic procedure to cases of placenta prævia centralis or partialis." Schauta's results in his 234 cases are a timely and effective confirmation of the writer's statement above, to the effect that only genuinely obstetrical specialists give proper weight to what can be accomplished in delivering cases of placenta prævia by the vaginal route. Schauta's results give a foetal mortality of 70 per cent. in the cases of placenta prævia centralis, and 50 per cent. for all other forms inclusive. He agrees with the Cæsarean section advocates, that the employment of this operative method will give a lower rate of foetal mortality, but most aptly adds: "If we look over the reports of these cases (placenta prævia), we shall see that only a small number of these children are fully developed. In my 234 cases, only 92 children were mature. The mortality of premature children is generally high, but is much higher in these cases because they suffer considerably by asphyxia due to the partial separation of the placenta from the uterus. But again, we have to take into consideration the cases of placenta prævia centralis only. We find that out of these fifty cases only eighteen children were at full term. . . . This fact is of great importance and really decides the question."

"I believe that, even by applying Cæsarean section to cases of placenta prævia centralis, we shall not obtain better results in regard to the foetal mortality than with our commonly practised method."

"For the reasons given above I do not approve of Cæsarean section at the present time as a method of treating placenta prævia."

To the writer Schauta's statistics seem unassailable and his argument incontrovertible.

No. 127 WEST FIFTY-EIGHTH STREET.

COMPLICATIONS IN THE PASSAGE OF A GALL STONE.

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(Continued from page 508.)

Stricture of the Gall Bladder or Bile Ducts.—Stricture of the gall bladder or biliary ducts is one of the results of ulceration that has stopped short of perforation. There can be no doubt that the great majority of cases of stricture are never diagnosticated during life. The ulcer may gradually heal over by a slow process of granulation, and nothing remains but a cicatricial scar. If the ulcer has been one of considerable diameter, as the granulation tis-

sue becomes replaced by fibrous tissue it gradually contracts, and may pucker up the inner coats of the ducts so as to occlude its lumen. Should this take place in the cystic duct, the result would be a gradual distention of the gall bladder similar to that which would follow after impaction the result of a calculus.

When such a stricture occurs in the common duct, there would be a consequent damming back of the bile, jaundice would shortly appear, and be persistent; enlargement of the hepatic ducts and their smaller ramifications would shortly follow. To such a degree may this occur as to cause death from cholæmic poisoning. Large superficial ulcers of the gall bladder may so contract as to cause a great diminution of this organ. Should such an ulcer occur about its centre, the result may be an hour glass contraction of the gall bladder. Stricture in any part of the biliary passages is not diagnosed until the time of operation. When the stricture is in the cystic duct, the gall bladder should be entirely removed, or the gall bladder may be attached to the intestine; otherwise the probabilities are that there will remain a permanent fistula. When the stricture is situated in the common duct, and is of such an extent as to cause obstruction to the flow of bile, the operation of cholecystenterostomy should at once be performed. Should this be impossible, an attempt may be made to dilate it by making an opening into the gall bladder and passing down graduated sounds or silk catheters.

Local and General Peritonitis.—Inflammation originating in the neighborhood of an ulcer or extending through the various coats of the gall bladder is not uncommon. This may be the attempt of Nature to ward off a more dangerous condition by throwing out adhesions to neighboring viscera and forming a barrier to a general advance of the inflammation into the abdominal cavity. This variety may be considered as a process of protection marching in unison with inflammation.

A localized peritonitis may be looked upon as a beneficent process; indeed, local peritonitis is the means in a conservative way of arresting the more disastrous results of general peritonitis. It is a process of repair, usually, and its motto is protection.

General peritonitis, on the other hand, may be considered as a process of destruction. Especially is this so of septic peritonitis, which usually follows after a rupture of the gall bladder. The inflammation around an ulcer or that of cholecystitis may penetrate through the various coats of the gall bladder and excite local peritonitis. This variety of peritonitis is usually much milder in form than septic peritonitis after a rupture. The exudates become organized or they may become absorbed. They agglutinate the peritoneal covering of the gall blad-

der to that of some neighboring viscera by its cellular or plastic exudations. A severer form of peritonitis than this sometimes occurs, and then there may be the formation of an abscess inside of the adhesions. It is a merciful act on the part of Nature to keep the general abdominal cavity from becoming involved. Generally there is in the whole range of medical or surgical experience no disease which presents such a variety of conflicting symptoms as those which arise when the contents of a gall bladder distended with virulent germs go crushing through into the peritoneal cavity; nor is there one which calls for more prompt operative procedures. Frequently there is a chill or a distinct rigor, generally a sudden lowering of the central vital forces, amounting to distinct shock. The temperature usually rises, but in the most virulent type there may be no elevation, but a distinct diminution. In ordinary cases there is pain, but in severe cases, little or none. When the disease has become thoroughly established, vomiting begins. At first it is at long intervals and consists of mucus from the stomach. As time goes on it increases in frequency, and the mucus gives way to biliary matter, with streaks of blood intermingled. From this it runs on and becomes coffee ground in color. Vomiting is the most frequent of all the concomitant symptoms of peritonitis. It begins shortly after the onset of the disease, and continues throughout with unavailing frequency, which nothing can control.

Almost as constant as vomiting is tympanites, or meteorism. It is an early symptom, and generally makes its first appearance in the transverse colon.

I have always maintained, and recent events have added to the conviction, that gaseous distention of the intestines in the course of peritonitis was due to a paralysis of their muscular coats as the result of injury to the sympathetic nerves of the parts. When the distention becomes well developed, gas cannot be expelled, and there is a complete stoppage to the action of the bowels.

The abdominal walls are tender to pressure. Frequently the patient cannot bear the weight of the bedclothes. The knees are drawn up and flexed toward the abdomen.

It is a sadly pathetic sight to see a patient suffering from general fulminating peritonitis. There is about the patient an appealing look for rescue, which he knows will never come. His whole expression is peculiarly changed. It is wan, worn, and waxen. His cheeks are gaunt and hollow, and he looks at you from sunken eyes. It is hard to sleep, and when he does, his mind faintly wanders in dreams he fain would have come true. His restless tongue mumbles words he cannot articulate, and his trembling hands pick from the clothes phantoms of his brain. From the flickering fancies

Fistula between the Biliary Passages and Intestine or Stomach.—Although the foregoing table does not give fistulous tracts between the gall bladder and the duodenum as being so frequent as that between the gall bladder and the abdominal walls, there is every reason to believe that it is relatively more frequent. Part of the fundus of the gall bladder normally is in contact with the horizontal portion of the duodenum, and when its coats are inflamed the plastic exudations come directly in contact with the peritoneal covering of the duodenum, and adhesions between these two viscera at once take place. The same argument holds good in reference to the colon and often the stomach. When these facts are remembered, it is readily understood how ulcerative processes take place so often between the gall bladder and any of them. Sometimes when the fistulous tract has burrowed along the bridge of adhesions thus formed from the gall bladder, the opening into the duodenum, colon, or stomach, as the case may be, is not sufficiently large to allow the calculus to pass through, but permits the bile to pass by and empty itself into the intestine. The adhesions thrown out from the fundus of the gall bladder occasionally reach the stomach, especially the pyloric portion, and become agglutinated to it. A slow process of ulceration and subsequent perforation may take place, and a communication become established between them. A calculus may thus pass down from the gall bladder directly into the stomach. It is very probable that gall stones that are occasionally vomited up from the stomach have ulcerated through in this manner. It is extremely difficult to understand how a calculus so large as some of those that have been vomited from the stomach should be able to be regurgitated through the pyloric orifice from the duodenum, as many have maintained. A point of interest and great practical importance in connection with a biliary fistula rupturing into the pylorus of the stomach is the likelihood of causing pyloric obstruction by narrowing the orifice. This may occur by the ulcerative process throwing out a large amount of fibrous tissue and so causing stenosis, or the constriction may be caused by the calculus itself becoming impacted at the pylorus. Should this condition occur, dilatation of the stomach will shortly follow with all its characteristic symptoms.

Biliary-duodenal Fistula.—This is one of the most common methods of calculi making their escape after impaction. It is much more frequent when the obstruction takes place at or near the ostium duodenale than when it is farther back. It is a very frequent occurrence for a calculus to pass successfully from the gall bladder into the cystic duct and from there down the common bile duct until it reaches the junction of the common and pancreatic ducts.

It has already been stated that the narrowest part of the biliary passages is at its point of exit into the duodenum. At this point a calculus is often impacted. By reiterated efforts many of them are successful in passing through. They do so, not by dilating the duct, but by eroding the edges and tearing their way through. This is to be expected, when it is considered that the walls of the common duct at this point are not permitted to dilate to the same degree as they do in other parts, for the reason that it is intimately surrounded by the firmer coats of the duodenum. It is very likely that the passage of all calculi larger in size than a common pea causes more or less erosion of the walls of the duct at this point. In many of those calculi that are of larger size, impaction takes place and more or less inflammation sets in round the seat of obstruction, with subsequent ulceration. Inflammatory exudations are thrown out between the walls of the duct and the duodenum, and the calculus gradually ulcerates through into the bowel.

Gall Bladder-duodenal Fistula.—Although statistics give this variety of fistula as being less frequent than the biliary-cutaneous, it is very probable that it is the most frequent of all the varieties of fistulae. This can be accounted for by the anatomical relations of the parts. When a gall bladder is distended or when it is sagged down by the weight of calculi, its fundus rests on the transverse portion of the duodenum. Inflammation of greater or less degree is usually an accompaniment of this condition. When this inflammation extends to the peritoneal coat, exudations are thrown out, and become adherent to the peritoneal covering of the duodenum on which it rests. Ulceration, perforation, and the escape of the calculi into the duodenum take place, with the establishment of a permanent fistula. After this occurs, the bile that accumulates in the bladder reaches the duodenum by this short circuit and does not empty itself *per vias naturales*. Apart from its frequency, it is clinically one of the most important of all the varieties of fistulae. Nearly all the large calculi develop in the gall bladder. They attain such a size that they cannot enter the cystic duct, and consequently very few of them ever pass down the tube. If they escape, they are obliged to do so by a slow process of ulceration. When a small concretion ulcerates its way into the duodenum, usually all anxiety may be considered to be at an end. The stone will pass down the small intestine, through the ileocaecal valve, into the large intestine, and out through the sphincter, without any untoward symptoms. Not so with many of those large calculi, that ulcerate through the fundus of the gall bladder and find their way into the duodenum. They have yet a long distance to travel before they escape. Many of them are quite large. They may be as large as a

cherry or a hen's egg. When they have reached the duodenum, it may be impossible for them to pass along the small intestine or through the ileocaecal valve. Intestinal obstruction will result, and is one of the most serious of all the complications in the passage of a gall stone.

Fistula between the Gall Bladder and Colon.—This variety of fistula, although almost as frequent as that between the gall bladder and the duodenum, is not nearly so dangerous in its complications. When adhesions take place between the gall bladder and the colon, and the calculus has entered the intestine, the large intestine, having a capacious lumen, will readily permit the calculus to pass down without offering any obstruction. It has avoided by this short circuit the passage of the small intestine and the narrow constriction of the ileocaecal valve. It is not often that this variety of fistula is discovered during life; it can sometimes be suspected. Frequently patients suffer from vague, uncertain pains, with symptoms of indigestion, but nothing positive can be determined. Should, however, a large gall stone be passed *per anum*, after symptoms of impaction or intestinal obstruction, it will become evidently clear that the antecedent symptoms were those due to ulceration and perforation, and as a result a fistula follows. Sometimes, but it is extremely rare, it happens that there is a double fistula, one between some part of the common duct and the duodenum, and the other between the gall bladder and the colon. In a number of these cases there will be a history of the patient's having had attacks of colic, when smaller stones have passed down successfully, but the larger ones, being unable to pass down through the ducts, have ulcerated their way through. There are many instances on record of very large biliary calculi having been passed. In museums these can frequently be seen. Blackburn has recorded a case in which a woman, aged forty-five, passed through the bowel a stone $3\frac{3}{8}$ inches long, $1\frac{1}{2}$ inch thick, and weighing 1 ounce and 6 drachms. In the museum of the Royal College of Surgeons, Edinburgh, there are a number even larger than this. In the majority of these cases there was no aggravation of symptoms, nor were there any unusual signs that the patients were suffering from the effects of calculi. Occasionally, however, there may be collateral evidence of sufficient importance to indicate the character of the disease. When such a case as presented gives evidence of impaction or obstruction, suddenly improves, and is followed shortly afterward by a large stone passing through the anus, the condition can readily be accounted for. Sometimes, as already stated, the stone is vomited; there are frequently then hæmatemesis or melæna, pain in the right hypogastric or epigastric region, and more or less jaun-

dice. The very large calculi are never vomited. When a stone is of unusual size, it can sometimes be felt as a hard rounded body in the region of the gall bladder, especially if the abdominal parietes of the patient are thin. When the stone has perforated through the neck of the stomach, there may be symptoms of stenosis, dilatation of the stomach, jaundice, and other evidence of cholelithiasis. Should there be associated with these hæmorrhage into the stomach, duodenum, or colon, there would be corroboration of the slow passage of a stone by a process of ulceration. Cases have been recorded where the loss of blood has been quite profuse and alarming. This can be readily understood, especially in relation to the stomach and duodenum. The pyloric artery, a branch of the hepatic, descends to the pyloric end of the stomach and supplies it. The gastroduodenal, which is another branch of the hepatic, descends to the pylorus and the first portion of the duodenum, and there divides into the gastroepiploica dextra and the pancreaticoduodenalis superior. Should the ulcerative process happen to be through any of these, the amount of hæmorrhage might be sufficient to cause death. When the ulceration takes place into the pylorus, the hæmorrhage will be direct from the stomach. In the case of ulceration taking place into the duodenum, the blood may be regurgitated back through the pyloric orifice into the stomach and then vomited.

Biliary-umbilical Fistula.—Sometimes a gall stone may be found in the abdominal walls in the region of the umbilicus. At this point it will ulcerate through, and a fistula be established between some part of the gall bladder or biliary passages and the umbilicus. The route by which such a calculus has reached this point is along the remains of the umbilical vein. In embryonic life the umbilical vein forms an important factor in the circulation. This vein enters the abdomen at the umbilicus and courses upward through the free margin of the suspensory ligament to the lower surface of the liver, where it divides into its respective branches. After the birth of a child no necessity continues for the existence of this vein. It usually atrophies and becomes a fibrous cord, and is then known as the ligamentum hepatoumbilicale. It sometimes happens that the lumen of this vein does not close, but remains patent; a gall stone ulcerating into this ligament would have a great tendency to burrow along between its walls until it reached the umbilicus, where it might form an abscess and rupture. Should there be but one calculus, the fistulous tract may repair itself after the discharge of the stone. Frequently, after a good-sized one has passed out in this manner, others of smaller size may follow, and the fistulous tract will not heal up until they have discharged themselves. Quantities of bile may pass

down through this opening. Many times an operation will be demanded to repair the fistula. It is advisable in all these cases to scrape away the granulations about the edges of the fistula, and as far up as possible, by a curette, before beginning the operation of opening the abdominal cavity and repairing the damage done in the bile ducts.

Biliary-urinary Fistula.—It requires a steadfast imagination, supported by a strong sprinkling of credulity, to believe that gall stones are sometimes found in the urinary bladder. A fistulous tract between the gall bladder and the urinary bladder has occurred, but is extremely rare. The condition is extremely puzzling for a time. The method by which the stone reaches the bladder is generally down to the umbilicus along the remains of the umbilical vein, in a similar manner to that of biliary-umbilical fistulæ. The stone, however, does not perforate at the umbilicus, but may ulcerate there into a patent urachus, and pass down in this to the bladder. The urachus is the remains of the allantois of embryonic life. After birth the allantois shrivels up and is known as the urachus. It generally becomes a firm fibrous cord, and acts as one of the ligaments of the bladder. Occasionally it remains open, and should a biliary calculus pass down to the umbilicus, it may ulcerate there into the urachus and burrow along until it is safely piloted into the urinary bladder. Frequently when a stone is passing along from the biliary passages to the umbilicus, and from this to the urinary bladder, there will be symptoms indicative of the condition. More or less localized pain along the course of the stone, tenderness, redness, swelling, and symptoms of jaundice are found. As the calculus is ulcerating its way through the walls of the urinary bladder, there will usually be symptoms, mostly suggestive of cystitis. Pelletan attended a woman who complained of pain and tenderness in the region of the bladder. Afterward she had frequent desire to micturate and other evidence of urinary trouble. This persisted for some time. Shortly after this calculi began to be passed through the urethra, and in the space of eight days no fewer than 200 pure cholesterol stones were passed through this channel.

Biliary-vaginal Fistula.—Communications of a fistulous character take place between the biliary passages and the vagina, but are extremely rare. In the year 1790 Frank recorded a positive case. In this instance the patient complained of severe pain in the neighborhood of the right side of the uterus. The pain continued, and after a time a tumor could be felt in this region. The symptoms continued for some time, when pus began to escape from the vagina, followed shortly afterward by the escape of a gall stone. This was followed in a short time by twenty-five others. Their escape was usually pre-

ceded by severe pain and symptoms of jaundice. The patient made a good recovery. It is very probable in this case that the calculi originally perforated from the gall bladder into some part of the intestines. When it reached the rectum, a constriction may have impeded its further progress, and it ulcerated through the vagina.

Biliary-thoracic Fistula.—A fistulous communication between the biliary passages and the thorax, or one communicating with the lungs, is exceedingly rare. There are, however, a few such cases recorded. In both varieties they are caused by the calculus first forming an abscess in some part of the liver substance which connects below with the biliary ducts, the abscess reaches the lower surface of the diaphragm, and by a process of erosion ulcerates its way through into the lung substance or bronchi. A number of cases have been recorded in which the patient for some time previously suffered with all the symptoms of biliary attacks, and after a time bile was found in the sputum expectorated. After death the post mortem examination disclosed a communication extending from the biliary duct up through the liver substance and diaphragm into the bronchial tubes. Sometimes the abscess cavity in the liver is caused by a suppurative cholangitis, which is the result of the formation of small calculi that have developed in the intrahepatic ducts. Dreschfeld records a very interesting case of this variety. The patient was admitted into the hospital with the history that she had been expectorating bile for the previous seven months. There was no jaundice or any evidence of any attacks of biliary colic. The general condition was so unfavorable that death resulted a short time afterward. At the post mortem it was found that the right lung and the right lobe of the liver were intimately attached to the diaphragm. On making an examination of the liver, it was found that many of the intrahepatic ducts were enlarged and contained pools of pus. These communicated with another abscess cavity, which contained a large calculus, near the upper surface of the liver. From this point a devious sinus passed up through the diaphragm into the bronchial tubes of the right lung.

Biliary-pericardial Fistula.—A case has been recorded by Legg in which a communication existed between the biliary passages and the pericardium. An abscess was found in the upper surface of the liver, which had a connection with the biliary ducts containing a calculus. Two perforations passed up through the diaphragm, across into the left lobe of the liver, and from this into the pericardial sac.

Biliary-cutaneous Fistula.—According to the table given before, this variety of fistula is recorded as being the most frequent of all the varieties of fistulæ. This is probably erroneous, and the mistake

can be accounted for from the fact that biliary-cutaneous fistulæ can always be recognized during life. They are never overlooked; the condition attracts the attention both of the patient and of the physician. The consequence is that the great majority of them are recorded in current medical literature. A very small percentage of other fistulæ are recognized during life; they require a post mortem examination to confirm any suspicion of their presence, and as the relatives and friends are enshrouded in sufficient gloom and grief, permission for such examination is but rarely given. For these reasons it is exceedingly difficult to ascertain the relative frequency of different varieties of these fistulous openings.

A biliary-cutaneous fistula is generally begun by the inflammation of the gall bladder extending through its various coats until it involves the peritoneal. Inflammatory exudations are here thrown out in quantity. These become attached to the peritoneal covering of the abdominal walls. In a short time a firmer organization takes place, with the result that the fundus of the gall bladder becomes firmly adherent to the abdominal walls. This low inflammatory process soon involves the muscular structures, and the consequence is that after a varying length of time the biliary calculus ulcerates and erodes its way out to the cutaneous surface. Before the perforation comes through the skin, there is usually a localized tender, red spot indicative of a small abscess pointing. The condition can quickly be recognized, just as soon as the perforation takes place; there will be a stream of bile flowing out or mucus mixed with bile. If there has existed for a long time an impaction in the cystic duct, then the fluid which will come away will not have the characteristic appearance of bile, but will consist of a mucous fluid almost as clear as water. Generally there is a quantity of pus at the beginning of such a discharge. All kinds of calculi have been known to make their escape through a cutaneous opening. A case is on record in which a calculus measuring $3\frac{5}{8}$ by 3 inches in diameter, and weighing 170 grains, escaped by an opening formed by itself through the right hypochondriac region. The patient had for some time previously been suffering from biliary colic and jaundice. After the formation of the external fistula, pus formed and discharged continuously for six weeks before the calculus made its appearance at the orifice. Others have recorded instances of stones equally large having made their exit in this manner. Once such a fistula becomes established, it is liable to continue for an indefinite length of time. Occasionally when a calculus has come away, the fistula closes up, and no untoward symptoms remain, but as a general rule the discharge continues and is very annoying to the patient. Just as long as any irritating concretions

remain, these discharges will continue. Should there be an obstruction in the common duct, all the bile will flow out through this newly formed channel. If the obstruction is in the cystic duct, the nature of the discharge will be at first a considerable amount of pus mixed with mucus, and afterward pure mucus. The presence or absence of an obstruction can readily be determined by the character of such a discharge.

(To be concluded.)

PAIN AS A SYMPTOM IN GYNÆCOLOGICAL DISEASE.¹

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While it is notorious that too much stress must not be laid upon the anamnesic data furnished by gynæcological patients, it has seemed interesting to me to outline a few of the characteristic forms of pain as they are narrated to the gynæcologist, in order that it may be made clear, if possible, to what part or parts of the genital tract his attention may be directed before the local examination is undertaken; not that one would depend for a single moment for his diagnosis upon the history, but in order to see to what extent the subjective sensation pain may help one to reach a diagnostic conclusion.

The complaint of pain may be of real value to the physician in the diagnosis of gynæcological disease. This is especially true of those patients who come to us complaining of the secondary symptoms of pelvic disease, such as discharges, a bearing down feeling, or of difficulty in urination or defecation. The female organs of generation are so richly supplied by nerves that it is little wonder that pain is a usual accompaniment of pelvic disorders. The reflex centres emanating from the genital tract are strong, also, in their development and manifestation, a fact which accounts for the remote evidences of impairment of the generative organs as shown in organs distant from the pelvis and abdomen. I need cite only, for instance, the syncope which may attend a too rapid dilatation of the cervix, the appearance of collapse in some forms of dysmenorrhœa which are not of themselves grave, and the multitude of curious phenomena which mark the beginning of pregnancy, to say nothing of the almost fatal consequences sometimes seen after an intrauterine manipulation or the deep inspirations evoked by an intraoperative pulling of the cervix.

The pain described by our patients differs as it does in any field of medicine, varying with the

¹Read before the Metropolitan Medical Society, November 29, 1901.

station in life and with the general make-up of the patient. Frequently, it is entirely disproportionate to the lesion, and, in fact, the same disease in different women may be described in every phase from that of merest discomfort to that of genuine agony. It is not always, however, that the patient gives us a definite history of pain. She may complain of a heaviness in the lower part of the abdomen, as when she suffers from a perimetritis of moderate degree, or of a loss of flesh and strength, as in cancer, or of a profuse discharge, as in endometritis or vaginitis or salpingitis. It is only on palpation, when the diseased tissue or organ is actually touched, that pain is elicited. But it is sometimes surprising with what fervor a woman suffering from some chronic lesion of minor character will describe her pain. A freely movable kidney, a sclerosed ovary, or an old salpingitis may call forth a most eloquent appeal for assistance. This difference is not to be attributed entirely to the patient's mental attitude. It may follow from the enfeebled reflexes which may come in the wake of severer lesions, and it is a clinical fact that the graver lesions do not always cause so much pain as minor ones. If we take dysmenorrhœa as the type of painful function, we find that it is often due to vasomotor disturbances. Similarly, pathological conditions may evoke pain through faulty vasomotor influences. This brings us directly to the toxæmias of genital origin, of which many women with pelvic disease bear the facies.

Pain may be *spontaneous* or *evoked*, or both may coexist in the same subject. It will be found to be spontaneous in all acute diseases, metritis, salpingitis, perimetritis, etc., and in some chronic diseases, especially in the presence of new growths. When spontaneous pain exists, the gait may become affected from the succussion experienced by the pelvic organs. Coitus may be painful, because of an acute inflammation of the vaginal mucosa, when the mere introduction of the penis can scarcely be borne, or when a metritis is present, or when the male organ comes into contact in the posterior cul-de-sac with a prolapsed ovary. In some instances, the standing position may be painful when the suspensory apparatus of the uterus is at fault, or when a tube is filled with pus, or when an exudation into the pelvis compresses the organs of that cavity.

Pain in the sitting posture may be due to hæmorrhoids, or to affections of the pouch of Douglas, or even to a hypertrophic elongation of the cervix, as Archambault has pointed out. It is possible, even, for the recumbent position to be painful, as in the case of a pyosalpinx; and if the patient lies on the healthy side, for instance, the consequent pulling and tugging upon the diseased tube may arouse pain of no mean degree.

Pain is evoked when it is elicited by the examina-

tion of the physician. And this is of much more value from the diagnostic standpoint than the spontaneous pain, which is always vague and diffuse in its description, while under the finger of the gynæcologist it becomes sharply localized and is recognized more clearly by the patient.

To the touch the normal cervix is insensible except in nervous conditions. Pathologically, it may be sensitive when it is lacerated. The uterus is extremely sensitive in metritis, and the appendages are exquisitely sensitive to pressure. The use of the sound and the examination in general are usually well borne by patients; but for some women the local examination is the starting point for severe reflex phenomena, pallor, nausea, vomiting, syncope, or wild hysterical attacks. These appearances must not be interpreted as evidences of disease.

Pain in gynæcological disease may be *continuous* or *intermittent*. In cases of perimetritis or in pain due to dilatation it will be continuous, while in appendicular disease, with its curious radiations, it is usually intermittent. It may be lancinating, as in the formation of a perimetric abscess or in parametritis; or it may appear in the form of a colic, as in tubal pregnancy, or in the presence of a uterine polyp or of tubal inflammation. Colicky pains are usually indicative of an expulsive effort of some kind.

The seat of the pain varies with the disease. The frequent pain referred to the back is very often due to a tugging on the sacrouterine ligaments or to a laceration or neoplasm of the cervix. Pain in the abdomen at the level of the pubes may be ascribed to bladder or uterine disease; or if it is on one side of the abdomen, to some tubal affection. The latter is usually accompanied by radiating pains, due to compression of nerves, and this is very frequent in the region of the sciatic nerve. If there happens to be a descent of the uterus, one will find symptoms on the part of the bladder, dysuria, polyuria, or pollakiuria. If the uterus has fallen back into the cul-de-sac, we shall find symptoms on the part of the rectum, such as pain in defecation, constipation, or tenesmus, and the same symptomatology holds true for affections which are localized in Douglas's pouch. Neuralgias may exist in the genital tract, and hystericalgia has been described as a morbid entity. Nevertheless, many so-called neuralgias will be found on thorough examination, to have their basis in inflammatory processes. Dysmenorrhœa comes under this head and may be due to faulty excretive function, as when it is caused by a stenosis of the cervix or by an extreme ante flexion of the uterus, which prevents the blood from flowing freely. Or it may have its origin in old adhesions about an inflamed or cystic ovary, which prevent the ovary from expanding during the catamenial congestion. But there is also the genuine neuralgia

dysmenorrhœa, and in it the nervous system plays a great rôle. Neuralgias in other parts of the body will sometimes help in making a differential diagnosis in this class of case. Until the establishment of the menstrual flow in these patients, they often present the picture of grave illness, with symptoms of great pain, pallor, photophobia, coldness of the extremities, and syncope. All these vanish sometimes, as if by magic, with the expulsion of a clot of blood and the regulation of the flow.

Metritis and endometritis are painful in the acute stages. Later, there is more discomfort than pain, but in the endometritis dolorosa of Sneguireff, the pain is often intense, especially on palpation of the fundus or when it is touched internally with the sound. We generally find a sense of weight in the back, in the limbs, and often in the groin. Pain in the left iliac region and coccygeal pain are not uncommon in metritis and the severer forms of endometritis.

Turning now to the displacements, we find, again, discomfort rather than pain complained of. If the uterus is retroverted, the rectum gives the symptoms and there is a complaint of pain in the back; if it lies too far forward, the bladder seems to be the main seat of complaint. If it is prolapsed, a feeling of emptiness in the abdomen is described.

In cervical stenosis, we are told of an intermittent pain during the menses or at the beginning of the flow, when the blood is making an effort to escape. When the cervix is lacerated, neuralgias, sometimes of great intensity, afflict the patient, and the lacerated area is extremely sensitive to touch, while pain in the back is complained of.

Tumors offer the greatest variety of pain, depending upon their nature and their size. Fibromata are sometimes painful during uterine contraction or during the menses when the tumor is distended by the congestion usual at this time. In general, however, they give symptoms of pain only by the compression they exert upon neighboring organs or tissues. Irritability of the bladder and constipation are common symptoms of these growths and, indeed, when they pack the pelvic cavity, the nerve trunks, too, are affected by the pressure and we may have a mass of painful symptoms described as of varying degree and character. As is well known, carcinomata are especially painful in their terminal stages when they begin to make inroads upon the perimetritic tissues and neighboring organs.

Parametritis gives rise to sharp, diffuse pains, like the pain of peritonitis, and appears to be less painful than perimetritis; but there is a great individual difference in this respect. It is similar to the pain caused by a hæmatocele, which is very acute at first by reason of its sudden development. This pain is

often accompanied by intense vesical tenesmus due to the compression made by the transudate.

The vagina is the seat of pain at times. It is so in atresia when the accumulation of menstrual blood gives symptoms of distention. It is painful in cases of vaginitis, especially of the gonorrhœal variety, and more particularly in cases of Bartholinitis. Itching and burning, sensitiveness on pressure, or a dull pain which is increased by walking or sitting are the principal painful signs of vaginitis.

The ovarian and tubal affections are eminently painful ones. Acute oophoritis and salpingitis occupy easily the first place. As for salpingitis, there may be at the site of the lesion a dull, burning, or aching sensation, which may be transformed into pain only when the patient is active or is performing her normal functions or is being examined. Sharp colicky pains may be assigned to the tubal regions, especially in what Schauta calls salpingitis isthmica nodosa. Sudden intense pain may point to an extension of the process. The fact must be borne in mind that in cases of salpingitis most of the local pain is due to mechanical causes from the distended tube. The pulling, pressing, or dragging on neighboring tissues, and the multiple reflex symptoms already referred to, easily account for the intensity of the pain.

In cases of hydrosalpinx, the pain is dependent upon the degree of inflammation and the involvement of peritonæum.

Acute oophoritis evokes sharp shooting pains, and being usually combined with inflammation of the tube, gives painful symptoms referred to that organ. Its sudden development, its usual unilateral involvement in puerperal infection, its radiation in the pelvis and toward the sciatic nerve, the accompanying uterine colic and rectal and vesical tenesmus, render acute oophoritis recognizable often by its pain alone. Chronic inflammation of the ovary is distinguished, according to Hart, by a point of sympathetic pain in the left breast, although Martin asserts that chronic oophoritis is not marked by any characteristic pain. In acute oophoritis, however, pain in the breast on the same side of the body is often seen, and occasionally the leg on the affected side may be drawn up.

As for ovarian neoplasms, they do not offer any characteristic evidences of pain. They all usually give rise to discomfort, and, if pain is experienced, it is due to pressure from the weight and tension exercised by the developing tumor. It is otherwise, however, when adhesions form about the growth, which, by their dragging, pulling, and tugging, evoke sometimes excruciating pain. Attacks of peritonitis from time to time also give rise to considerable pain. Nor must torsion of the pedicle of ovarian tumors be overlooked. The normal torsion, as Martin puts it, becomes suddenly exaggerated. Intense

abdominal pain, with signs of peritoneal irritation, radiating pains toward the hips and thighs, the obstinate constipation and great tenesmus, the increase of pain at the digestive periods, the occasional diarrhoeal attacks or seizures of frightful intestinal colic, vomiting, and vesical disturbances, are very characteristic.

A prolapsed ovary gives rise to pain, as a rule, when it is low down in the pouch of Douglas, so that the act of defecation irritates it; or when it is touched by the examining finger or in coitus. Sometimes it becomes painful in the changes of season from warm to cold. The pain is usually that given by a normal ovary when it is pressed or squeezed, a dull, heavy pain, often accompanied by nausea.

A tubal pregnancy has some characteristic painful features to which it may be well to refer. There are, first of all, the uterine cramps which accompany the expulsion of the false decidua; these are not unlike the uterine colic of other origin. We have, next, the pain of the distended or distending tube, and the sometimes agonizing pain, as it is described, of the attacks of pelvic peritonitis which develop about the tube. Then we see, too, the disturbed bladder function, the feeling of heaviness in the pelvis as the patient walks about, *especially when she descends the stairs*, and finally the acute pain of a tubal rupture or abortion.

Tuberculous peritonitis, too, has characteristics which mark it apart from other gynaecological affections. Its pain may be referred to the lower part of the abdomen, to the lumbar region, or to the pelvic organs, most frequently to the latter when they also are involved in the process. It may evoke simply an ache or a soreness or it may give rise to acutest suffering, causing the patient to remain abed. Neither pressure on the abdomen nor the erect position is comfortable, and painful urination is a common symptom. The abdominal pain is usually subject to menstrual exacerbations. This syndrome of pain is not the same in any other pelvic disease.

The present length of this paper forbids the discussion of other gynaecological diseases or of the renal and vesical diseases, all of which have some or a few characteristic forms of pain. I have enumerated a sufficient number, however, to make it clear, I think, that many of them are characterized by pain of peculiar type or of a type common to certain groups. These phenomena are, therefore, of some aid in reaching diagnostic conclusions, although they are, of course, subject to modification under varying clinical conditions and under the influence of the patient's mind. They possess, nevertheless, such characteristics that the gynaecologist is bound to respect his patient's history of pain. The examining finger is, after all, the great diagnostic pathfinder, and its eye must never be blinded by real or feigned

pain. Yet this must always be of some value in forming an ultimate judgment, since clinical entities are established by the data of large numbers of cases.

136 WEST EIGHTY-FIFTH STREET.

THE TREATMENT OF YELLOW FEVER.

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In the absence of more definite knowledge concerning the exact cause of yellow fever, we may properly omit discussion of its aetiology. While my own observations of the disease in localities where it is endemic, together with laboratory investigation, have led me to believe that it is intimately related—as to cause—to malarial fevers, I, nevertheless, unhesitatingly admit ignorance of the exact nature of the direct exciting cause.

Determination of the exact nature and origin of the disease is certainly a *desideratum*, for it is reasonable to suppose that this knowledge will greatly aid us in preventing the occurrence and spread of the disease—even possibly directing the way to specific treatment.

Yellow fever is certainly a scourge, and justly feared both in those places where it is endemic and in such localities as it may reach through importation. The average mortality is high, although the percentages of deaths frequently vary widely in different epidemics. It is doubtless true, however, that of those who succumb to yellow fever a rather large proportion die for want of proper care—or, in other words, that a fair percentage of the cases of yellow fever that have been fatal were curable. The same is true to a greater or lesser extent of all infectious diseases that claim the majority of their victims during special outbreaks, when local conditions are particularly unfavorable, when there is not at hand a sufficient force of qualified attendants to give due attention to individual needs, and when proper accommodations for the sick are usually inadequate.

While I cannot offer any *specific* treatment for yellow fever, I have no hesitation in asserting that in this disease, even more than in others, the chances of recovery depend largely upon the early institution of treatment and the attention and intelligent care bestowed upon each given case. "Kid glove" methods of treatment can do no good, and if a choice were necessary between the mere administration of drugs and the benefits to be derived from common sense (or, better still, experienced) nursing, the latter certainly has the advantage.

To successfully combat yellow fever, action should be prompt, must often be heroic, and *must always be hand to hand*. Hence it is that the native physicians of the tropics are usually more successful in the treatment of this disease than their more highly educated—and often more talented—foreign brethren. Immune, and without personal fear of the disease; not overloaded with modern pills and complicated pharmaceuticals, but drawing largely direct from natural supplies; retaining more or less of those ancestral customs which, even if savoring somewhat of superstition, assure the sick of constant care and attention, they attack the malady with a zeal that not infrequently wins the fight.

The early recognition of yellow fever, then, is of practical importance in the treatment and, moreover, is not usually difficult—especially when the disease is known to exist in a given locality, for in this event all cases of illness occurring in that section or appearing among persons arriving from such a place must be regarded with suspicion, and all doubts as to diagnosis promptly cleared away.

Through the early recognition of the disease and promptness in treatment, many cases may be controlled during the initial stage and the attack, if not actually aborted, at least materially modified in severity. But at no stage in the course of the disease ought there to be the slightest relaxation of effort and attention, as many apparently hopeless cases end in recovery, while others which appear to be mild and under control prove rapidly fatal.

Clinicians usually divide yellow fever into three definite stages: 1st. Stage of invasion or primary fever; 2nd, stage of remission; 3d, stage of collapse or secondary fever—a division at once practical and in accord with usual manifestations. It is in the first or initial stage of the disease that treatment may accomplish the important result of aborting, or at least materially modifying, the course of the disease. Action, however, must be prompt and direct. The initial stage may be only of a few hours' duration. One must not wait for the "black vomit" to appear in order to act. Even upon reasonable suspicion of the inception of yellow fever the peripheral capillaries should be relaxed, the portal circulation quickened, and the emunctories stimulated. To this end, the patient should be wrapped in a blanket, or blankets, and hot drinks (hot lemonade, hot water with a small quantity of brandy or whiskey added, or hot herb tea) freely administered. The feet, meantime, should be soaked in hot water. Following the active diaphoresis thus produced, an active cathartic should be given, and the patient kept warm and moist, but not unduly weakened by long-continued drenching. If at hand, the following, or similar mixture which will act without depressing, should be employed during the first twenty-four hours—or during the con-

tinuance of the primary fever—to maintain peripheral relaxation and, through equalization of the circulation and the lowering of arterial pressure, to prevent or overcome congestion:

R Tinct. aconiti rad m. v;
Spir. atheris nitrosi. ℥iij;
Liquoris ammonii acetatis, q. s. ad. ℥iij.

M. Sig:—℥ij, in a little water, every hour or two.

Diaphoresis may also be induced by the "sweat-box method" of pouring water upon heated stones, placed with the patient in a confined area. This plan is particularly useful in cases where vomiting and nausea have already occurred.

If, within twenty-four hours after instituting the treatment just outlined, the initial fever has not subsided, acetanilide and quinine should be given—five grains of acetanilide with two or three grains of quinine every three hours. For maintaining action of the emunctories and guarding the stomach, administering, night and morning, one or two pills each containing salol, gr. i; resin of podophyllum, gr. 1/5; extract of jaborandi, gr. 1/2; compound extract of colocynth, gr. i, will be found of service. Small quantities of nitromuriatic acid (dilute) may fitly be added to the drinking water allowed the patient, as it seems to benefit both the digestive tract and the kidneys. Even more to be feared than the typical black vomit is suppression of the urine—or even marked albuminuria—and every means for guarding the action of the kidneys must be carefully considered. For this reason opiates are practically always contraindicated. Nervous manifestations are to be treated with bromides, with cold and cooling applications to the head, heat to the extremities, etc.

When manifest remission occurs, following the initial fever, the antipyretics may be discontinued, but the quinine, "liver and kidney pill," and mineral acid should be continued. When depression and general debility are manifest elements in the condition, strychnine should be added to the treatment—a good plan being to make up capsules containing three grains of quinine with 1/60 grain of strychnine, which may be swallowed with water to which eight or ten drops of dilute nitromuriatic acid have been added. In advanced stages of the disease strychnine should be administered hypodermically.

Only liquid food, and that sparingly, is to be allowed throughout. Nausea and vomiting are often troublesome, even early in the malady, and are to be treated by allowing very little to enter the stomach and by counterirritation, as with mustard pastes or even blisters—over the gastric region. Many drugs have been recommended to allay the vomiting, but most of them, when employed, are often found wanting. After all, the vomiting is but a symptom, depending largely upon the engorgement through the branches of the celiac axis, and calls for remote.

as well as direct, treatment. Ice, when available, is very useful, both for quenching thirst, in lieu of water, and for the application of cold to the head. Milk, with lime water, or, better still, with hydrate of magnesium added, is serviceable as a nutrient, while various meat broths are also allowable. Champagne is recommended as useful in allaying vomiting, while hydrate of magnesium (fluid) is certainly of value.

The third stage of the disease, which usually follows the stage of remission in from twelve to twenty-four hours, may vary considerably in its manifestations. The gravest form presents great prostration and debility, tending to collapse, while with other cases, as in those in which the course of the disease has been modified by active treatment at the very outset, a form of secondary fever sets in—tending, on the one hand, to convalescence; or, on the other, assuming a typhoid type, evincing extreme poisoning of the system and often ending fatally.

In the milder form of secondary fever the treatment should be continued along the lines already laid down, and should not be suspended until convalescence is well established. In the severer forms, the prostration and debility, the stagnation of the poisoned blood, the inactivity of the excretory apparatus, and capillary and visceral engorgement, point out the indications for treatment. Strychnine, nitroglycerin, and digitalis by the mouth or by hypodermic injection; alcoholic stimulants, judiciously administered; free sponging of the entire surface of the body with cold water—or even wet packing and douching; and methods for stimulating the emunctories. Copious enemata of warm water are here of service and should be freely administered. Not only the rectum but also the colon should be flushed and an effort made to have more or less water remain in the intestines. A small quantity of common salt, added to these retained enemata, seems to be beneficial—possibly aiding osmosis—the idea being to dilute and purify the heavy, poisoned blood. These enemata are useful in augmenting the action of the kidneys—a most important feature, since, as already stated, suppression of urine is perhaps to be most dreaded of all the tendencies of the disease—being promptly followed by collapse and death.

Secondary fever of the “low,” or typhoid, type is frequently fatal. Careful stimulation and hydrotherapeutic measures are most beneficial. Apparently hopeless cases have ended in recovery after the liberal application of cold water to the entire surface of the body. Indications for the administration of drugs are similar to those in idiopathic typhoid fever.

A word, in conclusion, concerning the preventive measures to be employed in relation to yellow fever. Just how the disease is spread has not yet been definitely shown. There is no satisfactory evidence

to prove that the disease is contracted by the use of contaminated water, as in cholera and typhoid; while it does appear that the atmosphere may act as a carrier of the infectious agent and that the disease may be transmitted by mosquitoes. It certainly can be carried by fomites. The most frequent agency in the dissemination of the disease from place to place is through persons suffering from the disease, and although we do not know exactly how they act as carriers, a thorough system of disinfection, together with rigid quarantine of all stricken and suspected persons, is the most available safeguard against the importation of the disease.

The excreta of yellow fever patients should be promptly disinfected with milk of lime or with standard solution of chlorinated lime. All soiled articles should be either burned or disinfected by boiling for half an hour or by submersion in bichloride solution. Prompt removal and immediate burial or cremation of the dead from the disease are also important.

26 WASHINGTON AVENUE.

Correspondence.

LETTER FROM BRUSSELS.

*The Second International Conference for the Prophylaxis of Syphilis and Venereal Diseases,
Held in Brussels, September 1,
2, 3, 4, 5, and 6, 1902.*

BRUSSELS, September 7, 1902.

With a rather extensive and carefully arranged programme, the Second International Congress for the Prophylaxis of Syphilis and Venereal Diseases was opened at the Palais des Académies by the Honorary President, Baron van der Bruggen, Minister of Agriculture and Hygiene. Everything possible had been arranged for the comfort and pleasure of the delegates, the sessions were not too long—from two to two and a half hours' duration, both morning and afternoon—and each evening was occupied by some entertainment, among which were two official receptions by the Belgian government, one by the Prime Minister, and one by Baron van der Bruggen. Too much credit cannot be given Dr. Dubois-Havenith, the general secretary, for his arduous and indefatigable labors in connection with both the conference of 1899 and that of this year, as to him is due in very large proportion the success attained. The Prime Minister, Jules le Jeune, was appointed chairman, having occupied the same position at the conference held in Brussels in 1899. In a few carefully chosen words he extolled the openness and freedom with which the subject was approached at the former meeting, and called attention

to the fact that, besides the delegates appointed by the medical profession at large, many of the foreign governments were also represented (the United States by Medical Inspector E. Z. Derr, of the Navy, and Lieutenant-Col. Valéry Havard, for the Department of War at Washington).

The session having been declared opened and the thanks of the chief delegates for the reception accorded by Belgium to the Congress having been expressed, Dr. Dubois-Havenith, general secretary, announced that thirty-six different countries had sent delegates.

The leading parts in the proceedings had been assigned to those best qualified to give authoritative opinions upon the subject presented, the majority of the papers having been printed and revised before the assembling of the conference, when they were distributed to each member, in most cases, however, merely the synopsis of the papers, occupying about ten minutes, being read or discussed, the general committee having reserved the right to determine which papers should be read, which should be merely printed in the official reports, and which should be rejected, *i. e.*, those *not* pertaining to the subjects in question. In order to properly comprehend the position of the present discussions, it will be necessary to refer to the programme of the last conference (1899). The objects of that meeting were:

1. To determine, by reports of leading specialists, the dangers to society of: Syphilis and gonorrhœa, the part which prostitution plays in the propagation of these diseases, and other modes of dissemination apart from prostitution.

2. To determine the condition of prostitution, the frequency of venereal diseases, the prophylactic measures taken to diminish them, the laws as regards prostitutes, the police or medical supervision, the opportunities for hospital treatment and supervision, and the state of medical instruction regarding them.

3. To consider these questions:

- a. Have those systems of official regulation which have been in force had any influence in the determination of venereal diseases?
- b. How can medical supervision of prostitutes be made more effective?
- c. Can houses of prostitution be tolerated with advantage (from a medical standpoint), or should they be suppressed?
- d. How can police supervision of prostitution be improved?
- e. By what measures (legal) can the numbers of prostitutes be diminished?
- f. What general measures can be taken to effectively combat the spread of syphilis and venereal diseases?

Although some success as regards the lessening of disease by legislative measures was evident, yet most

of the questions still remained unanswered. The statistics presented at the first congress evidenced such a great absence of uniformity that a chart of procedure in the various countries was prepared.

Besides these, other points, not less important, were also discussed:

1. That municipal control of prostitution has not been a complete success.
2. That prostitution of minors is the most dangerous of all forms.
3. That medical instruction in venereal diseases should be more thorough and practical.
5. That statistics of venereal diseases should be made on a uniform basis for all countries.

From the knowledge gained by the discussion of these questions at the first congress, the permanent committee drew up these propositions for the present meeting:

I. PUBLIC PROPHYLAXIS:—A. What legislative measures should be taken against venereal diseases, especially as to

1. *Prostitution*: (a) of minors; (b) control of public peace and morality; (c) procurers?

2. *Apart from prostitution*: (a) for the protection of minors of both sexes; (b) for the organization of gratuitous medical treatment by public hospitals and mutual aid societies; (c) for control of wet nurses, infection by midwives and nurses, infection by vaccination from arm to arm, infection through implements in the industrial arts, protection of servants in employment bureaus, hotels, and lodging houses?

B. Should transmission of venereal diseases be made a penal offense?

II. PERSONAL PROPHYLAXIS:—If it is the function of the State to enact measures for the protection of society, it is the duty of the healthy individual to avoid all contact with a diseased person, and even more so the duty of the diseased person to do everything possible to prevent the infection of others. Hence,

1. By what means may youth and the public at large be made to better understand the personal and social dangers of syphilis and gonorrhœa and the modes of direct and indirect infection from these diseases?
2. How can free medical service in hospitals, clinics, etc., further individual prophylaxis?

I. *Public Prophylaxis* (*i. e.*, legal control of prostitution):—Professor Neisser (Breslau) proposed to divide the question of public prophylaxis into its moral, legal, and medical aspects, and asked that the conclusions be formulated and given the public as an official statement. This was deemed inexpedient, on

a proposal by Dr. Bertavelli (Milan) to leave, as at the first conference, all questions of this nature to the committee, with a vote of confidence.

Professor C. Boeck (Christiania) explained the system in vogue in Norway, and recommended or insisted upon the powers there given the "guardians of the young," who in every district, or commune, supervise and look after the means of protecting minors, and regretted that the age limit in Norway for instruction was sixteen and not eighteen years.

Mrs. Sarah Sheldon Amos (London) "insisted" upon the necessity of putting an end to the propagation of immorality among minors, and said that the "abolitionist school" had done much for the cause of morality. She mentioned that the English government had shown that during the South African war women had never been violated.

Dr. Gailleton (France) regarded regulation as illusory.

Dr. Petrini (Roumania) thought it necessary to reach those who seduced young girls and those who led boys astray.

Mrs. Drysdale (England) regarded as favorable the effects of liberality in dealing practically with the questions.

It soon became evident that there were two distinct groups of thinkers—the "abolitionists" and the "regulators," or those who believed in a total abolition of the so-called evil ("reformers"), and those who believed in "regulating" vice. Both, however, agreed that the laws existing at present in the different countries were, at least, defective.

Monsieur Ins Guyot (France) said that the abolitionists, although much deceived, had, at any rate, one merit; they had certainly brought the question into prominence and through them it had become the subject of much thought and study.

Professor Neisser (Breslau) offered the following resolutions:

That: The Second International Congress for the Prophylaxis of Syphilis and Venereal Diseases is in favor of the following proposals, which shall be forwarded to the different governments:

I.—In the efforts which are taken to prevent the spread of venereal disease, the State should not rest contented with adopting measures for the restriction of prostitution, but should also take advantage of the many opportunities which are offered for contending against the spreading of venereal diseases.

II.—The most important and the most efficient means of preventing the diffusion of venereal disease is by familiarizing the public with the dangers and the importance of these maladies. Above all, young men should be instructed not only that chastity and continence are not detrimental, but that these attributes are desirable from the medical point of view.

III.—All measures adopted by the authorities with

the object of preventing venereal disease and of contending with the melancholy consequences of prostitution should be sanctioned by law. The principles of these laws should be as follows: The administration of the law should be relegated to the parochial or municipal authorities of each district.

IV.—A. The law should guarantee to every one suffering from venereal disease gratuitous hospital treatment, and should in no case demand from parents, from tutors, or from fellow citizens of the patient any reimbursement for the expense of hospital treatment. The State should defray the expenses of this gratuitous treatment, except where charitable societies exist for paying the expenses of such illness.

B. In every town, important community, or district, hospitals should be erected—ultimately supported by State aid—where the gratuitous treatment of venereal disease and dispensing of medicine should be carried out.

C. Care must be taken that all arrangements prejudicial to the treatment of venereal disease at hospitals should be abolished. It is better to place these cases under the department of dermatosyphilography in general hospitals than to establish special hospitals; the nature of the disease should not be revealed to other patients, and the feelings of the sufferers should be respected.

V.—The following special measures should be adopted:

A. A Sanitary Commission should be appointed which should be the central administrative machine which should take all the necessary steps to ensure the treatment of venereal patients and the prophylaxis of those diseases.

B. Compulsory medical notification should be introduced in a twofold form:

1. As regards the sanitary commission:

(a) The composition of this commission. Like a legal tribunal, it should consist of judges and jurors. These should be selected mainly from those whose studies and professional and administrative capacity give them a special insight into the subject of venereal disease and of prostitution: doctors, clergymen, and public officials.

(b) The programme of this commission:

Statistics should be kept of all the patients who are notified (by name or otherwise). A sanitary supervision should be exercised over all the subjects of venereal disease who are notified by the doctors or the police as being dangerous to the public health. This supervision should be carried out in the following manner:

1. The gravity of venereal disease and the necessity of continence should be impressed upon the patient, and in the event of the instructions being disregarded, the police should make a legal complaint.

2. The patients should be subjected to medical treatment, and when they are so subjected, they should either consult at their own expense a doctor nominated by the commission or should be treated gratuitously at some public institution set on foot for the purpose. At the same time a card should be given to those individuals brought up before the sanitary commission, which should make it certain that the patient was submitting himself with regularity to the treatment ordained.

3. The police should be informed of those patients who neglected to follow out the treatment prescribed, in which case a judicial complaint should be lodged against the offender for his neglect. Sanitary supervision should be kept absolutely separate from police supervision, and the "police des mœurs" should be abolished. The compulsory medical notification should be made under a double form. 1. Without any indication of name, but in a manner sufficiently clear to avoid notifying the same patient twice. The doctors should declare to the commission, under this form, all the cases of venereal disease under their care. They should indicate: *a.* The christian name, the initial of the name, the month and year of birth. *b.* The exact diagnosis. *c.* The date of infection. *d.* The source of the infection. This declaration is most important, since it will determine the amount of venereal disease existing. Ultimately this compulsory declaration might be replaced by a legal exactment which should compel the doctors to render a statement at certain intervals. The indication of the source of infection would render it possible to discover clandestine prostitutes and also those men who have sexual intercourse despite their disease. One condition should be attached to this regulation; the patient must be given a guarantee that the person he denounces as having been the source of his infection should not be punished or rendered liable to damages.

2. The doctor shall indicate the name of the patient when he has reason to think that the latter is continuing to have sexual intercourse and is not observing the sanitary measures recommended him. The police should also have the right to signify to the commission those persons suspected of prostitution, but the commission alone can decide on the measures to be taken in respect of such persons.

C. A law should be passed forbidding anyone not in possession of a medical qualification from treating cases of venereal disease, under a severe penalty. Persons knowing themselves to be suffering from venereal disease, who continue to have sexual intercourse, commit an offense even if contagion does not result.

VI.—It is necessary to give every medical man in his educational career adequate instruction in venereal diseases, and possibly a new diploma might be

instituted for those who wish to specialize in the subject.

VII.—Prostitution in itself should not be considered as a misdemeanor; it should only be punished where the State or society is injured through the misconduct of the prostitute.

VIII.—The State has the right to deal with existing prostitution by measures specially directed against the dangers caused thereby; further, it has a duty to perform in preventing the spread of prostitution by reforms adopted for the protection of the community.

IX.—When anyone (man or woman) is repeatedly warned of the necessity of obeying the regulations indispensable from the sanitary point of view, if such person constantly disregards such warnings, or if a professional prostitute continually neglects to conform to regulations, if she causes a scandal in the street or if she provokes a disturbance, they should, on the complaint of the police, be condemned to detention of long duration, and in the event of the continuance of their misconduct should be placed under the supervision of the police. The system of short detention should be abandoned. Prostitutes of incorrigibly bad character, who continue to practise their vocation in spite of their incurable condition, should be confined either permanently or for a definite period in asylums or houses of correction.

X.—Prostitutes placed under the supervision of the police should be subservient to the instructions of that body as regards their domicile and the practice of their profession. The sanitary supervision of these women should be entrusted to the sanitary commission.

(a) The practice of prostitution should be prohibited in houses where children are living or where any other lodger raises an objection, and the landlords are responsible for the enforcement of this regulation.

(b) In order to render the practice of prostitution possible, while at the same time depriving it as far as possible of its publicity, certain houses of resort should be sanctioned.

(c) The supervision of the streets, a matter which is left to the police, should aim at restricting the public practice of prostitution. Minors who are prostitutes, or are suspected of prostitution, or who are the subjects of disease should not be left to their own devices; they should be admonished but not punished; some law analogous to the Prussian law of July 2, 1900, should be adopted to ensure their compulsory education (girls so diseased should be submitted at the same time to treatment and to education, which treatment could be renewed either in hospital or outside). Compulsory education of children who run the risk of moral degradation should be enforced (see Prussian law, July 2, 1900). Be-

sides these measures, other steps should be taken for the prevention of prostitution:

1. Those minors who are placed under restriction should be detained in special educational establishments, and not in prisons or houses of correction.

2. The evils resulting from the overcrowding of rooms where children sleep should be mitigated.

3. Children from fourteen to eighteen years of age should be subjected to the same educational course as adults.

But if for some reason compulsory education cannot be enforced, or if a young prostitute defies all efforts for the amelioration of her position, she should be treated in the same way as the older prostitute. There is no necessity for any difference in her treatment, considering that she is pursuing a course dangerous to the public safety and welfare; *for young prostitutes are the most dangerous from the sanitary point of view.*

Dr. Le Pileur (delegate of the Ministry of the Interior, France) thought that the question of cause and effect had been sufficiently elucidated in 1899, that it was proper to go ahead with the question of minors, *i. e.*, the means of suppression of prostitution among minors, which prostitution should be made as difficult as possible.

He advocated obligatory education.

Dr. Verchère (surgeon to the Saint-Lazare, Paris) did not despair of correcting the conditions to be met with on the sidewalks. The example of the London streets seemed to him decisively against the ideas of the abolitionists. He did not believe in voluntary prophylaxis, but, on the contrary, supported all measures destined to educate the public—men, women, and children—upon the dangers of disease. He admitted that no one had the right to keep in confinement females who had become infected, but when they were under hospital treatment it was the duty of the medical men in charge to keep them until cured (which class was but too prone to leave while still under treatment), and as to minors, the physician should have the right to keep them in confinement. He did not believe in moral elevation of girls, in whom the mental condition was so often congenital, but attached more importance to the curing of the disease, and advocated the division of hospitals, or homes, for this purpose, into two sections: The one for those patients, who applied for treatment of their own accord, the other for the reception of dangerous cases, *i. e.*, those brought for treatment, to be detained until cured.

Dr. Blaschko (Berlin) thought the great difficulty was, to find out those who were infected. In mentioning the different classes, he asked what was to be done with those not yet completely cured and, by way of exception, advised obligatory consultation (treatment). Regulation was not, as usually

thought, a question of hygiene, but a question of politics. Regulation of morals and customs was an instrument of autocracy, and, excepting in democratic countries, the efforts of the abolitionists would result in nothing. (The speaker evidently was not acquainted with the conditions existing in the United States, and unconsciously paid our metropolitan police system an unwarranted compliment.) He thought the abolitionists might much better exert their efforts toward curing the unfortunate.

Professor Lassar (Berlin) would be less severe upon prostitutes than upon those who prostituted them. (Applause.) He wished that not only the man, but also the "intermediary" could be held responsible, and admitted that he favored "authorized establishments."

Mme. Bieber-Boehm (Berlin), in giving her ideas upon the protection of minors, advised as a primary condition the legal prohibition of the pernicious trade, which Dr. Lassar seemed to tolerate.

Dr. Merck (Gratz, Austria) spoke from a purely medical standpoint, and thought the evil was not entirely a sexual one, advising that every physician should be obliged to report his cases at a "bureau of hygiene," without distinction of disease. He considered that some diseases were sexual, but that none might be called diseases of shame.

Professor Landouzy (faculty of Paris) said that the status quo should be condemned, as the present laws were superannuated and the results were poor, notably in France, where they only touched professionals, who were but a small proportion of the whole. The State or government should only take cognizance of: 1. contamination, and, 2., prophylaxis; and as soon as contamination was evident, it should be the duty of the State to prevent contagion, exactly as it would be with typhus or cholera. There should be a common law for all contagions, a common law against the agent of contamination, and civil law for the one contaminated—common law as regarded all responsibilities involved, moral, penal, and monetary. The speaker explained his conclusions, drawn up in accord with Dr. Grancher, of Paris, Dr. Queyrat, of the Cochin-Ricord Hospital, the principles of which were that: "The system of control, such as it actually is, having been shown to be completely inefficacious, is condemned, and it is time to resort to the common law."

Dr. Santoliquido (Inspector General of Public Health, Rome, Italy), in order to reconcile the "abolitionists" and "regulators," proposed to substitute sanitary for the administrative authority.

M. Rethaan Macaré (Advocate General of the High Court of Holland) explained the system soon to become active in Holland, under three laws recently passed, which three laws have had but one end in view, namely, the protection of youth and the hold-

ing out of morality toward minors. Two other laws, already in force, had reorganized the sanitary supervision, even of private houses, as soon as they menaced the public health. He thought that medical men should be relieved (protected by law) as regarded professional secrecy as soon as a crime was discovered, and that they should be allowed to speak out. (Loud protestations.)

M. Beco (vice-president), responding to Dr. Santoliquido, considered that the present regulation was universally condemned. He admitted that there had been a radical revolution in this respect since 1887.

JOHN VAN DER POEL, M. D.,

Delegate from the American Association of Genito-urinary Surgeons.

Therapeutical Notes.

A New Tæniæfuge.—The *Arte Medica* for August 24th cites the following from the *Giornale di farmacia, di chimica e di scienze affini*, 1902, as a "certain and innocuous tæniæfuge for adults":

R Black copper oxide.....6 grammes (90 grains);
Calcium carbonate.....2 grammes (30 grains);
Levigated white bole.....12 grammes (180 grains);
Glycerin.....q. s.

M. ft. pil. cxx. Two pills to be taken four times daily, avoiding acid foods. On the last day a dose of castor oil should be taken.

For Eczema due to Intestinal Intoxication.—Dr. Nelken (*Proceedings of the Orleans Parish Medical Society*, July 1, 1902) in a paper read before the society reported the case of a three-year-old boy, whose "face was one large sore, swollen and covered with scabs of dried blood." There were also patches on both elbows and knees. He had been subjected to various methods of treatment, internal and external. Dr. Nelken, considering the condition dependent on intestinal poisoning pursued the following course:

R Calomel.....1 grain;
Salol.....20 grains;
Guaiaacol carbonate.....15 grains;
Lactopeptine.....30 grains.

M. ft. pulv. no. xii. One powder to be taken three times daily.

A restricted diet was ordered, greasy foods and sweets, as well as fruits and pastry in any form being forbidden. Locally, the following ointment was applied morning and night with gentle massage:

R Tar water.....1 drachm;
Ointment of rose water.....1 ounce;
Zinc ointment to.....2 ounces.

M.

Washing with plain water was forbidden, but twice a week water to which sufficient bran had been added to make it milky was used to wash with, the face being cleaned every day with a cloth saturated with olive oil.

Improvement soon became rapid. The bowels acted regularly. His general condition improved,

and at the time of the report the child's skin had been perfectly clean for three months.

Lassar's Paste to Protect the Skin against Moist Dressings.—The *Journal de médecine interne* for August 1st states that in order to protect the sound skin around an inflamed or infected surface from the maceration caused by moist dressings, M. Leredde protects the sound parts by the application of Lassar's paste, the formula of which is:

R Starch.....)
Zinc oxide.....)equal parts
Vaseline.....)
Lanolin.....)

The Treatment of Gout.—Dr. J. W. Springthorpe (*Australasian Medical Gazette*, July 21st), in an article on the Proteid Basis of Gout, bases treatment on the following general considerations:

(a) A restriction in the amount of proteid in the food is at once suggested. But in practice we must bear in mind the fact that vegetable proteid is less easily assimilable than animal, and that the inter-relations of the other hepatic functions have to be considered. Hence, discretion is always necessary. During an actual attack meat may, no doubt, be entirely cut off; but, in the intervals, as shown by many cases of chronic gout, cholelithiasis, and phosphaturia, there may be times and patients who thrive best on a plain meat diet, just as there are others, mostly rheumatic, by the way, who have come to regard a vegetarian diet as their salvation.

(b) The value of plenty of water to flush the system, of free exercise to oxidize the proteids, of free bowels (especially in the rheumatic with the aid of chalogogues from time to time), of free skin action, even to occasional Turkish and hot salt baths, is also apparent.

(c) The importance of protection against chill by clothing and climate is equally obvious. Jäger or the like next the skin, or cellular cloth, where wool is irritant, the use of cumerbunds or cholera belts, and avoidance of variable and damp climates, are thus indicated.

(d) So, too, the frequent use of alkalies, or, as in phosphaturia, the occasional use of acids is justified theoretically as well as practically.

(e) The advisability of taking as little alcohol as possible requires no further comment.

A Powder for Truncsek's Serum.—Dr. Leopold Levi, according to the *Therapeutic Gazette* for August 15th, has formulated the following powder to be taken internally as a substitute for Truncsek's serum administered either subcutaneously or in enemata, in cases where the latter is indicated, more especially in certain diseases caused by arthritis:

R Sodium chloride.....10 grammes (2½ drachms);
Sodium sulphate.....1 gramme (15 grains);
Calcium phosphate.....) of each 0.75 grammes
Magnesium phosphate.....) (12 grains);
Sodium carbonate.....0.40 grammes (6 grains);
Sodium phosphate.....0.30 grammes (5 grains);

M. Divide into 13 capsules, each containing about one gramme (15 grains). One or two are to be taken daily, though sometimes it is well to give only ½ a gramme (about 7 grains).

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THE "REGIONAL FACTOR" IN THE ÆTIOLOGY OF MALARIAL DISEASE.

The tracing of malarial infection to the agency of certain species of anopheles has, of course, not settled every problem connected with the ætiology of the disease. Much more investigation is requisite. Valuable contributions to such further research have recently been made by Dr. J. W. W. Stephens and Mr. S. R. Christophers (*Royal Society, Reports to the Malaria Committee*, seventh series, London, 1902), who conducted their studies in India. They find, in a general way, that the small, dark-colored mosquitoes, without bands on the legs, constitute the group of species most concerned in the conveyance of malarial disease in India, especially *Anopheles culicifacies*.

Among the specific conclusions at which they have arrived are as follows: That, other things being equal, there is a direct relation between the extent and proximity of breeding grounds, the number of anopheles in the houses, and the endemic index; that where breeding grounds are half a mile distant and have not recently existed closer, malaria is reduced to a minimum and anopheles are not to be found in the houses; that the flight of anopheles in Nagpur, Central Provinces, is frequently a quarter of a mile, but does not extend to half a mile; that the relation between the number of anopheles and endemic malaria is greatly modified according to the species of anopheles present; that areas of extremely high endemic index are found sharply separated from areas of low endemicity; and that the distribution of endemic malaria depends on the character of the district concerned (the "regional factor") even more than on local conditions in regard to breeding places.

A striking example of the problem presented by

the "regional factor" was found in two neighboring villages of Salur, in Madras, where *Anopheles culicifacies* occurs in profusion and its larvæ swarm in breeding places situated only fifty and a hundred yards away respectively, but without a single instance of malarial infection. The authors say that "the possibility of infection from a neighboring area of high infection is a constant one, yet there is no malaria there." "Further observations of similar instances," they add, "are necessary before any explanation can be satisfactory."

In struggling with a problem, a distinct gain is made when the nature of a difficulty is pointed out, and perhaps the phrase "regional factor" may prove a sufficient guide to future investigations that shall clear up the mystery it has been coined to designate. Let us hope that it will not take so long a time to clear it up as it formerly took to do away with the "genius epidemicus."

WATER IN ORGANIC COMBINATION.

At the recent meeting of the American Pharmaceutical Association Professor John Uri Lloyd, of Cincinnati, presented a most ingeniously speculative paper entitled *Organized Water as a Food*. His idea is that the water contained in abundance in substances used for food plays a part much more important than that of a mere solvent of nutritive material—that, indeed, it is so combined as to be itself nutritious. Analogically, he leads up to the theory by remarking that water is an organizing structural agent in certain salts, since many inorganic crystals depend for their form and structure on water of crystallization. Crystals, he admits, are dead structures, but he might justly perhaps have alluded to the repair of damaged crystals as a process not far removed from the phenomena of life. Passing to manifestly organized material, he says: "Take, then, the jelly fish, that transparent, quivering, vitalized something, shaped after laws as uniform in action as a mathematically made creation can be. It possesses the power of voluntary action and lives upon structures seemingly much higher in life's scale; has the power of attacking the higher animals, and possesses in itself an individuality that renders it a living, moving creature. On being dried, it almost disappears, leaving a film of varnish possessed of so little solid matter as to disturb the thought of one who attempts

to argue that the water of this creature is simply water of association, devoid of any other quality than that of ordinary water." He cites also certain fungi of marvellously rapid growth and the exceedingly watery fruits and vegetables that figure so largely in our list of nutritive substances, and suggests that in them the water of combination may be something very different from pure water.

In order to make a nourishing soup, he points out, something more is necessary than the mixing of water and solid material; a good complex soup requires boiling and seasoning, which processes are productive of numerous dissociation and combination products. "The question is," he says, "Has the water that is used in the making of a soup, by the action of heat, simply dissolved certain salts and tissues, or has it combined with organic constituents in a way that will make a nourishing liquid or a series of water combinations, in which water exists, it is true, but with altered qualities?" Nitrogenous food, he adds, is a supporter of nutrition, whereas pure nitrogen is not available as a food and is not assimilable as such; so it is also with carbon and hydrogen. Each of these substances must be combined with water or by means of water before it can act as a tissue builder or as a heat producer, yet in analyses water is taken into account only as ordinary water. In the cooking of dry articles of food, he goes on to say, we not only change their structure as regards relationships of solid constituents, but add the qualities that combined water gives under conditions as yet obscure.

But it is not alone with the water susceptible of expulsion by desiccation that Professor Lloyd deals; he adds that when organic matter is perfectly dried, a considerable portion of the residue is found to be composed of the elements of water, and we have series of nutritive solids, such as sugar, starch, and glucose, which differ only in the proportion of the elements of water contained in them. He thinks the time not far distant when we shall perceive that the vitalized water of foods and the combined water of carbohydrates and fats are "the foundations of the real foods for tissues, affiliating other materials, such as nitrogen, carbon, hydrogen, necessary in their field, but subject to the dominating agent, water," and that, as organic chemistry has been defined as a study of the migrations of the carbon atom, so organic structures will be viewed as products of the

migration of the water molecule. All this does not seem to us merely fanciful, but suggestive in a direction that may lead to far greater exactness than now obtains in the estimation of nutritive values.

TRADITIONAL HOUSEHOLD REMEDIES AND THE APOTHECARY'S RESOURCES.

The recent revival of the use of goose grease in regular dermatological practice makes it of particular interest for us to learn something of the devices to which the apothecary resorts at times to enable him to furnish an acceptable substitute for some odd animal product called for by a customer. Mr. Lyman F. Kebler and Dr. George R. Pancoast, who said that for several years they had been collecting from various sources data bearing upon the matter, gave some of them at the recent meeting of the American Pharmaceutical Association. They remark that "many druggists are very loath to see an inquiring customer depart without having his wants supplied, knowing full well that some one will comply with his request by giving him something, which as a rule is not true to name."

Certain animal oils figure largely among the traditional household remedies for rheumatism, and are consequently called for now and then. Some of them ought readily to be supplied, but concerning certain others, either there is no standard process for their preparation or they are so difficult to obtain that downright substitution is resorted to. The first statement seems to be true of angle worm oil, but that fact has not deterred one Hager from counterfeiting the oil by mixing one part of oil of birch tar with twenty-five parts of rapeseed oil, or somebody else from practising a similar fraud by mixing one part of "animal oil" with nineteen parts of linseed oil. But there are several formulæ for those who honestly strive to supply angle worm oil. According to one of them, the worms are smothered in wine and digested in two parts of olive oil and then expressed. Another directs that the worms be sealed up in a bottle, the bottle enclosed in dough, and the whole baked in an oven. "The decomposition fluid thus obtained from the worms is poured off." We may add that we have known the worms to be bottled and exposed for hours to the direct rays of the sun on a hot day, and the resulting liquid treasured as a sovereign remedy for stiff joints.

Adder oil and viper oil are usually counterfeited by mixing one part of skunk oil and three parts of lard oil. Some unspecified fish oil is generally substituted for catfish oil, eel oil, pickerel oil, sturgeon oil, crocodile oil, and alligator oil, and some form of bird oil for bat oil, swallow oil, and stork oil. Even the fabled mermaid has her oil, usually made, most unromantically, by mixing equal parts of cocoanut oil and lard oil and flavoring the mixture with cod liver oil. For bear's grease there is sometimes substituted purified beef marrow, lard, veal-fat, or almond oil thickened with spermaceti. Neat's foot oil does duty for beaver fat. Fox oil is replaced by skunk oil or by Dippel's animal oil flavored with asafetida. For hedgehog oil the customer usually gets lard oil or neat's foot oil or some mixture of the two. Skunk oil is generally supplied instead of mink oil. Lard oil frequently takes the place of raccoon oil.

If in legitimate medicine much depends on the genuineness of the medicaments employed, how much more important must that quality be in the household remedy! Yet it is to be doubted if substitution ever contributes to the demolition of faith in the traditional drug of domestic dosing.

THE STATE LUNATIC ASYLUMS ON WARD'S ISLAND.

In their recent report, the Trustees of Bellevue and Allied Hospitals pointed out that it was not always necessary to send an insane person to the pavilion for the insane at Bellevue Hospital in order to have the person conveyed to one of the State hospitals on Ward's Island. It is not probable that the board's report reached the entire medical profession of the city; therefore the president of the State Commission in Lunacy has performed a distinct service by issuing a circular of information on the subject, the substance of which we publish elsewhere in this issue.

METALLIC MAGNESIUM IN THE TREATMENT OF VASCULAR TUMORS.

A novelty in the way of *âchetes caustiques* seems to have been hit upon by E. Paye (*Deutsche Zeitschrift für chirurgie*, lxxiii., page 503; *Centralblatt für chirurgie*, August 23rd), acting under the direction of Nicoladoni. He treated a cavernous tumor of the chin, in a girl fourteen years old, by thrusting into it darts of metallic magnesium. Under anesthesia, a minute incision was made, and through it seven darts of sheet magnesium, each about half an

inch long and a sixteenth of an inch wide, were thrust into the tumor in different directions; then the lips of the wound were brought together over them with sutures. In the course of a few days consolidation of the tumor was observed, and for one day there was evolution of hydrogen, recognizable by emphysematous crackling. At the end of a fortnight nothing more was to be felt of the darts, and in a year from the operation the tumor was undiscoverable. The *modus operandi* is said to be by the decomposition of the watery element of the growth, whereby coagulation is brought about. Brief notes of two other cases are given.

THE PRESIDENT'S INJURY.

It is gratifying to find that the contusions sustained by the President in the late collision of his carriage with a trolley car have given rise to nothing more serious than the small collection of inflammatory effusion in the leg that was aspirated in Indianapolis. While it is to be regretted that even this mild affliction interfered with the President's completion of his proposed itinerary, we may well hope that it will aid in convincing him that more caution is necessary as to his personal safety and health than he has heretofore seemed inclined to observe.

THE BERLIN CONFERENCE ON CONSUMPTION.

Dr. W. Freudenthal, of New York, a corresponding member of the Central International Office for the Prevention of Consumption, informs us that on September 23rd he received from Professor B. Fraenkel, of Berlin, an urgent telegraphic dispatch requesting him to offer a cordial invitation to American physicians to attend the conference which is to be held in Berlin on October 22nd, 23rd, 24th, 25th, and 26th. It is to be hoped that a fair number of American physicians will find themselves able to accept this courteous invitation.

SCHOOL HYGIENE IN NEW YORK.

The public discussion of certain alleged friction between the board of health and the board of education over the matter of the health board's medical inspection of school children has called forth one proposition which strikes us as eminently worthy of adoption, namely, that physicians should be appointed to teach hygiene in the public schools. It is now taught from text books of so-called "physiology" prepared to conform rigidly to the tenets of the Woman's Christian Temperance Union and with little regard to the facts that conflict with those tenets. It is not probable that oral teaching by medical men could be so hampered.

News Items.

Society Meetings for the Coming Week:

TUESDAY, September 30th.—Rome N. Y., Medical Society; Boston Society of Medical Sciences (private).

WEDNESDAY, October 1st.—New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (New Brighton); Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

THURSDAY, October 2d.—New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, October 3rd.—Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, October 4.—Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

A Hospital for East New York.—An Emergency Hospital has been established by the city to take the place of the Twenty-sixth Ward Homœopathic Hospital, which formerly occupied the Town Hall in that section of Brooklyn.

Dr. Allan Fitch has resigned his position as examiner in lunacy at Bellevue Hospital, and states that he expects to sail shortly for England with his family. He will spend a short time in study abroad, and will return to take up his private practice.

The Harlem Medical Association.—At a meeting held on June 4, 1902, officers for the ensuing year were elected as follows: President, Dr. E. L. Cocks; vice-president, Dr. W. H. Luckett; secretary, Dr. Percy Fridenberg; treasurer, Dr. I. L. Feinberg; trustees, Dr. J. E. Lombard, Dr. M. R. Richard, and Dr. Henry Herman.

The Chicago Eye, Ear, Nose and Throat College.—Dr. T. A. Woodruff has been elected to the chair of ophthalmology. In order to guard against loss of life by fire, a new steel fire escape, of the stairway pattern, has been erected on the building. Steel balconies connect the stairway with each room, thus affording a direct and easy means of escape to all patients, in case of fire.

The Brooklyn Morgue to be Renovated.—An appropriation of \$20,000 will be made in next year's budget for improvements and alterations in the Kings County Morgue at Willoughby Street and St. Edward's Place, an inspection having shown that the building is in need of extensive repairs, and that the morgue is now very deficient in the matter of appliances and fixtures.

A Biological Laboratory for Wood's Hole.—The first tangible contribution to scientific research to be made by the Carnegie Institution will consist of the most perfectly equipped marine biological laboratory in the world, to be located at Wood's Hole, Mass. The equipment of the new laboratory will be designed with especial reference to the pursuit of in-

vestigation of the problems of human life, which recent discoveries have demonstrated can be more effectively carried on by means of the simplest forms of marine fauna.

Dr. Otto H. Schultze to Be Coroner's Physician.

—The Supreme Court of the City of New York has issued a peremptory writ of mandamus directing the Municipal Civil Service Commission to certify the name of Dr. Otto H. Schultze for appointment to the position of coroner's physician to succeed Dr. Hamilton Williams who resigned some time since. A similar writ which was applied for in behalf of Dr. Stephen E. Whitman, who was coroner's physician in Richmond Borough until January 1st of this year, was denied by Justice Greenbaum. The Justice held that the appointment of Dr. Whitman had expired with the term of the coroner who made the appointment, and that in placing the name of Dr. Whitman on the preferred Civil Service list, the commission had erred.

The Hospital Corps in the Army Manœuvres.

—A division of the hospital corps, numbering sixty men, will take part in the autumn manœuvres near Fort Riley, Kansas, when some ten thousand troops, embracing both regulars and National Guardsmen, are to carry out a series of manœuvres similar to those carried out in European armies every year. Lieutenant Colonel John Van R. Hoff has been detailed to represent the medical department on the staff of General Bates, who will have command of the manœuvres, and Colonel Hoff will be assisted by Captain Fred P. Reynolds and three contract surgeons in addition to the medical officers on duty with their several regiments in the administration of the medical department. A regimental hospital of six beds will be attached to each regiment to take temporary care of the patients pending their transfer to the base hospital at the rear.

Insane Patients Need Not Be Committed Through Bellevue.

—Dr. Frederick Peterson, president of the State Commission in Lunacy, has recently issued a circular note to the physicians of New York City intended to correct the impression which appears to prevail generally, both among the laity and the medical profession, that in order to be admitted to the hospitals for the insane on Ward's Island patients must first be sent to the pavilion for insane at Bellevue Hospital. The circular explains that while this is the best plan for the indigent, since city examiners are provided there and no expense entailed upon the patient for the examination, patients can be sent direct to the hospitals on Ward's Island provided the patients have been examined by official examiners, and commitment papers made out in due form and approved by the proper judicial authorities. When this has been done, the physicians in charge should communicate by telephone with Dr. A. E. McDonald, 1872 Harlem, superintendent of the department for males, or with Dr. E. C. Dent, 1869 Harlem, superintendent of the department for females. An ambulance will then be sent to any part of the city to remove the patients without the necessity of passing through Bellevue pavilion. Physicians are requested to send patients direct where possible with a view to diminishing the overcrowding of the insane pavilion in Bellevue.

President Roosevelt Undergoes an Operation.

—As a result of the trolley accident at Pittsfield, Mass., some weeks since, in which he was thrown from his carriage and his attendant was killed, President Roosevelt received several serious bruises, one of these on the left leg between the knee and ankle. No attention was paid to this bruise until quite recently, when it became painful, and while at Indianapolis on his Western tour it was deemed advisable to relieve the wound by an operation. This operation, which was performed at St. Vincent's Hospital on Tuesday afternoon, September 23rd, consisted in the removal by an aspirator of a circumscribed collection of perfectly pure serum from the middle third of the left anterior tibial region, the sac containing about two ounces. The matter is not at all serious, and the indications are that the President should make a speedy recovery. It is imperative that he should remain quiet and refrain from using the leg, and for that reason his engagements for a prolonged tour through the West have been cancelled, and he has returned to Washington.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending September 20, 1902:

DISEASES.	Week end/g Sept. 13		Week end/g Sept. 20	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	142	18	151	20
Scarlet fever.....	97	8	102	7
Cerebro-spinal meningitis.....	0	1	0	0
Measles.....	47	4	27	1
Diphtheria and Croup.....	189	33	195	28
Small-pox.....	8	3	3	1
Tuberculosis.....	233	131	220	128

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending September 20, 1902:

BIDDLE C., Surgeon. Detached from the naval recruiting station, Philadelphia, and ordered to duty at York, Pennsylvania, with recruiting party.

BROWNELL, C. D., Passed Assistant Surgeon. Detached from the Naval Hospital, Chelsea, Massachusetts, and ordered to the *Panther*.

DENNIS, J. B., Passed Assistant Surgeon. Detached from the *Hartford* and ordered to the *Brooklyn*.

FARWELL, W. G., Medical Director. Ordered to Philadelphia for duty in connection with recruiting.

GARDNER, J. E., Surgeon. Ordered to the Yokohama Hospital, Yokohama, Japan.

HOYT, R. E., Assistant Surgeon. Detached from the Naval Hospital, Newport, Rhode Island, and ordered to the Naval Academy.

IDEN, J. H., Assistant Surgeon. Detached from the *Lancaster* and ordered to the *Topeka*.

MCCORMICK, A. M. D., Surgeon. Detached from the Naval Academy and ordered to the *Hartford*.

MUNSON, F. M., Assistant Surgeon. Detached from duty on the *Decatur* and ordered to the Naval Hospital, Washington.

PAYNE, J. H., Assistant Surgeon. Detached from the *Brooklyn* and ordered to the Naval Hospital, Newport.

ROSS, J. W., Surgeon, retired. Detached from the Navy Yard, Pensacola, Florida, and ordered to the Museum of Hygiene and Medical School, Washington.

WILLIAMS, R. B., Assistant Surgeon. Discharged from treatment at the Naval Hospital, Newport, and ordered to the *Decatur*.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending September 19, 1902:

Smallpox—United States.

California....	San Francisco.....	Aug. 31-Sept. 7.	4 cases.
Colorado.....	Denver.....	Aug. 30-Sept. 6.	2 cases
District of Columbia.....	Washington.....	Sept. 17.....	2 cases
Florida.....	Escambia Co., Pensacola included.....	Sept. 6-13.....	3 cases.
Illinois.....	Chicago.....	Sept. 6-13.....	1 case.
Kansas.....	Wichita.....	Aug. 24-31.....	1 case.
Kentucky.....	Covington.....	Aug. 30-Sept. 6.	6 cases.
Massachusetts.....	Boston.....	Sept. 6-13.....	7 cases.
"	Chelsea.....	Sept. 6-13.....	1 case.
"	Fitchburg.....	Aug. 30-Sept. 6.	1 case.
Missouri.....	St. Joseph.....	Sept. 6-13.....	1 case.
New Jersey.....	Cleveland.....	Sept. 6-13.....	3 cases.
"	Passaic.....	Aug. 30-Sept. 13.	2 cases.
New York.....	New York.....	Sept. 6-13.....	6 cases.
Ohio.....	Cincinnati.....	Sept. 5-12.....	3 cases.
"	Cleveland.....	Sept. 6-13.....	84 cases.
"	Hamilton.....	Sept. 6-13.....	1 case.
Pennsylvania.....	Altoona.....	Sept. 6-13.....	1 case.
"	Johnstown.....	Sept. 6-13.....	1 case.
"	McKeesport.....	Sept. 6-13.....	16 cases.
"	Philadelphia.....	Sept. 6-13.....	6 cases.
"	Pittsburgh.....	Sept. 6-13.....	25 cases.
"	Reading.....	Sept. 6-13.....	5 cases.
S. Carolina.....	Charleston.....	Sept. 6-13.....	7 cases.
Tennessee.....	Memphis.....	Sept. 6-13.....	1 case.
Wisconsin.....	Milwaukee.....	Sept. 6-13.....	1 case.

Smallpox—Foreign.

Brazil.....	Pernambuco.....	Aug. 1-15.....	11 deaths.
Ecuador.....	Guayaquil.....	Aug. 23-30.....	3 deaths.
France.....	Paris.....	Aug. 16-23.....	1 death.
Gibraltar.....	.....	Aug. 24-31.....	1 case.
Gt. Britain.....	Liverpool.....	Aug. 23-30.....	14 cases.
Lonon.....	.....	Aug. 23-30.....	11 cases.
India.....	Bombay.....	Aug. 13-19.....	2 deaths.
"	Calcutta.....	Aug. 9-16.....	4 deaths.
Russia.....	Moscow.....	Aug. 16-23.....	2 deaths.
"	Odessa.....	Aug. 23-30.....	1 death.
"	St. Petersburg.....	Aug. 16-23.....	12 cases.
Spain.....	Barcelona.....	Aug. 16-30.....	1 death.

Yellow Fever.

Colombia.....	Panama.....	Sept. 1-8.....	4 cases.
Ecuador.....	Guayaquil.....	Aug. 16-23.....	1 death.
Mexico.....	Cotacacalcos.....	Aug. 30-Sept. 6.	4 cases.
"	Orizaba.....	Sept. 7.....	Epidemic.
"	Progreso.....	Sept. 12.....	1 case.
"	Vera Cruz.....	Aug. 30-Sept. 13.	45 cases.

Cholera—Insular.

Philippine Islands.....	Manila.....	July 12-19.....	250 cases.
Provinces.....	.....	To July 19.....	189 deaths.
			15,555 c's.

Cholera—Foreign.

China.....	Amoy.....	July 27-Aug. 2.....	40 cases estimated.
"	Hongkong.....	Aug. 2-9.....	6 cases.
"	New Chungang.....	July 19-Aug. 2.....	175 cases.
Egypt.....	Alexandria.....	Aug. 5-27.....	17 cases.
"	Cairo.....	July 22-Aug. 27.....	128 deaths.
India.....	Bombay.....	Aug. 13-19.....	816 deaths.
"	Calcutta.....	Aug. 9-16.....	1 death.
Japan.....	Ehime Ken.....	To Aug. 18.....	4 deaths.
"	Fukushima Ken.....	To Aug. 18.....	39 cases.
"	Hiroshima Ken.....	To Aug. 18.....	133 deaths.
"	Hioga Ken.....	To Aug. 18.....	372 deaths.
"	Hiroshima Ken.....	To Aug. 18.....	12 cases.
"	Kagawa Ken.....	To Aug. 18.....	6 deaths.
"	Kumamoto Ken.....	To Aug. 18.....	11 cases.
"	Kyoto Ken.....	To Aug. 18.....	4 deaths.
"	Nagasaki.....	To Aug. 18.....	2 deaths.
"	Shimane Ken.....	To Aug. 18.....	90 cases.
"	Okayama Ken.....	To Aug. 18.....	88 cases.
"	Osaka Ken.....	To Aug. 18.....	1,268 c's.
"	Saga Ken.....	To Aug. 18.....	96 cases.
"	Shimane Ken.....	To Aug. 18.....	5 deaths.
"	Tokushima Ken.....	To Aug. 18.....	53 deaths.
"	Wakayama Ken.....	To Aug. 18.....	1 case.
"	Yamaguchi Ken.....	To Aug. 18.....	5 cases.
"	Tokushima Ken.....	To Aug. 18.....	4 deaths.
Java.....	Batavia.....	July 27-Aug. 2.....	1 case.
Russia.....	Chabarovsk.....	July 28-Aug. 7.....	32 cases.
"	Olowijnajana.....	To Aug. 8.....	25 deaths.
			11 cases.
			8 cases.

Plague—United States.

California.....	San Francisco.....	Aug. 31-Sept. 7.....	3 deaths.
			Chinese.
			Plague—Foreign.
China.....	Hongkong.....	Aug. 2-9.....	34 deaths.
India.....	Bombay.....	Aug. 13-19.....	39 deaths.
"	Calcutta.....	Aug. 9-16.....	9 deaths.
Japan.....	Yokohama.....	Aug. 9-16.....	16 cases.

Public Health and Marine-Hospital Service:

Official List of Changes of Station and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service, for the Seven Days ending September 18, 1902:

ALLEN, G. C., Pharmacist. To report to the medical officer in command at Baltimore, for temporary duty during the absence on leave of E. R. SCOTT, Pharmacist.

BEAN, L. C., Acting Assistant Surgeon. Granted leave of absence for one day.

CLEAVES, F. E., Acting Assistant Surgeon. Granted leave of absence for fourteen days.

FOX, CARROLL, Assistant Surgeon. Relieved from duty in the office of the United States Consul at Liverpool, and directed to proceed to Manila and report to the chief quarantine officer for duty.

GARDNER, C. E., Passed Assistant Surgeon. Granted leave of absence for one day.

GLENNAN, A. H., Surgeon. Granted leave of absence for six days from September 15th.

MASON, M. R., Pharmacist. Relieved from duty at Dutch Harbor, Alaska, upon the closing of station, and directed to proceed to San Francisco and report to the medical officer in command for duty and assignment to quarters.

McMULLEN, JOHN, Passed Assistant Surgeon. Relieved from duty in the office of the Consul-General of the United States at London, and directed to proceed to Hong Kong, China, as inspector for a period of two weeks; then to assume command of service at that port, relieving J. W. KERR, Assistant Surgeon.

RAMUS, CARL, Assistant Surgeon. Granted leave of absence for one month from September 25th.

THOMAS, A. R., Passed Assistant Surgeon. Directed to proceed to San Francisco and report to the medical officer in command for duty and assignment to quarters.

VOGEL, C. V., Assistant Surgeon. Relieved from Dutch Harbor, Alaska, to take effect upon the departure from that port of the last Revenue Cutter, and directed to proceed to San Francisco and report to the medical officer in command for duty and assignment to quarters.

Board Convened.

Board convened to meet at the United States Marine-Hospital, Chelsea, Massachusetts, September 23, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon T. M. WOODWARD, chairman; Assistant Surgeon W. K. WARD, recorder.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending September 20, 1902:

BAKER, FRANK C., First Lieutenant and Assistant Surgeon, will proceed to the Presidio of San Francisco, and accompany Companies C and F, Fifteenth Infantry, to Monterey, California.

BENNETT, I. E., Captain and Assistant Surgeon, is honorably discharged, to take effect October 15, 1902, his services being no longer required.

BROWN, JUSTUS M., Colonel and Surgeon General, is granted leave of absence for three months, to take effect upon the assignment of a medical officer to take charge of the medical supply depot in New York during his absence.

DARNALL, CARL R., Captain and Assistant Surgeon, is detailed for duty as assistant professor of hygiene at the Army Medical School in Washington.

DAVIES, WILLIAM O., Captain and Assistant Surgeon, is honorably discharged, to take effect October 15, 1902, his services being no longer required.

DE WITT, CALVIN, Colonel and Assistant Surgeon General, is detailed as president of the Faculty of the Army Medical School, to relieve CHARLES SMART, Colonel and Assistant Surgeon General.

KIRBY-SMITH, REYNOLD M., First Lieutenant and Assistant Surgeon, is detailed as a member of the examining board convened at Fort Barrancas, Florida, vice FREDERIC E. JENKINS, Contract Surgeon, relieved.

LIPPITT, W. E., Captain and Assistant Surgeon, is granted leave of absence for fourteen days.

MAUS, LOUIS M., Lieutenant Colonel and Deputy Surgeon General, will upon his arrival in San Francisco, report by telegraph to the adjutant general of the Army for orders.

RHOADES, THOMAS L., First Lieutenant and Assistant Surgeon, is granted leave of absence for one month, with permission to apply for an extension of one month.

RICH, EDWIN W., First Lieutenant and Assistant Surgeon, will proceed to Honolulu on the first available steamer leaving San Francisco, for temporary duty, relieving JOSEPH B. GIRARD, Colonel and Assistant Surgeon General. Colonel Girard upon being relieved will proceed to San Francisco.

SHAW, HENRY A., Captain and Assistant Surgeon, is relieved from further duty in the Division of the Philippines, and will proceed to San Francisco.

WALES, PHILIP G., Captain and Assistant Surgeon, will report in person to CALVIN DE WITT, Colonel and Assistant Surgeon General, president of the examining board convened at Washington, for examination for promotion.

WILLIAMSON, LLEWELLYN P., First Lieutenant and Assistant Surgeon. The leave of absence granted him is extended fifteen days.

WILSON, JAMES S., Captain and Assistant Surgeon, will proceed from New York to Fort Riley, Kansas, for temporary duty in connection with the military manoeuvres to be held at that station in September and October.

Births, Marriages, and Deaths.

Married.

BROWNELL—PIERCE.—In San Francisco, on Wednesday, September 10th, Dr. Edward Earle Brownell and Miss Sophia Gleason Pierce.

DORMAN—CALLENDER.—In Flushing, N. Y., on Monday, September 22d, Dr. Franklin Abbott Dorman, of Montclair, N. J., and Miss Jane Chadwick Callender.

RICHARDS—CARPENTER.—In Washington, on Wednesday, September 17th, Dr. Theodore W. Richards, United States Navy, and Miss Lillian Carpenter.

ROCKHILL—McFARLAND.—At Fort Russell, Wyoming, on Saturday, September 13th, Dr. Edward P. Rockhill, United States Army, and Miss Carita Caroline Munroe McFarland.

SCHUSSLER—KOBER.—In Alton, Illinois, on Sunday, September 14th, Dr. Hugh Schussler and Miss Georgia Kober.

VAN ORDEN—PARROT.—In Elizabeth, N. J., on Tuesday, September 16th, Dr. Charles Van Orden, of Brooklyn, and Miss Helen King Parrot.

WHERRY—RUE.—In Red Bank, N. J., on Wednesday, September 17th, Dr. Elmer G. Wherry, of Newark, N. J., and Miss M. Matilda Rue.

Died.

HIGDON.—In Kansas City, Missouri, on Friday, September 12, Dr. William E. Higdon, in the thirty-fifth year of his age.

JOHNSON.—In Brooklyn, on Thursday, September 18th, Dr. Charles H. Johnson.

MERRITT.—In Mount Vernon, N. Y., on Sunday, September 21st, Dr. Charles Merritt, of Bridgeport, Connecticut, in the eighty-ninth year of his age.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Environment as a Cause of Ague. By Dr. M. D. O'Connell (*Lancet*, September 6th).—The author summarizes his article as follows: (1) Cases of fever, clinically identical with malaria, occur in blood in which parasites can not be found after repeated search before quinine has been given. (2) The meteorological environment found where such cases occur, and indeed in all malarial climates, increases the amount of water in the blood exposed to its influence by impeding elimination through the skin and lungs (evaporation—heat loss) and through the kidneys. (3) There is known to be increase of water in the blood of those suffering from ague. (4) Increase of water in the blood increases metabolism—*i. e.*, heat production—and produces a rise of body temperature. (5) As environment thus causes diminished heat loss from the body and increases heat production within the body, it is plain that it causes pyrexia. (6) This pyrexia must be of intermittent variety as the environment which produces it is of intermittent intensity—*i. e.*, undergoes diurnal variations. (7) Elimination of water from the blood (sweat) in ague reduces the temperature to normal. (8) Increase of water in the blood produces poikilocytosis, pseudoparasites, liberation of hæmoglobin, extensive destruction of red blood corpuscles, and melanæmia. (9) An extreme degree of these changes obviously leads to hæmoglobinuria. (10) Increase of water in the blood produces enlargement of the spleen. (11) Removal from the environment which produces increase of water in the blood usually cures ague. (12) All treatment of ague which is efficacious reduces the amount of water in the blood. (13) The author therefore concludes that those cases of ague or intermittent fever in which no parasite can be found are demonstrably due to the environment under which they arise.

The Significance of Some Clinical Phenomena in Appendicular Inflammation. By Dr. O. E. Hagen-Thorn (*Roussky Vrach*, August 24th).—The author speaks of five cases in which there were pain in the region of the appendix, an increased resistance, fever, and dulness on percussion,—all of which disappeared after the administration of a cathartic. In these cases the symptoms lasted for about two days, and no local infiltrate, characteristic of appendicitis was noticed subsequently. He believes that clinically these cases should be called typhlitis. Those who do not believe in operating in every case of appendicular inflammation must be careful in weighing each individual symptom, in order to be able to foresee the probable course of the affection. The dangerous cases are those in which the trouble becomes rapidly fatal, sometimes in spite of timely surgical intervention, and these cases are especially to be feared, because they are difficult to diagnose from those in which the malady pursues a benign course. During the first few days of the disease, if acute, it is very difficult to determine the position of the infiltrate, yet such a determination is possible. In examining such a patient, he will be found to shrink from our touch on whatever part of the abdomen the hand may be laid. He must be reassured, his attention must be distracted, and he must be asked by even

breathing to assist in finding the most painful place. The hands must be laid flat upon the abdomen, covering as large a surface as possible, gently stroking the abdominal walls, and slowly pressing the fingers into the cavity. The pressure must always be very light. In this way we can always find the most painful place. The outlines of the infiltrate may now be determined without taking away the fingers, cautiously palpating until we know the extent and limits of the tumor. The hands must be removed as gently as they are applied, thus avoiding pain. Patients with appendicitis, as a rule, suffer from disturbances in micturition—either abnormal frequency or retention, or pain in urinating. The appearance of these symptoms on the part of the bladder should be watched, for it indicates the extension of the process, while their cessation shows that it is subsiding or that the pus has burst into the intestines.

Case of Right Aortic Arch with Abnormal Disposition of the Left Innominate Vein and Thoracic Duct. By S. Cameron (*Lancet*, September 6th).—The noteworthy points in the case here reported are: (1) The arching of the aorta over the right bronchus and its descent for the most part in the right posterior mediastinum; (2) the absence of the innominate artery; (3) the origin of the left subclavian artery from the pouch-like trunk on the left side of the descending aorta; (4) the formation of a vascular circle round the trachea and œsophagus; and (5) the large but impervious ductus arteriosus uniting the pouch and left pulmonary artery.

SURGERY AND ANATOMY.

Experimental Researches with Interstitial Injections of Vaseline, Paraffin, and Agar.—Dr. Domenico Taddei and Dr. Federico Delaini (*Riforma medica*, July 21st, 22nd, and 23rd) report a series of experiments with injections of vaseline, paraffin, and agar-agar into the tissues of animals, with a view of determining the fate of these materials in the body, and the changes that take place in the tissues so injected. Gersuny, in 1900, introduced this method, by injecting a mixture of paraffin and vaseline subcutaneously in order to fill hollows that were undesirable. Eckstein proposed the use of pure paraffin, melting at about 60° C., while Kramer used agar-agar in a four-per-cent. solution in normal salt. A great variety of uses were suggested for this method and a number of cases were reported with a fair proportion of successes. The authors set about to determine which of these substances was the best for injections, and what modifications the tissues underwent at the site of the injection. As the result of these experiments, they declare this method a failure, because the connective tissue which forms in the site of the injection undergoes contraction just like any other new connective tissue. In addition, the authors find that this method possesses the following disadvantages: It is difficult, technically speaking. The substance injected easily diffuses itself irregularly, and the projection formed by the injected mass is easily deformed, especially if paraffin that melts at 41° C. is employed. The occurrence of necrosis in the skin overlying the injected mass, which is the more extensive the higher the temperature of the mass at the time of injection. The relative frequency (in two cases out of twelve) of sup-

puration when agar-agar is injected. The general toxic changes observed in animals after a maximum injection of paraffin melting at from 40° to 50° C., when ten cubic centimetres of the mass were injected. It is difficult to explain this intoxication. Two hypotheses are possible: Either the paraffin used by the authors contained extraneous and toxic substances, or the toxic symptoms depended on the poisonous nature of the paraffin itself. It will require further research to find which of these suppositions is true, but the facts observed are important from a surgical viewpoint. The authors did not find any embolisms in any of their experimental animals, and the occurrence of such embolisms in subjects operated upon by the injection of paraffin is rather suspected than demonstrated.

Surgical Treatment of Empyema. A Report Based on Seventy-five Cases, Observed Chiefly in St. Mary's Hospital for Children.—Dr. Charles N. Dowd (*Medical News*, September) summarizes as follows: (1) For simple cases of empyema the following treatment is used: Excision of about one inch and a half of the seventh or eighth rib in the posterior axillary line; light ether anaesthesia is usually employed; the purulent coagula are removed; short rubber tubing, cut partly across, doubled, and held by large safety pins, is used for drainage; abundant gauze dressing is applied and changed when saturated. (2) If the patient's condition contraindicates general anaesthesia an incision into the chest may be made between two ribs under cocaine anaesthesia. (3) Aspiration is only used to give temporary relief in patients who are in great distress from the pressure of the fluid, or to relieve temporarily the second side of a double empyema after the first side has been opened. (4) The patients are allowed out of bed as soon as is practicable, and the expansion of the lung is encouraged by forced expiration. (5) Irrigation is only used where there is a foul-smelling discharge from necrotic lung tissue. (6) Secondary operations are not done until good opportunity has been given for healing; usually three or four months should have elapsed after the primary operation, and there should have been no noticeable improvement for about a month. (7) In the secondary operation the expansion of the lung should be encouraged by incising, stripping back, and, if necessary, removing portions of the thickened pulmonary pleura.

The Treatment of Surgical Tuberculosis.—Dr. David MacEwan (*Scottish Medical and Surgical Journal*, September) considers that three things are necessary for the effective treatment of surgical tuberculosis: (1) The treatment should be of sufficient duration. It should not depend upon the exigencies of the general hospital, but should be continued until the condition of the patient, both local and constitutional, is in a satisfactory state. In some cases this may be months; in others, one or more years. Mikulicz estimates that the average duration of the treatment in his cases is about six months—three in the clinic and three in some health resort. If the patient is allowed to pass out of supervision before his recovery is complete, he will almost certainly take a backward course. Hip disease, for instance, in many cases requires treatment extending over one, two, or three years, but in the general hos-

pital it is quite common for a patient so affected to be discharged after one or two months of treatment, fitted with an orthopaedic appliance, and, going possibly to a home where the conditions of life are very inferior, he returns in course of time worse than ever. (2) The local treatment required is such as will not only promote recovery, but recovery with the best possible functional ability. It is beyond doubt that in the majority of cases these results will be best obtained by the conservative method, which should therefore have an adequate trial before operative procedures are contemplated. There are cases, however, where it would be quite justifiable to operate at a comparatively early period. In the knee, for instance, when the disease is so far advanced that recovery is not likely to take place without ankylosis, arthrectomy or incision would shorten the duration of the local treatment, and would give as good a result as could possibly be obtained by the other method. In advanced elbow disease, again, when ankylosis seems inevitable, excision would give a movable elbow and a more useful limb. (3) As the patient's constitutional condition is the chief factor in the causation of his illness, the bacillus being only able to maintain its existence in the presence of weakened tissues, it is essential that, in addition to careful and prolonged local treatment, the patient should be placed throughout under conditions which will improve his general vitality and increase the resistance of his tissues. He should be as much as possible in the open air, so that his appetite may be stimulated and his tissue metabolism increased, and he should have a full dietary to maintain his general nutrition. Sea air has long been considered preferable in these cases, and the best results seem to be obtained under its influence. In France, where the sanatorium treatment of surgical tuberculosis has received special attention, all the institutions are on the coast, and Dr. Calot states that the patients seemed to get on better when the hospital with which he was connected at Berck was removed from an inland position to the seashore.

Surgical Features of Typhoid Fever.—Dr. Thomas McCrae and Dr. James F. Mitchell (*American Medicine*, September 13th) give a summary of those cases with surgical features in the wards of the Johns Hopkins Hospital from June, 1900, to June, 1902, with special reference to intestinal perforation. They do not wish to be understood as advising operation recklessly or in every suspicious case. The early recognition of perforation is our only hope to diminish its mortality. To that end every means should be used, and, in certain cases, exploration seems to the authors a perfectly justifiable procedure. In the two years' experience of the authors there have been treated two hundred and seventy-five cases. Of these a certain number had unimportant complications, as boils or abscesses, the cultures from which in every instance yielded pyogenic cocci. Periosteitis and perichondritis have been seen occasionally, always subsiding without surgical intervention. Glandular affections, especially mastitis, occurred, but were not serious. Abscess of the liver occurred once with recovery, the cultures being practically negative. There have been symptoms of cholecystitis in five cases, of which three subsided without operation; one patient was operated on and recovered;

while, in one, the gall bladder ruptured and general peritonitis resulting in death followed. Appendicitis was suspected in three cases, and developed once during the course of typhoid fever. Perforation of the intestine occurred in eight patients. Of these, seven were operated on with two recoveries, a third dying of toxæmia after a week. All of these seven were recognized within nine hours, except two, in which hæmorrhage from the bowel accompanied the perforation. In one case operation was not advised, because the patient was evidently in *extremis*. Exploratory laparotomy was done in two cases in which no perforation was found. In one, the symptoms proved to be due to intestinal hæmorrhage; in the other, to a low grade of peritonitis. The first patient died; the second recovered. Eleven patients with suspicious abdominal symptoms were not operated on. Of these, two died and the autopsies showed no perforation. The remaining nine recovered.

A Note on the Operative Treatment of Flail Paralytic Elbow. By R. Jones, F. R. C. S. (*British Medical Journal*, September 6th).—In operating on the above-mentioned class of cases, the end in view is to obtain fixation of the elbow at such an angle that the patients can feed themselves. The author makes an extensive diamond-shaped incision involving the lower third of the arm and upper third of the forearm. The skin mapped out in this incision is removed. The upper angle is stitched to the lower, and the edges of the triangle of the upper arm are attached to the edges of the triangle of the lower arm. The elbow is acutely flexed and the bare surface of the lower triangle lies in juxtaposition to that of the upper triangle. In this way a scar is formed, which quite effectively retains the elbow in such a position that the hand may be employed to useful purpose.

[By "flail elbow" is meant that class of cases where all the muscles governing the elbow are paralyzed, yet movements are permitted to the hand.]

The After-Treatment of Erasion of the Knee-Joint. By J. Collier, F. R. C. S. (*British Medical Journal*, September 6th).—The author calls attention to the fact that in cases of tuberculous kneejoint, the operation of erasion is often followed by fixation in a flexed position. This is due to adhesion of the patella to the front of the femur, thus preventing action of the extensor muscle. So that the patella should be kept freely mobile from the first: at the first dressing, two or three weeks after operation, the limb should be fixed in plaster in full extension, but a window should be left in the plaster over the front of the joint, through which the patella may be moved from side to side several times a day, thus preventing adhesion. If, at the end of six months, when the limb is taken out of plaster, the patient has some voluntary power of extension, he may be allowed to walk without support. Though the flexion will increase, the power of extension will remain.

Resection of the Cervical Sympathetic for Glaucoma.—Dr. Karl Hoor (*Wiener klinische Wochenschrift*, September 4th) reaches these conclusions as the result of an operation for glaucoma in which he resected the cervical sympathetic nerve: 1. Mechanical irritation of the exposed sympathetic causes some dilatation of the pupil; 2. section of the nerve evokes

contraction of the pupil without a preliminary mydriasis; 3. there is no appreciable increase in ocular tension after the division of the nerve; 4. several hours after the operation, however, the pupils were quite small with decided diminution of bulbar tension; 5. the operation was without evil sequelæ,—there was no rise in temperature, no disturbance of deglutition, no thirst, no paralysis. Light was improved about fifty per cent., the improvement continued for more than three months up to the time of the report, and there was some diminution in the field of vision.

Pernasal Tubage.—Dr. Franz Kuhn (*Münchener medicinische Wochenschrift*, September 2nd) passes a strongly bent metal tube through the nasal cavity, so that its distal end lies over the larynx, to facilitate operations upon the mouth in anæsthesia. The insertion of the tube prevents the evoking of reflexes, on the part of the upper respiratory tract, which lead to reflex asphyxia, and it prevents the closing of the respiratory organs through spasm of the glottis, hæmorrhage, or struggles of the patient. Another advantage of the method lies in the carrying of the chloroform mask to as great a distance as desirable from the patient, so that the operator is in no way interfered with. The anæsthesia may be deepened, also, with a minimal amount of chloroform whenever it is desired, and is continuous without interfering with the operation. The tube can also be used for the introduction of air when necessary.

OBSTETRICS AND DISEASES OF WOMEN.

The Use and Abuse of Forceps in General Practice.—Dr. M. Dewar (*Edinburgh Medical Journal*, September), points out that the man in general practice has to contend with ignorance, dirt of all kinds, incompetent attendants; insanitary visitors, who often change napkins and do other little offices for the patient; careless dieting, often in direct opposition to what is ordered; the lying-in room often the kitchen; the lying-in often taking place in houses where eruptive fevers have been nursed, and nothing done to clean the walls and bed-closets; lying-in women worried with the cares of large families, and often only attended by a neighbor, and thus frequently left after the first day or two very much to their own resources. In considering the statistics of general practice, the lesson to be learned is, that there is much greater safety to both mother and child by a liberal, judicious, and careful use of the forceps, than where the labors are allowed to linger on, by the instruments (if used at all) being withheld for a long time till the woman is quite exhausted and her vital powers of resistance so lowered that she becomes extremely susceptible to the influence of disease germs, which are ever ready to take the upper hand.

Accouchement Forcé with Bossi's Dilator.—Professor Ludwig Knapp (*Centralblatt für Gynäkologie*, August 30th) records the case of a woman who fell into labor when almost moribund from phthisis. By means of Bossi's dilator and forceps, she was delivered in eleven minutes of a living child. The rapidity with which this instrument can be made to dilate completely a hard, even a scarred, cervix

without injury, makes it of advantage in cases of eclampsia, in placenta prævia and in other cases in which the life of the child or the mother is threatened. Knapp thinks it will do away with many of the indications for symphysiotomy and Cæsarean section.

NERVOUS AND MENTAL DISEASES.

Blood Pressure in Basedow's Disease.—Dr. B. Spiethoff (*Centralblatt für innere Medizin*, August 23rd) concludes that in Basedow's disease the blood pressure does not constantly vary in a given way; it is not always increased, neither is it always diminished. Either increase or diminution of the blood pressure may be noted in severe cases, but in moderate cases it is usually normal. There are no data by which one may determine why the blood pressure is changed in the severer cases. The heart muscle itself may undergo changes and undoubtedly vaso-motor disturbances play some rôle.

Congenital Nystagmus in Father and Child. By Dr. T. Fisher (*British Medical Journal*, September 6th).—The author reports an instance of true congenital nystagmus, occurring in father and daughter. It is present from the time of birth, thus differing from the nystagmus which develops in association with head movements, and is generally not noticed until the child is a few weeks old. True congenital nystagmus, also, unlike the form which appears rather later, more often persists to adult life, as it did here in the father's case. It appears to be most commonly associated with some defect in the lens, choroid, or retina, but nothing of the sort was present in the two cases here reported.

Chorea, Polyclonia and Tics.—M. Cesare Manini (*Gazette hebdomadaire de médecine et de chirurgie*, September 4th) says that these ailments constitute clinical syndromes which are not distinct and which do not form nosological units. They are due to pathological abnormalities of the cortex, the pathology of which is still confused. Mental disturbances are almost constant accompaniments. These maladies are sometimes benign and rapidly curable when they rest upon some form of intoxication or upon some external cause which affects a susceptible organism. On the other hand, they are sometimes grave and depend upon a vicious heredity. The psychic standing, the motor capacity, and the mental strength of each afflicted individual must be carefully studied. The therapeutic possibilities depend upon the nature of the ætiology.

DISEASES OF CHILDREN.

On Defective Coordination in Utero, as a Probable Factor in the Causation of Certain Congenital Malformations. By Dr. S. Thomson (*British Medical Journal*, September 6th).—There are three types of congenital malformation of hollow viscera, consisting in great muscular hypertrophy, for which no permanent organic cause is discoverable. These are: (1) Congenital hypertrophy of the bladder with dilatation of the ureters and renal pelvis, and with no organic obstruction; (2) congenital dilatation of the colon with no organic stricture; (3) congenital hypertrophy of the pylorus and stomach wall. In all three the main abnormality consists in enormous

hypertrophy of the muscular coat of a hollow organ which is known to be functionally active *in utero*. This hypertrophy has hitherto been held to be a primary developmental hyperplasia, but the author holds it to be rather a secondary hypertrophy resulting from overexertion. As no organic cause for such overexertion is to be found, it must be functional; and such functional cause must be of the nature of a disturbance of the normal coordination. For the proper working of all hollow organs, perfect harmony of coordination is necessary, and even slight disturbance of the same may lead to greatly exaggerated exertion.

A Note on the Surgical Treatment of Spastic Infantile Paralysis. By R. Jones, F. R. C. S. (*British Medical Journal*, September 6th).—A large proportion of children suffering from severe spastic paralysis may be transformed into useful members of the community, improved both in body and mind, by surgical methods, and may be enabled to walk with comparatively little deformity, requiring only the aid of one or two sticks. The irremediable cases are those of the idiot, the microcephalic, and the irritable diplegic, subject to fits and active athetosis. The treatment of the hand and arm in infantile hemiplegia is less promising than in the diplegic case; this is especially true if the paralysis is complete and spasm is never relaxed. The first step in treatment should be an attempt at prolonged fixation of the spastic muscles in a position opposed to the spasm, thus lessening the severity of the spasm. The operative treatment will consist of tenotomy or tendon transplantation: myotomy is only mentioned to be avoided. Tenotomy alone is disappointing. The tendon of the flexor carpi ulnaris should be divided low down and inserted into the extensor ulnaris, and similarly the tendon of the radial flexor into the radial extensor. After the operation overextension should be practised for a few weeks, slow passive movements being begun in about a fortnight's time. The treatment of paraplegia proceeds along the same lines: a special splint must be prepared, upon which after operation the patient must be kept stretched for at least three months. The splint is then taken off during the day and movements sedulously practised. Crutches must not be allowed until the patient can stand unsupported. Operations not followed by careful and prolonged after-care give rise to disappointment and discredit. The merely division of tendons, followed by massage and electricity, is futile. Complete recovery in spastic paraplegia is, of course, impossible, but in suitable cases the patients should be taught within from one to two years to walk varying distances, unsupported or with the aid of sticks.

Splenic Anæmia of Infants. By Dr. C. H. Meland (*British Medical Journal*, September 6th).—The author's article is based upon a series of eight cases of splenic anemia of infants—the anemia infantum pseudoleucæmica of von Jaksch. He holds that these cases present a sufficiently constant and well marked clinical picture to warrant their being described under a separate name, even though we cannot recognize any constant underlying pathological factor—thus corresponding to chlorosis and scurvy.

The disease is met with in its most typical form in infants from about twelve to thirty months old. There is usually a history of gradually increasing anæmia for some months, but without any marked wasting; the infants are sallow, flabby and weak. When the anæmia becomes extreme there is a fictitious fulness of the hands, face, and feet, due to œdema. There was no evidence of syphilis in any of the author's cases.

The abdomen is tumid and the spleen enlarged, in some cases filling up the greater part of the left flank and passing to the right of the middle line. Most of the cases give evidence of rickets, yet it is improbable that rickets is alone the essential part of the disease, for the severest cases of rickets may show but slight blood changes, while cases of splenic anæmia may be entirely free from ricketty stigmata. The hæmoglobin of the blood is greatly reduced: the red corpuscles are also reduced but not to the same extent, so that the hæmoglobin index is below normal. Marked departure from the normal in size, shape, and staining reaction is shown by the red corpuscles: macrocytes and microcytes, and poikilocytes are abundant, together with polychromatophilism and granular degeneration. There is usually a distinct leucocytosis, the increase being due to an increased proportion of the lymphocytic elements—fifty per cent. or over. A few myelocytes are usually present; while they are evidence of serious blood mischief, yet they more readily make their appearance in the blood of children than in that of adults, and their significance is accordingly lessened.

There is the tendency to subcutaneous and other hæmorrhages, common to all grave blood lesions.

There is a great tendency to bronchitis and bronchopneumonia, death being almost always due to pulmonary trouble.

Microscopical examination of the liver, spleen, and other organs in one fatal case, failed to show any characteristic changes; the liver was free from excess of iron-containing pigment.

The prognosis, though serious, is not hopeless. If the patients can be tided over their tendency to bronchopneumonia, they improve greatly under treatment and may finally recover. The treatment is mainly symptomatic, iron, arsenic, and careful feeding, together with cod liver oil.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

The Treatment of Tetanus by Injection of Cerebral Emulsion.—Dr. I. E. Tikanadze (*Roussky Vrach*, August 24th) reports a case in which he succeeded in curing an attack of tetanus by injections of cerebral emulsion. He prepared this emulsion by removing the brain of a young pig under aseptic precautions and rubbing it up in a sterilized porcelain mortar with sterile salt solution until an emulsion of such thickness was obtained that it passed through a hypodermic needle of moderate size. The first injection was given on the eighth day, after other remedies had failed, the dose being ten grammes of pig's brain in thirty cubic centimetres of salt solution. During the next two days, two additional doses of the same size were injected, and on the third day, the eleventh of the disease, the injections were discontinued because the symptoms were greatly improved.

The site of the injections was the subcutaneous region of the chest. The case was one of moderate severity, but the author believes that the cerebral emulsion effected the cure, and advises that this remedy be used whenever antitetanic serum is not accessible.

Intravenous Injections of Oxygen in Man.—Dr. F. Mariani (*Riforma medica*, July 19th) reports the results of his experience with the intravenous injection of oxygen in desperate cases with asphyxia from various causes. Guido Bacelli was the first to employ the heroic method of intravenous administration of remedies, and was the first to employ inhalations of oxygen at the deathbed of Victor Emanuel II. The idea of injecting oxygen intravenously is a synthesis of these two suggestions of Bacelli. From time immemorial we have dreaded air embolism in surgery, but of late, surgeons have not regarded this accident as one that is so likely to occur if air is sucked into the veins, and it has been shown experimentally that a certain amount of oxygen or air is necessary, in order that the animal may die of air embolism. The first to try injections of oxygen into the veins in dogs was Gaertner, who found that these animals tolerated large doses of oxygen in this manner. The author wished to repeat these experiments and to pursue the theme further. He injected oxygen of the purest quality into dogs by means of a specially constructed syringe connected with a water-bottle and a cylinder of oxygen. These animals bore injections varying between 10 and 30 cubic centimetres of oxygen with the greatest comfort. He washed the oxygen in a solution of potash before it was passed into the syringe, and then measured the amount injected by the amount of water displaced by the gas passing into the syringe through a graduated tube filled with water. He was able thus to inject without any disturbances, 1,500 cubic centimetres of oxygen into the femoral vein of a dog within an hour and a half. In another set of experiments he found that such intravenous injections counteracted asphyxia produced by having the dogs breathe hydrogen and vitiated air, while the dogs used as checks, which had breathed exactly the same atmosphere, perished.

Finally, he had the opportunity of trying the new method upon a young man, aged twenty-three years, who entered the hospital in a state of severe dyspnoea caused by a rapid diffusion of a tuberculous process through his lungs. Professor Maragliano, the director of the clinic, seeing that the case was a desperate one, and that all other means had failed to relieve the dyspnoea, suggested a trial of injections of oxygen into the veins. The patient's consent was obtained, and it was explained to his parents that the operation might have a fatal ending, but that it was the only thing that could be hoped to relieve. The patient was cyanotic, covered with perspiration, had a pulse of 144, and a respiration of 54. Under cocaine the dorsal vein of the right foot was isolated, and the hæmorrhage was found to be very slight, so that it was apparent that the circulation was already failing. The patient was moribund. The needle of the syringe was introduced into the vein and the oxygen began to pass into the blood. Half an hour later, 80 cubic centimetres had passed and the patient began to feel a little easier. The operation lasted

forty-five minutes, and 120 cubic centimetres were introduced, the pulse coming down to 120, the respirations to 40, and the dyspnoea being less marked. He continued to feel fairly well at ease until the next day, when he again had a subnormal temperature, a pulse of 160 and respiration of 50. A second injection was attempted, but the patient was so near death that it was impossible to find a vein in the foot, the blood being centred in the heart, which was failing. The author concludes from his experience with this method that oxygen injected into the veins is completely absorbed by the red blood cells, and therefore does not produce air emboli. These injections should be made slowly, so as to inject not more than 500 cubic centimetres of oxygen in one hour, in order to give the gas time to become absorbed. These injections will find a place in therapeutics in all cases in which respiration is seriously crippled.

HYGIENE AND SANITARY SCIENCE.

The Results which have been Obtained by Antityphoid Inoculation. By Dr. A. E. Wright (*Lancet*, September 6th).—The author has collected all available statistics on antityphoid inoculation. In every instance there was at least a two-fold reduction in the incidence of typhoid fever among the inoculated. Superadded to the diminished incidence of the disease there was a striking diminution in case mortality. In the aggregate the proportion of deaths to cases among the inoculated is approximately half that among the uninoculated. The author emphasizes the fact that there is in connection with all protective inoculation a risk to be considered. There is the risk in cases where (a) the patient's resistance is naturally low or has been reduced, as is often the case, by a previous attack of typhoid fever; (b) the patient is inoculated with a full dose of vaccine in actually infected surroundings; (c) the patient is inoculated with an excessive dose or is reinoculated too soon, that the system may be left more open to infection at a period when it stands in need of protection.

Buttermilk as an Infant Food. By Dr. A. Baginsky (*British Medical Journal*, September 6th).—The author's conclusions are as follows: (1) Buttermilk, as prepared and recommended by the Dutch physicians, is a good food for acutely and chronically sick infants. (Pure cream is soured by means of bacteria—a lactic acid fermentation—thus extracting the fat to a minimum; 0.3 to 0.5 per cent. To one litre (a quart) of this buttermilk are added from fifteen to twenty-five grammes (225 to 375 grains) of wheat flour and from thirty-five to fifty grammes (525 to 750 grains) of cane sugar. With constant stirring the mixture is allowed to boil for two minutes, and is then cooled, bottled, and placed on ice. It is warmed to body temperature before using). (2) Prepared buttermilk is well borne after attacks of acute dyspepsia and summer diarrhoea. (3) In chronic diarrhoea and chronic enteritis it may be looked upon as a life saving preparation. (4) It is to be hoped that more observations will be made on its use as an actual food in healthy infants. (5) In cases which the author has observed for a long time, he has never seen develop disturbances of nutrition, such as rachitis or scorbutus.

PHYSIOLOGY AND PATHOLOGY.

Differentiation Between Typhoid, Colon and Dysentery Bacilli.—Dr. M. Klopstock (*Berliner klinische Wochenschrift*, August 25th) has made some experiments in this direction. He has used two forms of media, one containing lactose, salt and nutrose, the other glucose, instead of lactose. The typhoid and dysentery bacilli did not change the former medium in any particular, while the colon bacillus formed acids within twenty-four hours. In the second medium, the colon bacillus and the typhoid bacillus evoked acid formation with coagulation within twenty-four hours, while the dysentery bacilli caused only the formation of acid.

Note on the Origin of Urine Albumin. By L. Aschoff (*Lancet*, September 6th).—The author reports the results of a series of experiments which tend to confirm the view that the albumin present in nephritic urine is derived from the blood and is different from the specific kidney albumins. The experiments were based upon the principle of precipitin formation—i. e., whether the injection of kidney substance into the blood of an animal resulted in the production of a precipitin for urine albumin. The results were uniformly negative.

The Effects of Exercise on the Heart and Circulation.—Dr. R. C. Larrabee (*Boston Medical and Surgical Journal*, September 18th) asserts that violent exertion normally causes changes in the blood pressure, temporary enlargement of the heart's area from dilatation or relaxation of the myocardium, and sometimes a fugitive murmur. The cause of the latter is not obvious. The chief result of training is hypertrophy. As abnormal results of exercise, we have acute dilatation, rare in healthy young men, especially if well trained, and as a result of habitual overexercise, "irritable heart," and the other conditions associated with dilatation, hypertrophy, or myocarditis, and generally due in part to other predisposing causes.

The Influence of Atropine and Physostigmine Upon the Circulation of Blood in the Head. A Preliminary Communication. By Dr. A. M. Kalline (*Roussey Vratch*, August 24th).—A series of experiments upon dogs of medium size performed with the aid of Hurlth's "blood clock," show that atropine in large doses produces a considerable increase in the blood-supply of the head, and an increase in the diameter of the cephalic blood vessels. This was determined by coincidentally noting the blood pressure in the common carotid and the volume of the blood passing through that vessel. The phenomena observed depend probably upon an acceleration of the heart's action, inasmuch as the force of the individual heart beat is somewhat, though not very markedly, lowered by atropine poisoning. Physostigmine poisoning, however, gives entirely different results. Both the volume of the blood flowing through the vessel and the diameter of the blood vessel are diminished. Evidently, the increased energy of the cardiac systole is not able to balance the marked retardation in the activity of the heart, and therefore the blood supply of the head suffers.

Our Subscribers' Discussions.

A SERIES OF MONTHLY PRIZE ESSAYS.

[Questions for discussion in this department are announced once a month.. So far as they have been decided upon, the further questions are as follows:

XVII.—How do you treat nocturnal incontinence of urine in children? (Answers due not later than October 10, 1902.)

XVIII.—How do you prevent mammary abscess? (Answers due not later than November 10, 1902.)

XIX.—How do you treat frostbite? (Answers due not later than December 10, 1902.)

XX.—How do you treat buboes that threaten to suppurate? (Answers due not later than January 10, 1903.)

Whoever among our subscribers (with the limitations mentioned below) answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but NOT REQUIRED) that the answers be short, if practicable, no one answer to contain more than six hundred words. So far as our space will allow, we shall publish the substance of such of the answers as seem to us most likely to prove interesting to our readers, and we reserve the right to publish any of the answers in any department of the JOURNAL.

Only subscribers to the NEW YORK MEDICAL JOURNAL (including regular and volunteer officers of the medical corps of the United States Army, Navy, and Marine-Hospital Service, commissioned or under contract) will be entitled to compete, and all persons known to be engaged in medical journalism are disqualified. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish....

The prize of \$25 for the best essay submitted in August has been awarded to Dr. George E. Nour, of Niagara Falls, N. Y., whose paper appears below.

PRIZE QUESTION NO. XVI.

THE NON-OPERATIVE TREATMENT OF DYSMENORRHEA.

By GEORGE E. NOUR, M. D.,

NIAGARA FALLS, N. Y.

Dysmenorrhœa is a symptom indicative of an abnormal condition in the uterus, or in the surrounding tissues and organs, so that the menstrual function becomes excessively painful.

The best treatment for such a condition, as well as that for any disease, is that treatment which is directed as much as possible toward the removal of the cause. The causes of dysmenorrhœa are numerous, and for the sake of brevity I will classify them under two general causes, namely, intrinsic and extrinsic, and give the proper treatment for each cause, as follows:

Intrinsic causes are:

I. An inherited or acquired rheumatic or gouty diathesis.

Treatment: Keep the circulation active and the body warm by the use of salt or vapor baths; and woolen flannel underwear is essential. Medicinally, give antirheumatics, such as the salicylates, colchicum, guaiac, potassium iodide, ammonium, so-

dium or lithium benzoate, xanthoxylum, asclepias, dulcamara and phytolacca. All and any of these remedies could be used with advantage, to meet the requirements of each individual case.

II. Inherited or acquired neurotic diathesis.

Treatment: Constant care and vigilance to find out the cause or causes that lead to the neurosis; and the treatment should be directed to the original cause, with due attention to the general tonic and hygienic treatment as well as to the whims and inclination of the patient.

The hysterical should receive nerve sedatives and tonics, such as valerate of ammonium, asafoetida, and cimicifuga, together with due attention to diet, cleanliness, and regularity of the bowels.

The neurasthenic requires change of air and a liberal amount of food, sunshine, and systematic exercise of such character as to excite her interest. Frequent baths and rubbing of the whole body, and especially of the spinal cord, so as to maintain an active circulation, are beneficial and important.

Medicinally, give sedatives during the menstrual flow, to relieve the pains, such as apiol, cannabis indica, and chloral. The parotid extract also has been credited with satisfactory results in this regard; and general nerve tonics, such as nux vomica, the bitter tonics, damiana, phosphorus, and various glandular extracts, reputed to be nerve and tissue builders, have been used with some approach to success.

Married life and parturition have been credited with excellent cures.

III. Congenital malformations of the uterus, such as narrowing of the neck, stenosis, contractions, etc.

The treatment consists of hot sitz baths and hot vaginal douches, with mechanical dilatation, assisted by local applications of belladonna ointment to the os and cervix; also the use of the galvanic current has given great success.

IV. Polypous growths.

Treatment: This growth sometimes yields to the influence of large doses of ergot, and becomes dislodged by the powerful tonic uterine contractions excited by ergot.

V. Anæmia, chlorosis, and malarial toxæmia.

Treatment: Change of air, liberal diet, regulation of the bowels, saline baths, and gymnastics in the open air. Medicinally give bitter tonics, such as calumba, quassia, nux vomica, iron, quinine, arsenic, etc.

VI. General plethora requires catharsis, mild diet, and venesection or the application of leeches to the anus, perinæum, or the inner surface of the thighs.

VII. Sluggishness of the portal circulation.

Treatment: Give calomel, blue mass, phosphate of sodium, Epsom salts, citrate of magnesium or Carls-

bad salts, and prescribe walking, horseback riding, and gymnastic exercises.

VIII. Pelvic congestion, areolar hyperplasia, endometritis, pelvic peritonitis and cellulitis.

Treatment: Remove and abandon corsets and tight lacing; prescribe rest in bed, elevate the hips, and use hot fomentations of poppy, with leeches to the perinæum, for the purpose of removing the congestion; also mild saline cathartics, hot sitz baths with warm vaginal douches of boric acid and water, or a weak solution of bichloride of mercury or potassium permanganate; and internally give nerve sedatives to relieve the pains. Then, after the menstrual flow ceases, treat locally by swabbing the vagina as well as the endometrium (if endometritis exists) with Churchill's tincture of iodine, ichthyol, and glycerin, or with a ten grain solution of nitrate of silver, or a twenty grain solution of carbolic or chromic acid to the ounce. Then tampons saturated with boric acid and glycerin should be inserted into the vagina every other day, to remove the congestion and reduce the hyperplasia.

Build up the system with general tonics, moderate exercise, and wholesome food. Should a specific taint exist, then specific remedies are essential.

Extrinsic causes:

I. Exposure to cold and wet.

Treatment: Warm baths, diaphoresis, catharsis, Dover's powder, hot drinks, and quinine.

II. Displacements due to faulty dress, dancing, or external violence.

Treatment: The displaced uterus should be replaced and properly sustained, corsets removed and replaced by a skirt supporter which hangs from the shoulders, so as to take the weight of the clothing away from the abdomen and pelvic organs.

Medicinally, give uterine sedative tonics, such as viburnum prunifolium, cimicifuga, and general tonics, and hygienic treatment should be observed.

III. Luxurious and sedentary habits should be treated by active and systematic exercise, mild diet, change of air, catharsis, and warm baths to remove the accumulated poisons. A sea voyage often works a cure.

IV. Habits deteriorating to the nervous system, such as sexual excesses, self-abuse, and late hours.

Treatment: Such difficulties should not be overlooked by the physician, but should receive his due and prompt consideration, and be corrected by moral advice and persuasion. The physician should endeavor to improve the moral surroundings of his patient by instituting a system of physical exercise in the open air and selecting for her a busy and wholesome occupation, so as to divert the mind from its morbid tendencies.

Medicinally, spinal sedatives, such as bromides, camphor, etc., should be given.

V. Emotional influences and sudden mental disturbances.

Treatment: These conditions are best corrected by cheerful surroundings, to lure the mind from the influences which distressed or excited it. The patient should be sent to the country for a quiet out-of-door life, horseback riding, walking, golf or tennis playing, early hours of retirement, and plain, wholesome food and bathing all of which will be enjoyed with decided benefit and rewarded with the cure of the individual.

1113 MAIN STREET.

THE TIME ELEMENT.

Dr. H. V. Sweringen of Fort Wayne, Indiana, writes:

Dysmenorrhœa, in its treatment, requires the element of *time*; and this is the reason why patients become discouraged and go the round of the doctors.

A student once asked his professor: "What is the best treatment for acute inflammatory rheumatism?" "Six weeks," was the professor's prompt reply. In answer to the question which heads this article I should make a similar reply, extending the time to a year or more, but by no means attaching to it the interpretation that dysmenorrhœa is a self-limited disease and will run its course in spite of any and all treatment, as is implied in the professor's answer in regard to rheumatism.

The intervals at which patients with dysmenorrhœa suffer are so extended, though regular they may be, that they are prone to forget between them that they are subjects of the malady, and thus neglect the proper interperiodical treatment so essential to permanent cure.

My experience in the treatment of these cases has taught me that the great majority of them occur among young women, who are chlorotic, anæmic, neurasthenic, leucocythæmic, or neurotic, with all that these terms necessarily suggest, *i. e.*, irritable and congested ovaries, tubes, "tired" uteri, spasmodic stenosis of the cervix, the various displacements of the womb, relaxation of its entire structure, exfoliation of its endometrium, uric acid irritation at times of the entire organ and coagulation of its contained blood, rendering its discharge exceedingly and intermittently painful.

The very best treatment for these cases is the *constructive* treatment, with such aids as rest, change of climate, scene, society, amusement, a sea voyage, salt water baths, massage, and marriage when the opportunity presents, which is frequently postponed because of the malady, the patients and their mothers being ignorant of the fact that marriage alone cures many cases, into the *modus operandi* of which cure it is not necessary here to enter.

My medical armamentarium in the treatment of dysmenorrhœa consists of such agents as cod liver oil, iodide of potassium, iron (citrate), strychnine, glycerin, manganese, the hypophosphites, fractional doses of calomel or hydrargyrum cum creta, salicylate and bicarbonate of sodium, arsenic, ale, proto-nuclein, normal salt solution enemas, and remedies of like character, changing their form and combinations from time to time, and *continuing their administration every day for three hundred and sixty-five days or longer if necessary*. No matter how much better a patient may become after a few months' treatment, the secret of success lies in its *continuance* for a year or two, uninterruptedly. I have yet to record a single case of failure with this treatment. During the course of the treatment it will be necessary to furnish immediate relief at the menstrual period, and nothing accomplishes this better and more decidedly than a hypodermic injection of from 1-3 to 1-2 a grain of morphine, which, in some cases, has seemed to have a curative rather than a mere palliative effect, as in some cases of sciatica. Where the patient resides at a distance from the physician, and is not conveniently reached at her painful periods, morphine or codeine with apiol, or viburnum, or elixir of valerianate of ammonium may be taken by the mouth; frequently a tablespoonful or two of paregoric or twenty to forty drops of laudanum or two or three ounces of hot whiskey will afford the required relief, together with the usual foot or hip bath.

The point I desire to make is that there is no *one* remedy or combination of remedies that will cure in a *short* time these cases of dysmenorrhœa, and that their best non-operative treatment is by the use of such agents as I have enumerated, continued for a long period of time—at least for a time during which twelve, eighteen or twenty-four menstrual periods occur. There is no better treatment with which I am acquainted—none so good.

RESTORATION OF THE GENERAL HEALTH.

Dr. Jennie G. Drennan, of St. Thomas, Ontario, writes:

Pain during the intermenstrual period is more common than is supposed. If it is of a colicky nature it is referable to the tubes or uterus; for only organs containing muscular fibres can give rise to pain of this nature; if it is rather a soreness, heaviness, and dragging sensation, it is directly caused by the ovaries. In the former case it is an attempt on the part of diseased tubes and uterus to relieve diseased ovaries. An ovary may, like any other glandular organ, be seriously deranged and cause very little pain, the pain arising generally from the attempt on the part of other diseased organs to do its work for it. We may have serious disease of the liver, kid-

neys, etc., without marked or any pain symptoms referable directly to their organs.

The patient's general condition will have to be considered. From sedentary habits and faulty digestion, uric acid in large quantities in the system is a common cause of dysmenorrhœa. Uric acid or urates in a joint cause pain, especially if that joint is exposed to any causes which give rise to a congested state, then why not in the uterus at such a time? The urine should be carefully examined. Dysmenorrhœa cannot be cured in a day. There are hundreds of remedies on the market, which goes to show that not one really reliable one has been yet found. They, as a rule, relieve the pain at the time, but do not cure, do not remove the cause without which there can be no cure. Too many cases which have failed to be benefited by these halfway measures are operated upon, instead of having their real cause recognized and removed, the removal of which demands a long course of treatment. A chronic condition is a long time in being established and therefore a long time in being removed, and not one dose of medicine nor ten may banish it; nothing but patience, perseverance, and hope. Diseased tissues have to be educated back to health.

The general system must be put in a healthy condition, one in which all its functions are acting perfectly; the skin by bathing and massage and healthful exercise must be able to perform its functions; the food must be wholesome, easily digested, and there must be regularity of the bowels; the urine must be normal; but if the digestive apparatus is in order this will need no care, uric acid is the result of faults in the former respect. Late hours must be given up, some healthy occupation engaged in and suitable recreation ordered, plenty of fresh air, in fact everything that tends to invigorate the system; and healthful reading, anything in the shape of literature, music, etc., that causes emotional conditions which act on the sexual system must be prohibited. This is a factor not thought of sufficiently.

As the local condition is one of congestion, depletion must be sought for, during the intervals hot douches, one gallon as hot as can be borne, taken lying on the back and at bedtime; one week before the flow two grains of calomel in four divided doses, every hour before bedtime; and on the following morning a drachm of sodium phosphate in half a glass of hot water before breakfast, this latter being also taken before every meal during this week; ten grains of sodium salicylate after every meal for the same time, and during the attack the patient should lie in a quiet darkened room and take ten grains of phenacetin every hour until relieved, one or two doses generally sufficing. A hot foot bath often is a relief; then administer for some time a tonic containing iron and arsenic.

Book Notices.

The Röntgen Rays in Medicine and Surgery as an Aid in Diagnosis and as a Therapeutic Agent. Designed for the Use of Practitioners and Students. By FRANCIS H. WILLIAMS, M.D. (Harv.), Visiting Physician at the Boston City Hospital, etc. With Four Hundred and Ten Illustrations. Second Edition, with Enlarged Appendix. New York and London: The Macmillan Company, 1902. Pp. xxxii-704. (Price, \$6.)

That the first edition of this work should have been exhausted within three months needs no commentary. The most notable changes that have been made consist in an omission of the last chapter (a single page devoted to the x rays in the examination of food and drugs and in veterinary medicine), an enlargement of the appendix from two to fifty pages, and the insertion of nineteen additional cuts. This enlargement is chiefly by the report of recent cases submitted to x ray treatment.

A brief consideration of x ray equipment and a paragraph on times of exposures for x ray photographs are also introduced, together with a description of the author's fluorometer.

Electricity in Medicine and Surgery, including the x-ray. By WILLIAM HARVEY KING, M. D., Professor of Electrotherapeutics in the New York Homœopathic Medical College and Hospital, etc. In Two Parts, with a Section on Electrophysiology, by W. Y. COWL, M. D., of Berlin, and a Section on the Bottini Operation, by ALFRED FREUDENBERG, M. D., of Berlin. New York: Boericke & Runyon Company, 1901. Pp. 296.

The work is divided into two parts. Part I. presents a consideration of Electrophysics and X-Rays, a very useful section on Motor Points and Electrodiagnosis, and a very bewildering section on Organic Electrolgy. Of the last named section, the articles on Electrophysiology, Cataphoresis, and the Special Physiologies of Nerves and Muscles, are written by Dr. W. Y. Cowl, of Berlin. No doubt, they are erudite, probably they are instructive; but the very technical and largely theoretical discussions are quite lost to the reader in the long and involved sentences in which they are presented. One such sentence, composed of a marvellous array of dependent clauses, contains over one hundred and fifty words. Nor is the style alone to blame, as is shown by the following, which, surely, should not have been allowed to slip into print unedited: "Respecting such it is obvious, that if upon the sudden fall of a current of short duration the polarization already effected has not yet reached excitatory power, since it must always remain less than the potential polarizing current, it cannot add to the excitation by this current, however produced, whether by its rise, its fall, or both; and on the other hand, if a current on its fall excites only by means of the polarization already effected, then recursively the fall of a current of short duration, having produced as yet no considerable polarization, will effect no excitation."

Part II. deals with general electrotherapeutics and the use of electricity in the treatment of diseases of the various organs and systems of the body. These

chapters are free from undue theorizing and are reduced, for the most part, to practical directions. A separate section is devoted to the Bottini operation, which is described by Dr. Albert Freudenberg, of Berlin, not only from the electrical standpoint but with all the details of preparation, technics, and post-operative care.

The book gives evidence of careless proof reading.

Selected Essays and Addresses by Sir James Paget. Edited by STEPHEN PAGET, F. R. C. S. New York and Bombay: Longmans, Green, & Company, 1902. Pp. viii-445.

The lectures and addresses contained in this volume are, of course, intended for the medical profession. For erudition and literary style, however, as well as for the lessons contained in some of them, it would be well if the laity could read them unabridged. The essay on Animal Experiments, that on Theology and Science, and that on Cases that Bone Setters Cure are marked by such lucidity, temperance, and high-mindedness that their general diffusion could result only in benefit.

Most of the other essays included in this volume are on subjects of surgical pathology, and they reflect well the labors of their author toward a higher conception of surgical work. It is well that the masters of our art leave behind them written evidences of their supremacy. Sir James Paget lived through strenuous times in the development of surgery and its technics, and their influence upon him and his teachings is well illustrated in the present volume.

An International System of Electrotherapeutics for Students, General Practitioners, and Specialists. By Numerous Associated Authors. Edited by HORATIO R. BIGELOW, M. D., Fellow of the British Gynæcological Society and of the American Electrotherapeutic Association, etc. Second Edition, thoroughly Revised and brought up to the Present Date, with Several entirely New Departments embodying the most Recent Developments of the Science. Edited by G. BETTON MASSEY, M. D., Fellow of the American Electrotherapeutic Association, etc. Thoroughly Illustrated. Philadelphia: The F. A. Davis Company, 1901. Pp. x-1129.

The earlier edition of this almost cyclopædic work has been edited anew by Dr. Massey, who has written for this edition a comprehensive and practical chapter on The Galvanic Current and a brief but suggestive article on The Treatment of Cancer by Electrical Destruction and Regional Sterilization through the Cataphoric Diffusion of the Electrolytic Salts of Mercury and Zinc. An article on The Galvanic Current in the Treatment of Saccular Aneurysms has been contributed by Dr. D. D. Stewart, and a somewhat elementary chapter on Röntgen Rays, by Dr. Max. J. Stern, has also been introduced in this edition. Many of the other articles have been revised; and, if we except descriptions of the most recent methods of x ray and electric light treatment (which, however, do not necessarily come within the scope of the work), the volume is quite abreast of our present knowledge.

A Manual of Clinical Diagnosis by Means of Microscopical and Chemical Methods for Students, Hospital Physicians, and Practitioners. By CHARLES E. SIMON, M. D., Baltimore. Fourth Edition, thoroughly Revised. Illustrated with 139 Engravings and 19 Plates in Colors. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. xxiv-17 to 599. (Price, \$3.75.)

The fourth edition of Simon's work merits the same praise that was bestowed upon the earlier editions. Diagnosis by the aid of modern laboratory methods is the tendency of the day, and in a measure this tendency has become so pronounced that the older methods of diagnosis upon which our ancestors relied are somewhat undervalued. Still, in many instances laboratory methods of diagnosis are of vital importance, and no student or physician of to-day can be said to have a broad or comprehensive view of clinical medicine without a knowledge of modern laboratory pursuits.

In the preparation of the present edition, several new illustrations and some additional matter in the text have been inserted. Numerous references to the literature of the subject are given and the work is brought fully up to date. The book is too well known to require an extended review, and the cordial reception that it received some few years ago will surely be renewed. The work in every way is of superior merit and value.

Manual of Childbed Nursing, with Notes on Infant Feeding. By CHARLES JEWETT, A. M., M. D., Sc. D., Professor of Obstetrics and Diseases of Women in the Long Island College Hospital. Fifth Edition. Revised and Enlarged. New York: E. B. Treat & Company, 1902. Pp. 5 to 84. (Price, 80 cents.)

Dr. Jewett's little book is a practical work that will prove of real value to those who are expected to read and study it. The chapters on the care of the pregnant, parturient, and puerperal woman are in consonance with present day obstetrical teaching, while the chapters on infant feeding follow the teachings of the milk laboratories. This is a good book, with which the monthly nurse should be thoroughly familiar.

BOOKS, ETC., RECEIVED.

Bacteriologische Diagnostik. Zum Gebrauche in den bakteriologischen Laboratorien und zum Selbstunterrichte. Für Aerzte Tierärzte und Botaniker. Von Teisi Matzschita, Dr. med. et phil. Mit 17 Abbildungen. Jena: Gustav Fischer, 1902. Pp. xxvii-690.

Harn- und Geschlechtsorgane. Erster Teil. Harnorgane. Von Professor Dr. J. Disse, Marburg. Mit 86 Abbildungen im Text. Handbuch der Anatomie des Menschen. Herausgegeben von Professor Dr. Karl von Bardeleben. Sechster Band. Erster Teil. Jena: Gustav Fischer, 1902. Pp. 170.

Darmsystem. Erste Abteilung. Atmungsorgane. Von Friedrich Merkel, in Göttingen. Mit 89 Abbildungen im Text. Handbuch der Anatomie des Menschen. Herausgegeben von Professor Dr. Karl von Bardeleben. Sechster Band. Erste Abteilung. Jena: Gustav Fischer, 1902. Pp. 182.

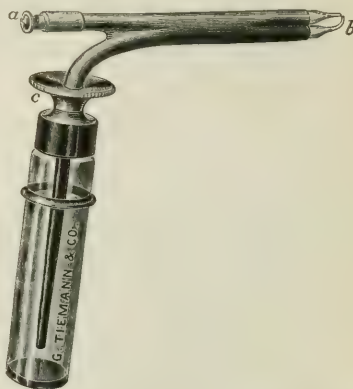
Transactions of the American Dermatological Association at its Twenty-fifth Annual Meeting, held in Chicago, May 30 and 31, and June 1, 1901.

New Inventions.

AN IMPROVED CONTAINER FOR SPRAY TUBES.

By J. A. BLAKE, M. D.
BROOKLYN.

I desire to call the attention of physicians using a spray apparatus to a new container for the Sass spray tube. Hitherto it has been necessary to use a glass tube with a stopper of cork or soft rubber. If cork was used, dust and grime quickly collected in the interstices, if rubber was used it softened in the oily preparations. Both cork and rubber always presented an appearance more or less unsightly to fastidious patients.



The above figure shows the Common Sass spray tube (*a, b*) in a container (*c*). The tube fits tightly into the mouth of the container but an inlet sufficient for the ingress of air is cut in the mouth of the container. It is so small as to be practically unseen. Hard rubber and glass are the only materials used. The design is ornamental.

It is made by G. Tiemann & Co.

Miscellany.

Wooden Splinters in a Tooth.—Percy St. C. Smith, M.D.S. (*Dominion Dental Journal*, August), reports the case of an eight-year-old boy who, in December, 1901, was sleigh-riding down hill, and collided with a wood pile. Result: Lips cut, lower incisors loosened, upper left central badly so, and lower mesial angle broken off, but not exposing the pulp. In due time, except the appearance of the fractured central, everything apparently returned to normal.

About two weeks ago the boy got his feet wet, and the inactive condition at the apex of the central immediately became active, and when the patient was seen by the author the face was swollen, both eyes being nearly closed. He tapped the tooth at the fracture, going through probably a sixteenth of an inch of dentine, and got quite a flow of stinking pus. He waited a day or so for drainage and for the swell-

ing and soreness to subside, prescribing constitutional treatment. He then proceeded to enlarge and cleanse the canal, and in doing so extracted *three pieces of wood* from near the apical foramen, each about half an inch long, and from 1-20 to 1-16 inch in diameter.

The author asks: Now, how could those pieces of wood get in the position they were in? They were not driven through the broken end of the tooth into the pulp as there was a thick layer of dentine there, and it is impossible to see how they could have been driven through gum and alveolus into the pulp canal.

The Devil's Attitude Toward Hospitals.—In the *Miracle de Théophile*, a miracle play by Rutebeuf, a French poet of the thirteenth century, Theophilus, a deposed priest, enters into a compact with the devil to have his earthly fortunes restored at the cost of his soul. Satan then explains to Theophilus the good deeds that he must refrain from since he has placed himself in his hands. Among others he informs him that

Quant l'en en la meson Dieu entre
Por regarder aucun malade,
Lors ai le cueur si mort et fade
Qu'il m'est avis que point n'en sent.

Which may be rendered as follows:

When to the maison Dieu one goes
Some invalid to greet,
My heart so dead and heavy grows
It seems no more to beat.

K. W. M.

[God's House for hospital still survives in the Hôtel Dieu, of Paris.]

Primary Carcinoma of the Vermiform Appendix.—Dr. D. S. D. Jessup (*Proceedings of the New York Pathological Society*, May) showed at a recent meeting of the society a specimen removed at the Woman's Hospital, in April, 1902, by Dr. Clement Cleveland. The patient was a woman, thirty-six years old, who had had two children and five abortions. Since the last abortion she had suffered with pain in the left inguinal region and the operation was undertaken for disease of the uterine annexa. Abdominal incision showed a cyst of one ovary, which was opened. The appendix was bound down with adhesions and was therefore removed. The patient made an uneventful recovery.

The gross examination shows an appendix six centimetres long. At the junction of the middle and outer thirds it is bent at a right angle. There is a constriction at the bend, and beyond this a dilatation giving a diameter of one cm. The proximal two-thirds are five millimetres in diameter. The peritoneal coat appears smooth, although adhesions were present at the time of the operation. Section shows thickening of the wall in the proximal two-thirds, leaving a narrow lumen here. At the bend the lumen is obliterated. In the dilated portion the muscular coat appears as a thin shell and the space within is occupied by a tumor mass of firm, yellow tissue.

On microscopical examination the section of the tumor shows an adenocarcinoma. The new growth has replaced the structures of the mucosa and submucosa, and its cells are infiltrating the muscular coat. The cells are grouped in alveoli of various sizes and shapes and between the alveoli is a small

amount of muscular and connective tissue. In the alveoli which show a lumen, the cells are cylindrical in shape, in other places they are polygonal. The middle and proximal portions of the appendix are not invaded by the new growth, but there is a marked activity of the germ centres of the lymph nodules.

Apart from the rarity of this condition the case is of interest on account of the absence of any symptoms pointing to disease of the appendix, so that its discovery was an accidental one.

Kelly has collected 79 cases of carcinoma involving both cæcum and appendix, but these do not settle the primary origin. The author has been able to collect thirteen cases of indubitable primary cancer of the appendix, verified by microscopical examination. The type was adenocarcinoma in all cases where it was described. Two cases occurred in patients under twenty, and four in those under thirty years of age.

Marasmus Infantilis.—Dr. Charles H. Hughes (*St. Louis Medical Review*, April 12th) in an article on The Neuropathologic Aspects and Neurotherapy of Marasmus Infantilis advances the following therapeutical precepts:

(1) Clean primæ viæ, as aseptic as may be practicable without harm to the patient—an exceedingly difficult problem. (2) Assimilable nutrition by mouth and skin. Zahorsky's nutrient formulæ, for example, with such peptonizing, asepticizing, and nutrition-promoting additions as advancing experience may suggest; and special cases may indicate thyreoid nutrition. (3) Restoration of normal blood pressure with normal salt solution per rectum and subcutaneously. (4) Judiciously regulated hyperthermia, slightly above the normal for ordinary infants and adapted to the lowered vitality of each case. Regulated light. (5) Cautious, general, cerebro-spinal and enteric electrotherapy, to stimulate cell activity, central and epithelial. Special sanitary environment with a slightly ozonized air, where practicable, and certain aromatized inhalants and condiments, such as have a tendency to exalt vital processes, digestive, assimilative, and metabolic, including the savory substances advised by Zahorsky. (6) Such attention to the skin as will best promote its vitality as an absorber of oxygen and as an exhalant and eliminant. Vicarious and otherwise transmitted and awakened nerve centre energy. By inference, powdering of the skin and rough rubbing would be excluded, while moderate and gentle warm cutaneous friction would be indicated.

Sodium Bicarbonate in Surgery.—M. Mallet (*Gazette hebdomadaire de médecine et de chirurgie; Revue médicale*, August 13th) says that sodium bicarbonate saponifies the fatty matters of the skin, softens the epidermis and aids its desquamation and also stimulates the cutaneous functions and aids the secretions. While this salt is not in itself antiseptic, M. Mallet finds that it confers on the cellular elements an increased functional activity which renders them better able to struggle against infectious germs. The author speaks highly of a moist alkaline dressing, which is inexpensive, easy to manage, is not liable to bring about toxic effects, and seems particularly indicated in atonic wounds, burns, varicose ulcers, etc. Sodium bicarbonate may be used in powder, as an ointment, or in solution, especially of five per cent.

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WHOLE No. 1244.

Original Communications.

ROTATION IN LATERAL CURVATURE: A REPLY TO DR. JUDSON.*

By ROBERT W. LOVETT, M. D.,
BOSTON.

In a paper on the Mechanics of Lateral Curvature, published in 1900,¹ I called attention to the necessary association of rotation of the vertebræ with side bendings of the spine and went on further to show "that lateral flexion and torsion of the spine are associated parts of one compound movement and that neither can exist without the other. That, in

position and that the spine follows the laws governing flexible rods in this regard." The reason for this rests on mechanical grounds.

"From the mechanical point of view, torsion results from any motion in which all the particles of a straight flexible rod do not move in parallel planes. Consequently, if such a rod is bent in two planes at the same time, torsion must inevitably occur. The vertebral column is not a straight flexible rod, but one bent in the anteroposterior plane by a series of gentle curves; side bending must therefore inevitably lead to torsion, because it means bending in two planes. . . . From a mechanical point of view, the torsion begins with the beginning of the



FIG. 1.—Appearance of rod when bent to one side, but neither flexed nor extended.



FIG. 2. Appearance of rod when bent to the right and flexed. Axis of pins changed.

side bending from the flexed position, the torsion is diametrically opposite from what it is in the extended

side bending. It therefore seems very unlikely that pure lateral flexion of the spine ever exists.

A strip of sponge rubber, half an inch in diameter and fourteen inches long, rotates in the same way that the vertebral column does in the same position. It rotates in one direction for side bending when bent

* Read before the American Orthopaedic Association, at Philadelphia, June 7, 1902.

¹Boston Medical and Surgical Journal, June 14, 1900; Transactions of the American Orthopaedic Association, Vol. xiii., page 251.

forward, and in the opposite direction for side bending when bent backward, and the rotation follows the same rule observed in the vertebral column in the cadaver and in life. A lateral curvature, in what corresponds to the flexed position of the spine, may be produced in the rubber strip following the same rule of rotation seen in life; that is, the front of the

with the treatment of scoliosis I have ventured to repeat the experiment as photographed by Dr. Judson, for in his photographs it seemed to me that rotation was evident and that they were confirmatory of my experiment, rather than otherwise.

In addition to the positions of the flexible rubber strip that he showed I have added a lengthwise photograph of the rubber strip, which shows in the different inclinations of the pins that some change in their relation to the anteroposterior axis has occurred, which change is what we mean by rotation. I am indebted to Dr. Percy E. Brown, of Boston, for my photographs, in taking which we followed as closely as we could the conditions of Dr. Judson's experiment. The rubber strip was held by a clamp in the middle and the ends were connected by a thread. In Fig. 1, the rod is shown bent to one side, neither flexed nor extended. In Fig. 2, it is flexed and bent to the right. Taking the middle pin as the fixed point, it may be seen that the sides of the strip have



FIG. 3.—Appearance of rod bent to the right and overextended, showing axis of pins turned to opposite direction of that in Fig. 2.

rod turns towards the convexity of the lateral curve, An artificial lateral curvature in the rubber strip, made in what corresponds to the extended position of the spine, results in a reverse rotation to that from the rotation of the flexed position. . . .

For side bendings, when bent forward, the flexible rod rotates one way, and when bent back and to the same side it rotates the other way. So far as this analogy goes, the spine, therefore, in its rotations does no more than to follow certain laws governing flexible rods."

In the *Journal of the American Medical Association* for February 22, 1902, Dr. A. B. Judson published a photograph of my experiment, which he asserted showed that rotation of the spine was "unaffected by flexion or extension, a result which might have been expected *a priori*, because the curve in any case is but a simple curve and incompetent, as such, to govern rotation."

As the point is of some importance in connection



FIG. 4.—Rod doubled on itself, showing pins in varying in anteroposterior plane from the center pin.

come into view at the end, and that the axes of the pins above and below the centre one is no longer the same as the axis of the centre pin. In Fig. 3 the rod is over extended (to follow the same nomenclature as that employed in the spine, while we are supposed to be seeing from behind) and the pins above and below the centre have again changed in axis and

have turned to the *opposite* side from that of Fig. 2. The other side of the end of the rod from that in Fig. 2 has come into view below, demonstrating that the rotation in over extended positions in the rubber strip is the reverse of that in flexed positions. In Fig. 4 one looks along the line of pins, no one of which is in the same anteroposterior plane as the centre pin.

The experiment, therefore, would seem to confirm my original statement that a strip of sponge rubber rotates just as the spine does in the same position, and that in the flexed position it rotates in one way, and in the over extended position in the opposite way.

A METHOD OF CIRCUMCISION.

By WALTER C. KLOTZ, M. D.,
NEW YORK,

ASSISTANT SURGEON TO THE ROOSEVELT HOSPITAL, O. P. D.;
CLINICAL ASSISTANT, CORNELL UNIVERSITY MEDICAL
SCHOOL, G. U. DEPARTMENT.

The two layers of prepuce as they are normally reflected over the glans penis, contain between them a layer of areolar tissue, continuous with, and similar in structure to, that underlying the integument of the shaft. This connective tissue is very loose and elastic, thus permitting great freedom of motion to the skin overlying it, and contains a large number of blood vessels and lymphatics, which follow a general longitudinal direction.

The methods of circumcision usually employed, and those recommended in text books, involve not only the removal of the two layers of skin, but also considerable injury to the areolar tissue, the result of which is that the blood vessels and lymphatics are divided and resected, making it necessary to employ clamps and ligatures for the purpose of arresting hæmorrhage. At the same time, owing to the disturbed circulation of the parts, there is produced considerable œdema. This may persist for some time after operation in the form of an indurated swelling behind the coronal sulcus. In some cases, as a result of excessive infiltration, there is produced in this swelling true granulation tissue, which undergoes cicatricial contraction in the course of time, causing the formation of a hard constricting ring just beyond the coronal sulcus.

The principle of the operation to be described below was first suggested by von Zeissl for the treatment of irreducible chronic paraphimosis.¹ A few years ago, my father, Dr. H. G. Klotz, urged that it might very well be employed in cases of simple phimosis.

It consists in removing a cuff shaped flap of skin, leaving intact the areolar tissue, with its blood vessels and lymphatics.

The patient having been prepared in the usual way, and the parts anæsthetized by infiltration with cocaine solution, the prepuce is retracted toward the root of the penis, and held moderately tense. A circular incision (Fig. 1, a) is made

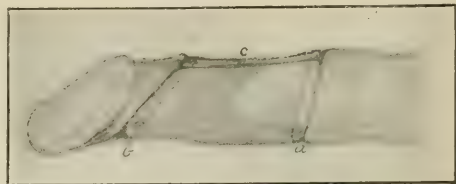


FIG. 1.

around the penis from two to three inches behind the coronal sulcus, according to the amount of skin it is desirable to remove. This incision should divide only the skin as far as areolar tissue. A second incision (Fig. 1, b) is made around the penis about half an inch behind the coronal sulcus. This should be like the first, but in a plane placed more obliquely, so as to be parallel with the line of insertion of the glans. The two circular incisions are then joined by a longitudinal one (Fig. 1, c) along the dorsum of the penis, and, beginning along the edges of the latter, the cuff-shaped flap of skin outlined by the three incisions should now be dissected off all around the penis, (Fig. 2), either with a full-belied knife, or with blunt curved scissors. As a rule there will be little bleeding. If the tissues are swollen from the infiltrated cocaine solution, strips of gauze wrung out in hot salt solution may be wrapped around the penis, and held

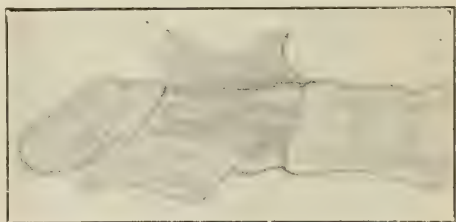


FIG. 2.

with gentle pressure for a few minutes. The two edges are then brought together and united by interrupted horse-hair sutures (Fig. 3). Primary union takes place promptly, and the sutures may be removed about the fifth day. There is, as a rule, no swelling or œdema, and at the end of a week the skin is freely removable over the subjacent parts.

¹ Zeissl, Ueber Behandlung der Paraphimose, *Wiener Medicinische Blätter*, 1883, Nr. 28.

In the case of paraphimosis the steps in the operation may be reversed. The longitudinal incision is made first, and sufficiently long to go beyond any inflammatory adhesions and to divide all constricting bands. The circular and oval incisions are made at either end, and the cuff is dissected off as described above, except that, in cases of long standing paraphimosis, the layer of

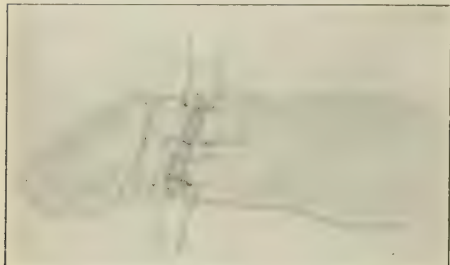


FIG. 3.

inflammatory tissue must be dissected away with the skin.

In irreducible phimosis it will be necessary to make the conventional dorsal slit, passing through both layers. This will involve the areolar tissue at the same time, but, as the vessels run for the most part longitudinally, they will escape any extensive injury. After reducing the phimosis, the operation can be completed by making the two circular incisions and dissecting off the cuff as usual.

The operation is not practicable on very young individuals, as in them the parts are too small to be handled without difficulty. Even on adults it requires at first a little more time than some other methods, but I have found, after employing it in quite a number of cases, that the results obtained well repay the additional trouble. It enables one accurately to determine the amount of prepuce to be removed. The principal advantages, absence of hæmorrhage and freedom from œdema and induration, have been dwelt upon. In addition, there are the prompt union and the freedom from adhesions along the suture line, to recommend this method of operation.

126 WEST FORTY-FIFTH STREET.

Major Ronald Ross, who occupies the "Walter Myer" chair in the Liverpool School of Tropical Medicine, will, it is reported in a cable to the *New York Herald*, shortly visit the United States with a view to carrying on further investigations into the causation and prevention of malaria. It will be remembered that Major Ross was associated with the work which has led to the recognition of the mosquito as the bearer of malarial infection.

A CASE OF CHELOID.

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CASE.—J. H., aged twenty-one years, a healthy, dark complexioned adult, with some tendency to acne as evidenced by the comedones scattered over his face, neck, and shoulders, sustained some two years ago—owing to the application by mistake of a poultice in an almost scalding condition—a large blister involving the skin over the lower ribs and the epigastric and hypogastric regions.

This blister on healing left two elongated pigmented patches, unaccompanied, however, by any loss of the natural suppleness of the integuments until after the lapse of some five or six weeks, when the patient noticed that some "lumps" were forming in the outer patch; these gradually developed into a growth which was, with the exception of the outlying "barleycorn" foci, of the same size, shape, and consistence as the one now depicted in the accompanying photograph.



Dr. Taylor's Case of Cheloid Growth following upon a Scald.

It was tender, painful, and itched at times. This tumor, the patient states, however, was completely removed by operation in October, 1900, but all the phenomena very shortly reappeared, and in ten or twelve weeks the recurrent growth was as large as ever. It now presents as two hard, fibrous, whitish gray, spindle-shaped masses, with no evidence of any increase in vascularity, joined together in an "A" shaped form by a shorter band of similar structure, and though at present the mass of the tumor has not trespassed beyond the area previously occupied, the numerous outlying foci with which it is now surrounded point to an early encroachment on adjacent tissue. Tenderness, pain on pressure, and

itching are complained of, as in the original growth, but none of the burning sensation usually noted as a symptom.

Virchow attributes cheloid to an irritation caused by, and proportionate to, the extent of the exciting lesion, while Alibert, who first described the disease, attempted to divide it into "true," or, spontaneous, and "false," or cicatricial, cheloid. Others, again, would distinguish between a spontaneous, or idiopathic, growth and one arising from "scar tissue," but it is now considered very doubtful, in view of the many trifling injuries to the skin which may occur unnoticed or forgotten, whether such a growth ever arises without some such exciting cause. It is sometimes associated with acne; it has developed in the scars of leech bites, in those of vaccination, of herpes, and of smallpox. Showing itself, as it usually does, between the ages of fifteen and fifty years, it is a disease of adult life and more common in the dark races than the fair.

It is affirmed by Liveing—in combating the view that a cicatricial cheloid is nothing more than an hypertrophied scar—that while, in the former, the tissue consists of fibres closely packed together and arranged in the long axis of the tumor, with a tendency to assume a spindle-shape, in the latter the fibres run in every direction, forming a confused irregular network. This microscopical test, however, is seldom applicable, and the same authority gives the following points in favor of a diagnosis of cheloid as distinguished from one of "hypertrophied scar."

(a) If the growth is on or near the sternum, especially if it is multiple.

(b.) If tenderness, pain on pressure, and subsequently itching, are present in the tumor.

(c.) Cheloid eventually extends, though perhaps very slowly, beyond the scar; an hypertrophy of scar tissue never does this.

A spontaneous involution, more usually in young subjects (Hutchinson), sometimes takes place, and Goodhart has recorded a case in which extensive cheloid tumors arising after smallpox had in a few months disappeared. Removal by operation, or treatment by caustics as in this instance, is never successful in preventing a return.

Pressure applied by elastic bandages, mercurial plasters, or deep incisions into the growth have all been recommended, and Morris has seen moderately-sized tumors completely disappear after electrolysis, applied once a week and accompanied by a daily massage; he also recommends, if the growth is painful, the injection in and around it of cocaine or the local application of belladonna or opium.

COMPLICATIONS IN THE PASSAGE OF A GALL STONE.

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(Concluded from page 544.)

Intestinal Obstruction.—Intestinal obstruction due to the impaction of a biliary calculus is not such a common occurrence as one might be led to expect. When it does occur, it gives rise to sudden, serious, and alarming symptoms. From Mr. Mayo Robson's investigations, he found only four cases had been treated in twelve months in a number of the largest hospitals. This number represented eighty thousand in-patients and several hundred thousand that had been treated as out-patients.

Brockbank found only one case between the years 1883 and 1896 in fifty thousand patients treated.

By far the greatest number which reach the intestinal tract through a fistulous communication escape in the feces without any unusual disturbance. Those that perforate into the stomach may either be vomited or pass downward. The very large ones cannot be vomited, neither can they succeed in passing out in the stools if they ulcerate into the small intestine. It is only when they reach some part of the large intestine that they can escape without causing impaction. The size of these calculi which can escape without causing abdominal disturbances varies greatly. Stones as large as a hen's egg have been known to be passed without any great difficulty. Sometimes a much smaller one will create great distress and serious symptoms. It is reasonable to suppose that those that are larger in diameter than one inch cannot pass along the lumen of the small intestines and through the ileocecal valve successfully. When calculi larger than this reach the small intestine, they are almost sure to cause impaction and consequent obstruction. More or less inflammatory changes take place at the seat of impaction. The contents of the bowel cannot be forwarded and local peritonitis soon sets in. When this takes place, serious abdominal symptoms soon supervene, which may place the life of the patient in imminent jeopardy.

Mr. Mayo Robson, who is eminently qualified as an authority upon the subject of cholelithiasis, maintains that there are four varieties of intestinal obstruction due to gall stones:

1. That caused by local peritonitis about the region of the fundus of the gall bladder. They cause paralysis of the hepatic flexure of the colon or the duodenum. The symptoms usually come on suddenly and resemble greatly those of strangulation due to a peritoneal band or acute intussusception. It usually begins by sudden and acute pain in the right

hypochondriac region and extending down the right side of the abdomen. There will frequently be a history of previous attacks of biliary colic, followed often by jaundice. At first there will be no distention, but it gradually makes its appearance, locally and on the right side only at first. Later the distention will become general. Vomiting is not an early symptom, and only comes on after long and continued spells of retching. Should there be concretions in the common duct, jaundice will almost of necessity occur. If not relieved quickly, great weakness may set in and fecal vomiting. In these cases prompt treatment is urgently demanded. If the pain is very severe, as it generally is, hypodermic injections of morphine sulphate, in doses of $\frac{1}{8}$ to $\frac{1}{4}$ of a grain should be given; rectal feeding should be employed to maintain the strength, and extract of belladonna, in $\frac{1}{4}$ grain doses, administered every three or four hours. Enemata of soap suds, castor oil, and turpentine ought to be given to relieve the tympanites and in order to get the bowels moving if possible. This method of treatment should be adopted as early as possible, and persisted in. Even forlorn-looking patients may be rescued when prompt measures are adopted. Should the urgent symptoms not yield after a faithful trial of these measures, then operative procedures become urgently demanded. The abdomen should be opened in the region of the gall bladder, and probably a quantity of inflammatory lymph will be found at the hepatic flexure of the colon, which is acting as a band. This should be liberated and any other pathological condition remedied.

2. Volvulus of the small intestine is one of the rare complications of cholelithiasis. This is probably due to the uneven contractile action on the muscular walls of the intestines at or near the seat of obstruction. The extra effort put upon the intestines to propel the calculus may so disarrange normal conditions as to form a kink or twist in a part of the bowel not far from the obstruction. In these cases the diagnosis as to the exact cause of the condition is extremely difficult. Given an acute obstruction with a localized swelling, a previous history of cholelithiasis, with its periodical characteristic attacks of colic, and jaundice, the physician should allow the probability of a volvulus to pass into his mind. Enough evidence will at least be present to be assured of obstruction from some cause, which for practical purposes is sufficient, for these cases are never improved by temporizing with them by medicines. Vomiting is an early and persistent symptom in the majority of these cases. At first it consists of retching, then mucus is vomited, and this may very shortly run into fecal matter. Nothing short of an abdominal section is of any value for relief. Just as soon as the condition is recognized, the patient should be placed under the influence of an anæsthetic and an

exploratory incision made. There will generally be a localized point which may become hard and prominent during the paroxysms; over this point the incision should be made. If the operation is done sufficiently early, very good results frequently follow. If it is delayed until gangrene has developed, the chances for recovery, with or without operation, are reduced to a minimum.

3. This variety is an obstruction in some part of the intestine due to the impaction of a large calculus. It is the most important and frequent of all the causes of obstruction following on cholelithiasis. It has already been stated that cholelithiasis is much more frequent in women than in men, and that old people are more subject to the disease than are the young. It is therefore not surprising that impaction and subsequent obstruction are found more often in old women than in old men. Statistics show that they are affected in this manner four times more frequently than men of the same age. It is a point worth considering in making a diagnosis in some of these cases. The frequency of obstruction in different periods of life, according to Schuller, is as follows:

Under 30	years	.....	4
Between 31 and 40	"	.....	5
" 41 " 50	"	.....	17
" 51 " 60	"	.....	33
" 61 " 70	"	.....	29
" 71 " 80	"	.....	16
" 81 " 90	"	.....	3
Over 90	"	.....	1
Total			108

There is no definite period of time during which a calculus may remain in the intestine. They have been known to pass out in a few days, and it is on record when they have remained fifteen years without exciting any other symptoms than occasional constipation. Usually they remain in the intestines but a few days before setting up local and constitutional symptoms. A case is recorded by Eve in which a calculus remained in the small intestine for ten years without giving rise to any unfavorable symptoms, other than constipation, until it reached the ileocecal valve, when obstruction took place. He does not, however, relate upon what he bases his diagnosis, and at what intervals examinations were made, to enable him to positively assert that a calculus was present for such a long time. A curious condition is related by Courvoisier in which an old woman, over eighty years, had a congenital or more probably an acquired diverticulum in one side of the duodenum. In this pouch were found twenty-two calculi. The part of the bowel where intestinal obstruction most frequently takes place is the ileum,

although any portion of the intestinal tract may be involved.

The following table will best illustrate this:

Leichtenstern. Courvoisier.

Duodenum	} 10	3	} 8
Jejunum			
Upper part of small intestine			
" " " ileum	5	4	} 33
Middle " " "		1	
Ileum		18	
Lower part of ileum	17	10	} 9
Ileoæcal valve		7	
Vermiform appendix		2	
Sigmoid flexure of colon		2	} 2
	—	—	
	32	52	

I have already stated that the large calculi do not pass down to the intestine through the biliary passages; the lumen is altogether too narrow for such a process. They ulcerate their way through and gradually burrow along the track that has been made for them by the advancing inflammatory exudations that have been thrown out and agglutinated some two peritoneal surfaces together. The higher up the intestine the calculus has ulcerated through, the more acute will be the symptoms and the more dangerous the condition. This is what might be expected. When a calculus has perforated through into some part of the small intestine, it has a much greater distance to travel, the lumen of this part of the bowel is much narrower, and the many convolutions into which it is thrown form barriers to the advance of a stone. Those which enter through the walls of some part of the colon have a much greater chance of passing without meeting with obstructions. The lumen is large, the distance is not nearly so great, and there are not so many kinks and turns to be overcome. A great many of the obstructions take place at the ileo-cæcal valve. This valve is fairly firm and not so easily dilated as the coats of the small intestine. When a calculus has lodged for some time in the intestinal tract, it frequently increases in size, from the accumulation around it of faecal matter. More especially is this true of the larger calculi in the large intestine. Two interesting cases came under my observation some time ago. The condition was first diagnosticated as a fibroid tumor by the attending physician. It was in an elderly woman, and the physician was called in to give his opinion in regard to a large lump that could be distinctly felt in the left iliac region. In consultation, the woman gave the history of previous biliary attacks and jaundice. Her principal complaint was of constipation, and for this she had consulted a number of physicians. Her bowels had not moved for six weeks, but she complained of no distinct pain, but a feeling of uneasiness in the region of the lump, as she called it. Her abdominal walls were quite thin, and the mass could

be freely moved about. It was extremely hard, especially at the lower part. By bimanual examination it could clearly be defined. Toward the upper surface it was not so firm, and by firm pressure the finger could be felt denting into it. I concluded it was a case of faecal impaction in the sigmoid flexure. Purgatives had no effect in removing it, neither had enemata at first. By making firm pressure and kneading, it was finally broken up. Oil and glycerin were frequently given, and after three days of persistent effort the mass became broken up and began to come away in hard lumps. In one of these was found embedded a large gall stone, of about the size of a pigeon's egg. The bowel was then thoroughly washed out, and the patient suffered from nothing further.

Pye Smith records a case somewhat similar. On examination per rectum, a mass was found in the region of the sigmoid flexure which was causing an obstruction. It was hard, but quite movable. At first it was thought to be a cancer, but in thirteen days afterward a large biliary calculus came away, when the condition was cleared up.

Schuller had four cases of women who complained of symptoms of obstruction which afterward proved to be biliary calculi. Three of them suffered from faecal vomiting, and two stated that they could feel something within them rolling about. Palpation of the abdomen was followed by relief and the escape of the offending calculi.

Sometimes a calculus will pass successfully down through the intestine to the rectum, where it may meet with a constriction due to a syphilitic or other ulcer. Before relief can be had, in many of these cases, it is necessary to dilate the constriction. A very small biliary concretion may insinuate its way into the vermiform appendix, and be the means of setting up appendicitis, or perityphlitis. It usually creates sufficient disturbance to cause an abscess and call for operation. It occasionally happens that the patient may have recurrent attacks of obstruction. In the passage of a calculus along the intestine it may become lodged in some part for a time, and set up pain, vomiting, and temporary obstruction. Relief may come when the calculus passes on for a distance, when it will meet with another obstruction and set up similar symptoms. This may repeat itself a number of times before it successfully escapes.

The symptoms of an attack of obstruction, following as the result of impaction of a gall stone in the intestinal canal, vary considerably, but generally are similar to those following obstruction from other causes. As a general rule it will be impossible to state the exact cause of the condition until a calculus is found coming away or discovered during an operation for relief. It is well, however, to make a thorough examination of the previous history of such

patients. If it is found that they have suffered from time to time from violent biliary attacks and jaundice, valuable diagnostic information may be obtained. When the patient has very thin abdominal walls, without any tympanites being present, frequently the physician can feel a small, hard lump at the seat of impaction. In acute cases, where there are much pain and distention, it will be impossible to do this. In thick, fat abdomens, little or no information of this kind can be obtained.

The symptoms may be acute or chronic. In the acute variety the onset is usually very sudden. The patient will have suffered previously, in all probability, from pain and uneasiness in the right hypochondriac region, if not from acute attacks of biliary colic and jaundice. There will not, however, have been any indication of intestinal obstruction till all of a sudden the patient will experience severe pain, which is frequently at the beginning attributed to a severe attack of indigestion. It persists, however, and very soon other symptoms, such as chills, elevation of temperature, headache, and nauseous sensations, will appear. About this time the physician may be called in, when he will find that, in addition to the above mentioned symptoms, constipation, vomiting, and abdominal distention have set in. The pain may be persistent or intermittent, but always severe and often agonizing. The pain may not always be in the location of the obstruction, but may be referred to an adjacent or more remote part. It must not alone be taken as indicating that the seat of obstruction is under the point of pain. Before the condition has lasted very long, collapse, which may be severe or even alarming, will be almost certain to appear. According to the acuteness of the obstruction will be the degree of collapse. Especially is this true when it affects younger and robust people. Vomiting is another of the early and unfavorable symptoms. Sometimes it is preceded by a period of retching, but in the very sudden and acute varieties there is none; the contents of the stomach are first vomited, then mucus and bile, followed shortly after by coffee ground material. Eructations of gas are frequently commingled with the vomited material. Finally fecal matter, of an offensive and characteristic odor, will be vomited. Complete constipation is a concomitant symptom, although a quantity of feces may be passed from some portion of the bowel below the seat of constriction at an early stage of the disease. When the obstruction becomes well established, neither flatus nor anything else comes away. The abdomen becomes enormously distended, the vomiting continues with greater persistency and frequency, although as the disease advances, and the patient rapidly loses strength, belching up gas and mechanical gulps may take the place of vomiting.

In cases similar to this, the duty of the surgeon is

clearly indicated. Unfortunately, many patients or their friends insist on medical treatment being tried until the chances of recovery by an operation are extremely unfavorable. If it were possible to make a positive diagnosis with certainty at an early period, there can be little doubt that the majority of these cases could be cured. In all cases, just as soon as fecal vomiting appears, an operation should be insisted upon. Frequently it will be impossible to have these patients removed to a hospital, and the surgeon will be obliged to do the best he can with an unfavorable surrounding in many instances. Such preparations as can be carried out should be made in as short a time as possible, and the patient put under the influence of an anæsthetic. If a satisfactory examination of the abdomen has been impossible, the surgeon will probably be able to ascertain the seat of obstruction after the patient has been put under the anæsthetic. The incision should be made over this, and the abdominal walls opened. When this is accomplished, the point of obstruction should be found and examined. The further steps in the operation will depend upon the length of time the obstruction has existed and the condition of the parts. If it has been of recent date, and the bowel is not too much inflamed or gangrenous, it may be possible to crush the stone between the thumb and fingers, and cause it to be passed beyond the inflamed part. If this is impossible, it may be that the stone can be manipulated either upward or downward to a healthy part of the bowel, where it can be crushed without doing too much damage to the walls of the intestine. Should it be found inexpedient to do this, then one of two alternatives remains for the surgeon. The intestine at the obstruction may be raised out of the wound and given to an assistant to hold steady, while the surgeon makes a small slit and removes the stone. The incision in the intestine is to be united with fine silk or catgut by means of Czerny-Lambert sutures, and the bowel dropped back. If the patient is so ill that a search for the obstruction or a prolonged operation would be too dangerous, then enterostomy should be performed. This would give relief to the urgent symptoms, and when the patient had sufficiently recovered in strength a final operation could be done for the removal of the offending calculus. The cardinal point is to operate if possible before the patient becomes reduced in strength, and before the inflammatory condition surrounding the calculus, at the seat of obstruction, has become gangrenous. Fortunately, all cases of intestinal obstruction, as the result of a calculus, are not so acute or urgent as this. Many of them are quite chronic, and the symptoms accompanying the condition are quite slow in developing. Usually there will be no chill or elevation of temperature, neither will there be vomiting or tympanites. The one prominent symptom will be

constipation. There will probably be more or less pain at the seat of obstruction, and generally a good-sized mass can be felt. There will be a history of ill health, indigestion, jaundice, or a sallow complexion. It may be advisable to resort to medical means for relief at first. Extract of belladonna, given in $\frac{1}{4}$ -grain doses every four hours, seems to have a decided effect in relaxing the muscular coats of the intestine and liberating the impacted calculus. Should there be considerable pain, as there sometimes is, small hypodermic injections of morphine sulphate are to be given. Small and repeated doses of sulphate of magnesium, in as hot water as can be swallowed without scalding, can be administered. When the symptoms are not too urgent, this line of treatment frequently brings the needed relief. The calculus becomes dislodged and gradually passes along, and the patient recovers. It is not always so favorable, however, and the obstruction remains, no matter what remedies are given. It is then the bounden duty of the physician to turn to surgical aid in the relief of the condition. The patient should be prepared for the operation, and an abdominal section performed. The seat of obstruction can more certainly be made out than in the acute varieties. There is usually little or no distention, and a hard, nodular mass can often be detected, when the obstruction exists. It may not be much larger than a marble, but it will be firm, hard, and unyielding. In thick or fat abdomens there may be difficulty in locating it until the patient is under the influence of the anæsthetic. These cases are more successfully treated surgically than are the acute varieties. The walls of the intestines are not nearly so inflamed, and there are usually no adhesions to be broken up in the neighborhood. The bowel should be taken out into the opening, a small slit made into it, and the calculus removed. It should then be sutured by firm silk or catgut in a similar manner to that already described for acute obstruction.

4. The fourth class of obstruction following impaction from a calculus is characterized by an obstruction coming on very gradually, some time after a calculus has passed down successfully. It is due to the lumen of the intestine becoming narrowed from a constriction. This constriction may be the result of an ulcer healing up by granulation tissue, and thus contracting, or it may be the result of narrowing at the point where the calculus ulcerates through. At first there may be symptoms of indigestion and diarrhoea only. As the ulcer gradually contracts, constipation will come on. Sometimes this alternates with diarrhoea, the patient will gradually lose flesh, and may have a somewhat cachectic appearance. Vomiting does not begin until the obstruction becomes complete, nor is it usually an urgent symptom. Auscultation may reveal gurg-

lings, louder and more prolonged at a point immediately above the constriction than at any other part, and in thin abdomens reverse peristalsis may be visible; it begins at the obstruction and works upward. Wave after wave of such occasionally can be seen. The treatment to be adopted when constriction is present is in many respects similar to that of any obstruction. The first urgent symptoms are to be relieved by mild aperients, belladonna, etc. Should these fail, an operation is then demanded, and is in all respects similar to that already described. When the opening is made in the intestine, the constriction is to be dilated as much as the coats of the intestine will allow without rupturing.

Diagnosis of the Seat of Obstruction.—1. The first point in the alimentary canal where obstruction can take place from a gall stone is at the pyloric end of the stomach. Among the principal symptoms will be nausea, retching, vomiting, sometimes hæmatemesis, and dilatation of the stomach. There may be little or no irregularity in the action of the bowels. As the stenosis becomes more developed, the gastric dilatation will gradually increase until it may reach below the umbilicus. The dilated stomach may be palpated when full, and its various borders outlined. An excellent method of ascertaining the exact degree of enlargement is by means of an electric bulb at the end of a tube which the patient is to swallow. This tube is attached to an electric battery. The room in which this experiment is carried out should be dark. The light in the stomach can be seen shining through the abdominal walls, and the extent of the dilatation can readily be made out.

2. When obstruction takes place in the abdomen, there will be no dilatation of the stomach, but retching and vomiting will be early symptoms. Usually there are large quantities of bile vomited. There will be complete obstruction to the action of the bowels in a short time; there will be little or no distention. When the bowel becomes inflamed, the pulse and temperature will be elevated, and there may be chills. Vomiting will be the prominent symptom, but the matter ejected will not be feculent. The pain may be well marked and come on in paroxysms.

3. Should the obstruction take place in the upper part of the jejunum, the symptoms will be very similar to those following obstruction in the duodenum. The pain will probably be more intense and the vomiting more persistent and profuse. The matter vomited will at first be the contents of the stomach, then mucus, which may be streaked with blood, and finally it will assume a feculent character. In the region of the epigastrium there will be tympanites, but the lower part of the abdomen may be flat and retracted.

4. When the obstruction takes place in the region of the ileocecal valve, the symptoms are so apt to simulate those due to appendicitis that a mistake in

diagnosis can readily be made. Vomiting here is an early symptom, and there is complete fecal obstruction. The epigastric, hypogastric, and umbilical regions become tympanitic, while the iliac regions remain flat. Theoretically, or from a pathological standpoint, these distinctions may be written with a nicety, but at the bedside they are not always constant, or they may be masked by others that make matters extremely puzzling for the physician. The suddenness of the onset of vomiting, and especially should it become feculent, is an important guide to the condition.

5. Obstruction developing in some part of the colon comes on more gradually than in the small intestine. Vomiting is a constant symptom, but comes on later. There is complete obstruction from the beginning. Tympanites comes on early, and gradually involves the whole abdominal cavity. As time goes on, the abdomen becomes quite distended and drumlike. When the obstruction is in the sigmoid flexure, a rectal examination frequently reveals a mass too hard and firm to be anything else but a calculus. It is absolutely unjustifiable to attempt to localize a calculus by sounding with a sharp needle. Passing such an implement through the abdominal walls into the intestine is too often followed by disastrous results. When such a puncture is made, gas often escapes through the aperture, and should the bowel be in a highly inflamed condition or gangrenous, its contents may perforate out into the general peritoneal cavity. It is much better surgery to make an exploratory incision down through the abdominal walls to the obstruction, and then meet whatever emergency that may present itself.

Negative Effect of Suprarenal Extract in a Case of Addison's Disease.—Cases of benefit in Addison's disease from the use of suprarenal extract having been reported, Dr. L. L. Skelton (*Clinical Review*, September) reports a case in which no beneficial results followed that treatment.

The course of the disease was very steady and progressive. The exacerbations that occurred were diminished in severity by proper management and were not greater either in number or severity than usually obtains in this disease. The duration of the disease was about two years. It was to be expected that the use of suprarenal extract would at least prolong the case. This did not appear to be the fact. It did no more than was done by strychnine, digitalis, and ergot. It did not influence the case as does thyreoid extract in cases of myxœdema. Symptomatic treatment, however, was of marked benefit in this case.—It rendered the patient comfortable, prevented syncope and warded off the frequent accidents of the disease, but the use of suprarenal extract, after long trial, exerted no appreciable influence on the course of the malady.

CURRENT DIFFERENTIATION, ILLUSTRATED BY A CASE OF PERIPHERAL NEURITIS, DUE TO PARENCHYMATOUS DEGENERATION OF THE CORD.*

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Every drug in the pharmacopœia has undoubtedly some therapeutic value, and if when prescribed it hits the mark, well and good.

Unfortunately, however, it is pretty well understood that many, if not the majority, of remedies, including those prescribed and self-administered, fail in their special adaptation to the case in hand. If this is true with drugs, it is even more so in the application of electrical forces. As with the former therefore, so with the latter; in order to get the best results that electricity is capable of giving, we must rightly adapt the remedy to the disease.

For this reason I have always held that to correctly differentiate between the various manifestations of electricity and select the form most suitable, is one of the most important and difficult problems in electrotherapeutics. If we wish for mechanical effects, we select currents of alternation, of to-and-fro motion. All currents undoubtedly yield physical effects, but for chemical effects only currents giving a considerable ampérage are applicable, while physiological effects, like physical ones, are excited by every possible manifestation of electricity. The three effects that we term mechanical, physical, and chemical, or electrolytic, as is well known, are not peculiar to living bodies. They are observed on both the dead and the living, or inorganic and organic bodies, although they are more or less modified by vitality.

Physiological effects, on the contrary, take place by virtue of the vital properties of the body; they cease when life ceases, for they are mainly the modification of the vital processes by electricity.

We can readily understand, therefore, that physiological effects must be in many respects more important than the others.

Currents of enormous potential have undoubtedly widened the sphere of usefulness of electricity in medicine in the development of physiological phenomena, and yet I very much doubt whether they excite any really new physiological effects. The fundamental idea of the therapeutics of electricity, is its nutritional influence, which we have known and obtained for many years. We get these nutritional

* Read before the American Electrotherapeutic Association, September 2, 1902.

effects because of the influence of electricity on the circulation, on the excretory and secretory processes of the body, and on absorption.

There is no form of electricity but what has a certain influence in these directions, yet, for the purpose of increasing general nutritional activity, exciting metabolic changes, and developing the potential energy of the cell life, it seems to be the general consensus of opinion that, in these currents of high frequency and potential, we have an energizing principle superior to the other electric modalities. But while welcoming the new let us not forget the old, but remember that the magnitude of these high potential currents is practically *nil*, and magnitude or ampérage is in a multitude of conditions absolutely essential.

In the following case, this fact was strikingly apparent and my object in presenting it is threefold:

1st: As an illustration of a form of neuritis somewhat unusual as to its course, distribution, and pathology.

2nd: As an excellent example of the necessity of careful differentiation in the selection of the proper form of current.

3rd: Because of the prompt relief afforded after the failure of all other methods.

The history of the case renders it quite evident that the pain was traumatic in origin, whatever toxic complications might have arisen subsequently. It seems reasonable to believe also that the pathological result of the injury was a condition of neurone degeneration of the lower cervical and upper dorsal regions of the cord, but a condition still susceptible of ready regeneration.

I venture to give the case in some detail and, as the patient was himself a practitioner of medicine, a man of much intelligence who had consulted many physicians, this account of the symptoms and progress of the disease becomes of special interest and value. I give the history very much in the patient's own words.

CASE.—Dr. — came to me on April 2, 1902, through the kindness of Dr. G. F. Morris, of this city. The patient had led an active outdoor life and in general had enjoyed excellent health, with the exception of one attack of acute bronchitis, fever and ague, and several attacks of "la grippe." No disease of a specific character. The peculiar chain of symptoms to be described, covering a period of eighteen months, has led to the following diagnoses, viz.: lumbago, rheumatism, uric acid diathesis, indigestion, movable kidney, intestinal obstruction, pericarditis, angina pectoris, spinal concussion, spinal congestion, neurasthenia, and hysteria.

The summer of 1900 was spent in Europe and for several months he indulged in the use of wines moderately and smoked six or seven cigars daily, both habits contrary to his custom when at home. While trout fishing in one of the brooks near Loch Lomond he met with an accident, almost dislocating the left

shoulder joint, and so violently stretching the median and external thoracic nerves as to produce great pain and partly to deprive him of the free use of that hand ever since.

In October, 1900, after his return home, he spent an hour in the tan bark ring and on dismounting could scarcely move because of great pain over the lumbar and sacral region, and the weak condition of his legs. A hot bath and cold shower relieved him for the time being. The next morning found him so much worse that it was with great difficulty only that he could assume the extreme dorsal position or rise from his bed. The symptoms gradually increased in severity so that it became difficult to determine the diagnosis as between rheumatism and concussion of the spine. Treatment was directed to these symptoms by the administration of sodium phosphate, friction to the spine with thuja terebinthinate, and ironing with a hot flat iron. Relief followed and riding was again resumed but with little exhilaration or comfort. In April, 1901, he was attacked at intervals with severe pains in the cardiac region, extending down the left arm and simulating the pains of angina pectoris. Dr. S. Dana Hubbard and other physicians then carefully examined him without finding any evidence of organic disease.

The pains were attributed to indigestion with gases distending the stomach. The patient himself repeatedly applied the stethoscope with negative results. The various organic digestive ferments were tried without effect. Thinking that the digestive disturbance would be benefitted by exercise, the patient resumed his horseback riding, until the pains became so severe that he lost all control of his mount. Riding was then permanently discontinued, with relief from pain. In July the angular pains again so increased that he could not walk two hundred feet without an unbearable paroxysm over the left chest, and down the left arm. A minute's rest would give relief, followed by a feeling of complete prostration.

The pain, which was formerly located in the sacral and lumbar regions, now shifted to the dorsal and cervical regions. The paroxysms so increased in intensity and frequency that they often numbered from twelve to twenty during the night, following the least movement of finger, hand or arm, or the slightest change of position. During the paroxysms the pulse was usually full, and between 70 and 80 per minute. Ironing the back with a hot flat iron or the administration of brandy gave more or less relief. Morphine was not used, but opium suppositories simply relaxed the entire system, increasing the weakness and prostration next day. The extreme heat of summer aided in producing insomnia. The month of August was spent at Mt. Kinco, Maine, where the temperature was rarely above 70° F., and more frequently 56°. The cool atmosphere and the quietness gave rest and relieved the insomnia, although the pectoral and brachial pains continued. Out-door life improved the general health, but the use of an eight-ounce fly rod engendered a neuritis of the right ulnar nerve. While at Portland, a paroxysm was treated with a hypodermic of 1-50th of a grain of nitroglycerin with apparent benefit, but on repetition it signally failed. A consultation with Dr. John Nutt resulted in the conclusion that the circulation of the spinal cord was at fault and digitaline was added to the treatment, to help push

the blood through the arterioles. The treatment now consisted of digitaline, grain 1-50; strychnine, grain 1-30; and nitroglycerin, grain 1-50. Six weeks of this treatment gave no permanent relief. The gastric fermentation was much relieved by occasional doses of carbolic acid C. P. five drops in a glass of hot water. On the return journey by steamer, during a paroxysm of excessive severity, a physician on board finding the pulse nearly normal pronounced the case one of hysteria. In the words of our patient, "Ye Gods! what a diagnosis. It was the last straw to break a camel's back." Subsequently, Dr. Robert T. Morris made a thorough examination and finding no apparent structural change of any kind pronounced the trouble neurotic and referred him to a specialist for treatment by electricity. For six weeks, static electricity was administered by varying methods but with no pronounced benefit. At the same time a combination of calcium glycerophosphate, sodium bromide, potassium iodide, potassium nitrate, wine of colchicum seeds, etc., was prescribed and faithfully taken for six weeks, producing the characteristic iodide and bromide acne and coryza, but without avail. For a time, a dose of two ounces of brandy gave relief for three hours, but finally lost its effect and was discontinued altogether. In his extreme desperation to get relief the patient at the same time took treatment by hydrotherapy. This treatment consisted of a fifteen-minute sweat in a cabinet with head exposed, followed by douching with the water at a temperature alternating from 135° to 60° F., at a pressure of from 25 to 30 lbs. This treatment gave at first marked relief but, finally, like all previous methods, failed altogether. He now applied to his friend Dr. J. E. Stillwell, sometime in January, who agreed with Dr. Græme Hammond, whom he had also consulted, that the cause might be one of spinal congestion.

Thompson's solution of phosphorus was prescribed, and for a time with seeming benefit, but played havoc with his stomach, and he was wild with pain again. This disturbance was corrected with a preparation of hydrogen dioxide.

From August 1, 1901, he had subjected himself to a rigid diet, excluding all sweets and desserts, and using only saccharin for coffee. This was done to arrest the excessive intestinal fermentation. During October, the red meats were excluded from the diet, and finally he lived on milk almost exclusively. One morning, on awakening with a paroxysm, he felt the abdomen distended as if by a hard mass. A careful examination with abdominal muscles relaxed, resulted in the conclusion of either intestinal obstruction or a growth. Believing that the transverse colon was distended beyond normal, an enema was administered and gave relief for a time, but still a tumor could be felt. The patient then lived on three pints of milk a day in order to facilitate an examination by some one more expert than himself. Dr. Charles McBurney made the examination but found nothing abnormal. In the words of the patient, "Since July, 1901, I have not been free from these excruciating pains in my chest, arms, and spine, although quite comfortable when absolutely quiet. The slightest exertion brings on a paroxysm. The character of the pain is like a muscle cramp increasing with motion and ending with a sensation of great heat in the epigastric region." Failure with

the foregoing remedies occurring, and no definite results from static electricity or hydrotherapy being attained, the following remedies were used. Cerevisine, on the theory of certain French physicians of a reflex disturbance caused by the presence of staphylococci and other bacilli in the alimentary tract, Fowler's solution, amylin iodatum as alteratives; salicylic acid with colchicine as an antirheumatic—all these were hopefully resorted to and as hopelessly abandoned. The pains were now even increasing in severity and influenced by an article of mine on the use of the combined currents that he had recently seen, he consulted me in no very hopeful mood.

The details of treatment are simple and soon told. The cathode, three by four inches in dimensions was applied successively to the solar plexus and region of the left pectoral muscle, while the anode, of a dimension of three by three inches, was applied by the slow labile method to the cervical and upper dorsal regions of the spine, and occasionally to the left shoulder. The applications were daily, the strength of current from ten to thirty milliamperes, and each séance of about ten minutes' duration. Within a week there was a marked improvement, and by April 20th the pain in the spine, epigastric, and pectoral regions had almost entirely disappeared. The pain in the arm, although greatly lessened and the power of motion much increased, still persisted to some extent. At this time a large and painful carbuncle developed on the neck of the patient greatly prostrating him and resulting in a sudden return of all his former distress. The treatment was however still kept up along the same lines until June 1st when the pain had practically disappeared over every affected area.

In considering this interesting case the question arises, On what principle did galvanization succeed after the failure of both static electricity and the faradaic current? Undoubtedly, to my mind, the success was due to the greater quantity or magnitude of the modality employed, and to its peculiar electrotonic properties; and the rationale of its effects is explained by its superior vasomotor influence, with consequent relief of blood pressure and improvement in nutrition of the degenerated nerve cells. And yet this effect of circulatory drainage and relief of pressure is seen with other forms of electricity. The curative effect of the static spark in peripheral neuritis and the influence of high tension faradaic currents in conditions of local congestion, are well known. In this case, however, the real seat of the difficulty was central and deep seated, and the results of treatment rendered it quite evident that the determining factor in reaching the causation and resolving the pathological condition upon which depended the peripheral disturbance, was ampérage rather than voltage.

It has not been my purpose in this paper to enter into any elaborate discussion of the differential indications for the use of the various manifestations of electricity, but rather to call renewed attention to the importance of the subject. Every form of elec-

trization has had its boom as it were. Who does not recall the controversies between the followers of Duchenne and Remak? One preferred the galvanic, another the faradaic current, and heated arguments were held as to whether the better therapeutic effects were obtained by the applications to the motor points or to the muscles themselves. In this country static electricity, and in France especially the high frequency apparatus of d'Arsonval, are having their booms, so to speak.

This is all very well so long as we do not subordinate the judicial faculty to impulse and desire, or relegate to the background methods of administration because of the trouble entailed.

As Dr. Lewis Jones has well said, "if we wish to do our work scientifically our motto should be measurement, measurement, measurement"; so, if we would get the best and quickest therapeutic results, our motto should be differentiation. Not only must we strive, through theory and experience, to adjust electric modalities to pathological conditions, but the personal equation in each case should receive due consideration. Some patients react better to one electric modality, while others suffering from the same apparent pathological condition and for no apparent reason, react better to another. Idiosyncrasy, here as elsewhere, plays its part, so that no matter for what form of electricity we may have a preference, the all-round electrotherapist, supplied, as he should be with every necessary variety of apparatus, will frequently have occasion to call in the aid of each.

FURTHER REMARKS ON INSUFFICIENTIA PYLORI AS A SEQUELA OF CHRONIC GASTRITIS; WITH REPORT OF FOURTEEN MORE CASES, TREATED SUCCESSFULLY.

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Previously to giving the histories of the cases I will go over, briefly, the salient points of this disease. For fuller discussion my first paper is to be consulted.

The last sentence of my first monograph on this subject (published in the *Philadelphia Medical Journal*, May 24, 1902) reads: "My object in this article is to establish the presence and identity of the pathological condition herein described and hint at the treatment." It is indeed the establishing of the presence and identity of this seemingly quite prevalent pathological condition of the stomach that I am very much interested in. My interest in this discovery is all the greater as it changes the commonly held dolorous prognosis of chronic gastritis, of which the disease here treated of is a sequela, into radiant

hope of a better future (this is not to be taken in a clerical sense). The report of the fourteen cases given in this paper makes, together with those already reported, twenty-six cases in all. Of these, in all of which improvement took place, I have been able to follow up three, and when their histories are given, my enthusiasm, I hope, will be proved to be well founded. Scientific workers all strive to discover new facts but, unfortunately too often, they are not privileged to go beyond the mere discovering of the facts. It was my good fortune not only to recognize this disease but also to devise a successful plan of action for a cure. I hope, however, that the treatment outlined by me may be improved by conscientious collaborators.

I might possibly preface my further remarks by giving the facts that led me to the recognizing of the existence of insufficientia pylori.

In rather too rapid succession, cases presented themselves that justified the conclusion of achylia gastrica, which was my diagnosis at first. But the very frequency of that ignominious affection whetted my appetite for further search. How does the stomach behave, say, half an hour after the ingestion of the test meal? In some cases the ingesta manifested great anxiety to flee from the grasp of their temporary host, even much before this time, as attempts at aspirating the chyme unqualifiedly showed. In other cases the patient and penitent stomach contented itself with harboring the "luscious and epicurean" meal of roll and water for half an hour, and possibly for a trifle longer. But under no sort of persuasion would that sacculated viscus permit itself to be taken advantage of for a time longer than that, and expedited matters quite passively, though not without at the same time evincing a true neighborly feeling of permitting the duodenum to enjoy fully the delicious and savory repast. Having recognized such tricky inclinations of the stomach I thought myself justified in singling out the muscularis—undoubtedly aided by its sworn ally, the nervous system—and made up my mind to hold that dual alliance responsible for a pleasure the patient fails properly to appreciate. The consequence was that I changed the diagnosis of achylia to one of hypertony of the stomach. Unfortunately, however, what promised to be an epoch-making discovery—chronic gastritis with hypertony—proved only of ephemeral magnificence, and the result was the recognizing of the condition of insufficientia pylori as a sequela of chronic gastritis. The reason why hypertony of the stomach failed to impress itself upon me I fully discussed in my first article but, maybe, a short review will not be inappropriate.

The physiological action of muscle fibres is to contract; theirs is a mechanical, a dynamical function. The immediate manifestations of tonus and

dynamia are the results of the respective action of the muscular coat. The function of the muscular coat of the stomach is not only to expel the chyme beyond the pylorus, for which act very little effort is needed, but also to macerate the food. Maceration is a mechanical act and implies that the medium which is to be macerated comes between two forces that work in opposite directions. Peristalsis of the stomach cannot alone cause maceration; it represents only one force, which moves in but one direction. The opposing force is represented by the closed pylorus. With the peristalsis on one hand and the closed pylorus on the other we get the two opposing forces. The first drives the chyme toward the pylorus, but this latter will not permit the ingesta to pass its portals, it is closed. The consequence is that the food flows back to the fundus, recoils, so to say, during the interval of the muscular contraction, only to be subjected again and again to the action of the antagonistic forces mentioned. The oftener the same food is subjected to this throwing back and forth, the finer will be its maceration, the finer its subdivision. Conversely, the finer is the subdivision of the chyme the more often it has been thrown back and forth; the longer it has been in the power of the antagonistic forces, the longer have these antagonistic forces operated; the longer, consequently, must the pylorus have offered resistance, the longer must it have remained closed. As the pylorus normally closes during gastric digestion, opening only at intervals, increased peristalsis—hypertony—with a normally closed pylorus would most assuredly have an increased macerating effect upon the chyme. Were there really hypertony and a normal pylorus, we should then expect to find the "floury layer," *i. e.*, the very finely divided chyme. But, as a matter of fact, whatever is aspirated in this condition of the stomach is very coarse, looking like pieces of roll suspended in water or in mucus, as the case may be.

Now as to the cause of this disease. The immediate cause is a chronic gastritis. The concurrent opinion of all observers, borne out by a large number of autopsies, is that it is the pyloric region that is mostly or altogether affected. It is the chronic inflammatory condition of the pylorus that produces the insufficiency of this sphincter. As remote causes are to be considered all such conditions as produce chronic gastritis. My cases seem to bring out, so far, three remote causes: 1. Mechanical; 2. organacidia gastrica; and 3. alcoholism. Under the first heading belongs the loss of teeth. In the absence of the sufficient number of teeth the food cannot be masticated adequately and large pieces enter the stomach and greatly irritate the mucous membrane. This occasions chronic gastritis. The gulping down of food not thoroughly masticated belongs to the same category. That all three conditions may ope-

rate in the same individual at the same time is a statement that will not cause adverse criticism. The first condition having existed for a long while, we may assume, with a fair degree of certainty, the diagnosis of insufficientia pylori. A clear history of chronic alcoholism may likewise be accepted as presumptive evidence of the presence of this disease. Yet a positive diagnosis must not be made until a test meal has been given and the stomach found empty, one hour or less after the ingestion of Ewald's test breakfast. Nothing must ever be guessed or assumed. We must absolutely ascertain, by repeated efforts at aspiration, how soon after eating the stomach is empty. The age of the patient offers no clue.

The prognosis as to the well feeling of the patient is favorable, and it seems that a return of the pylorus to the normal is not beyond the possible, especially in the younger individual. But whether the pylorus will ultimately return to normal in every case is a question I cannot yet answer. Not sufficient time has elapsed for thorough observation. Case II does show a return to the normal, but the patient is a youthful person; we must wait for the future and for collective observations to give us more data.

The symptoms of this disease refer entirely to the deranged functions of the intestine. There are: Diarrhea or constipation or both; fulness in the abdomen; cramps, pain, or a sensation of pressure or of emptiness, or a feeling of weight, in the abdomen. The patients graphically describe their sensations as those of a shaking or running around or of a boiling or mixing in the belly; there may also be experienced a raw, burning sensation. These sensations are due to the presence of gases that have developed within, and come in contact with the fluids of, the intestine. The developed gases escape as eructation or as wind, either of which is apt to become very annoying. If those volatile, irritating, organic acids that have developed make their exit through the mouth they give a burning, dry, sensation along their route and an indefinite gnawing sensation somewhere in the epigastrium, umbilical region, or left hypochondrium. This gnawing sensation may become very distressing. Volatile, fatty, organic acids, passing through the anus give tenesmus and presumably contribute a large share to the production of anal fissures. The bowels distended with gases may not only cause inconvenience, but may become positively dangerous. The recent experiments of Oppenheim (*Beiträge zur Bekämpfung des Meteorismus, und Das Verschwinden der Leberdämpfung*, both in the *Deutsche medizinische Wochenschrift* of this year) show how dangerous the inflated colon may become, even to the extent of stopping the heart altogether. Headaches, vertigo, anorexia, nausea, singultus, are among the symp-

toms. Flashes of heat and cold, especially late in the afternoon and evening, correspond with the food's reaching the intestine and indicate that it is being badly disposed of there. Disturbance of sleep is also a frequent symptom.

For the successful treatment both dietetic and medicinal measures must be diligently selected. The dietetic treatment resolves itself into the withholding from the *ménu* of acid foodstuffs and such as contain or generate gases. All the food taken must reach the stomach in a well macerated condition. To this there must be absolutely no exception. Gulping down of food must be strenuously interdicted. If a person has no time for his meal, he should either not eat at all or be satisfied with such a meal as needs no mastication. For the latter purpose raw eggs, milk, crackers or biscuits in milk, soft-boiled rice, sago or tapioca, mashed potatoes, butter and fresh sweet pot cheese are suitable. Any loss of teeth must be compensated for with good, workable, artificial teeth. For the very poor patient who can not afford artificial teeth the meat must be chopped fine either with a knife, or with the ordinary butcher's grinding machine, which is quite cheap. The poor patients will readily forego a meat diet if unable to masticate, but this must not be permitted. To appease the taste the meat may be ground fine after the boiling, broiling, stewing, or frying, and may then be mixed with the gravy. No acid food is to be permitted, to which category, also, belong all fruits, even those which taste sweet. Too much milk, too many eggs, radishes, raw onions, cabbages, cauliflower, beans, and peas develop gases, and for that reason these must not be allowed. However, the latter two may be taken in moderate quantity, provided their cellulose skins have been removed prior to cooking. Concerning peas, split peas could be used, and beans may be prepared by allowing them to soak in water over night, every bean being then squeezed out of its skin the following day. It is the cellulose skin that undergoes fermentation with the production of noxious gases and acids. For this very reason cellulose in any shape should not be permitted. This objection especially applies to the eating of whole-grain bread, which is often advised for its laxative effect. For a like reason fruits are advised. Regarding the action of these—whole-grain bread and fruits—there is a deep-rooted and very widespread misconception prevailing. They are known to produce or facilitate movements of the bowels. This cannot be denied. And if it is our intention solely to have the patient allow his bowels to go through some intricate feats of gymnastics, for no other reason than to experience the fun and some quite energetic exercise necessarily accompanying such gyrations, then pumpernickel or such similar delectable dainties, or whole-grain bread and fruits,

must be thought of with great respect. But is this our object? The peristalsis, often Mont-Pelée-like in its manifestation, is caused by the acids contained in, or generated by, those articles. These acids irritate the mucous membrane, whose response is contraction with a force commensurate with the degree of irritation. The muscularis of the intestine, thus whipped into action, propels and expels everything in front of it, exhausting its energy on everything, making no effort at all to distinguish between digested and non-digested. The watchword promulgated to the intestines by those highly irritating acids is, expel; and expel they do. What wonder that patients, under such advised conditions, become fretful, nervous, neurasthenic, hypochondriacal, hysterical, catalytic, idiosyncratic, idiopathic, etc.?

As insufficientia pylori does not at once reach that stage when food is banished from the realms of the stomach immediately after its appearance there, but, as, on the contrary, there are stages when the food remains in the stomach for some little time, it is our imperative duty, if we are to cure the patient, to ascertain such time by repeated attempts at aspirating the test meal. If there is some stomach digestion still going on, this certainly must not be interfered with, and, if possible, it should be enhanced. This can be accomplished to some extent by posture. The patient lies down on his left side, immediately after meals, for a shorter or longer time at the discretion of the physician and in consonance with the acquired facts pertaining to the stomach digestion. This posture antagonizes the tendency of the food to gravitate toward the pylorus; this surely could be tried.

Usually, in cases of chronic dyspepsias—whatever that expression may mean—the patient is at once put upon a starving diet and the list of things forbidden is headed by potatoes, followed by noodles and such similar “indigestible” stuff. Not only do I allow these, but I insist upon their being eaten. Potatoes, carrots, and such similar vegetables must always be eaten well mashed, in the form of purée. Of beverages must be forbidden, coffee, tea, too strong cocoa, mineral waters, and others containing CO_2 .

Medicinally, the treatment consists in giving such drugs as help intestinal digestion. As this requires an alkaline medium the remedies suggest themselves easily. The compounds of potassium, sodium, and magnesium are of excellent service if they are given at the right moment, *i. e.*, neither too soon nor too late. The time when the stomach is empty must never be guessed at. For if the alkalis are given too soon, when there is yet some stomach digestion, this will be interfered with, and if they are given too late some deleterious changes are apt to take place, and in either case the drugs used are liable

unjustly to suffer in our estimation. The good effects of pancreatin and of small doses of inspissated ox gall will soon manifest themselves, when given in conjunction with the drugs just mentioned. The renowned rhubarb and soda mixture has its place here. Under such medication and with the diet mentioned, the patient soon thankfully recognizes and appreciates the beneficence of a benign Providence that has created the physician.

At the beginning of the treatment, anorexia might possibly require our attention: For this purpose a mixture of condurango, cinchona, gentian, and a little HCl. with nux vomica is given with good result.

A few words may be said yet about constipation and diarrhoea. Occasionally, I have to give something for the constipation, for which purpose half-teaspoonful doses of sodium sulphate, two or three times a day in a tumblerful of hot water half an hour before meals, act quite well. Again, I may have recourse to that highly docile remedy, "water." In such a case a few drops of anything, which by preference should be bitter, are given in a tumblerful—make sure that it is a tumblerful—of water, every two hours. It is remarkable how such "heroic treatment will soon cure constipation, provided the cause for this is not an organic disease, neoplasm, constriction of the intestinal lumen by adhesive bands, etc. For chronic diarrhoeas I have found the action of strychnine to be miraculous in its effects. Cases involving up to ten and even twenty movements daily, cases that have lasted for years, have responded to strychnine in from two to four weeks. But we must handle the strychnine with a steady hand and not be afraid of the dose. I begin with a thirtieth of a grain, *t. i. d.*, and rapidly increase the dose to even one seventh of a grain, *t. i. d.* The response to this drug is as immediate as it is miraculous. The movements soon diminish in quantity and gain in consistency, and within about three weeks the diarrhoeas have given place to natural movements.

CASE I.—Mrs. Minna W., thirty years of age. Hungarian. *July 22, 1901*, complained of nausea, constipation, pain in the stomach, bad tasting eructation, singultus, vertigo, and general headache. The examination showed, both kidneys prolapsed in the second degree, and tender. Consolidation in the upper part of the right lobe. *On July 29th* an attempt at aspiration, one hour after the test breakfast, brought only a few cubic centimetres thickly imbedded in mucus. She got the soda and magnesia mixture. *On August 7th* reported feeling better. She continued to come for yet a little while, but as the treatment seemed to last somewhat too long she went elsewhere. She returned *on March 1, 1902*, when a test meal examination brought forth scarcely a few drops. Once or twice she came after this, and again stayed away until May 23rd. Then she came and promised to stay under my treatment, which she did. She now looks well and has gained considerably in weight. During her treatment she had

several test breakfasts, which corroborated the diagnosis of insufficientia. *On June 22nd*, I was able to aspirate 8 cubic centimetres after one hour's waiting. This showed the presence of some mucus and gave free HCl. (tropæolin) 30, organic acids 15, general acidity 65. Aspiration, *August 18th*, one hour after eating, gave about 5 cubic centimetres but no mucus. The patient feels very well.

CASE II.—Mrs. R., twenty-nine years of age. *October 20, 1901*. Double movable kidney, which caused her inability to walk any distance, pain in both legs. This was successfully remedied by a well fitting abdominal supporter with extra pads for each kidney; her history with reference to the stomach got lost. One hour after the test breakfast no contents were aspirated. On the following day an attempt at aspirating the test meal, three quarters of an hour after the eating, gave only about 10 cubic centimetres, of coarse particles and mucus. Only two cubic centimetres were titrated for the chemical determinations, which gave general acidity 65, and free acids 40 (the free acids were determined with Töpfer's solution as at that time I had not yet discovered my methods for the determination of the free HCl. and of the organic acids). *On November 3rd* already 15 cubic centimetres were aspirated after one hour, and still contained some mucus; general acidity 75, free acids 45. She improved.

CASE III.—Betty S., thirty years of age. Galicia. Gets severe headaches once a week, at which times she also has a great deal of nausea, which is relieved only by vomiting up about half a glassful of some green colored contents; severe supraorbital headaches, sleeps badly and little, appetite varying. After vomiting she feels very thirsty; bowels move every day; has no teeth. *November 11, 1901*, the fasting stomach yielded about 30 cubic centimetres of a greenish, mucoid fluid; test meal examination showed no contents after one hour. Got the usual treatment. *On the 18th* reported feeling better. *On May 3, 1902*, she came and said that she felt well up to a few days ago; she again got some alkalies.

CASE IV.—Mr. Natsi G., Hungarian, twenty-three years of age. *November 18, 1900*. Came last week with an angina. Has never had any trouble with his stomach. *On November 17th* I was called to his house. The patient had cramps in his abdomen, fever, headache, anorexia; tongue slightly coated. Fasting, no contents; one hour after Ewald's test meal, no contents.

CASE V.—*November 27, 1901*. Mrs. Fanny B., forty-nine years of age. Hungarian. Complains of choking and dryness in the throat, feels bad in the stomach after eating, bowels regular, ringing in the ears. One hour after test meal, no contents.

CASE VI.—*December 4, 1901*. Siegmund S., forty-three years of age. Galicia. Tailor. Sick with his stomach about a year. Would throw up one or two tablespoonfuls several times daily but only after taking liquids. Feels worst only on Saturdays. Appetite is very good, could eat every time. Constant headaches and ringing in the ears, no vertigo; bowels more or less regular. Has whiskey twice or three times daily, coffee twice. Gave him rhubarb and soda with strict dietary rules. *On the 11th* he reported that he did not vomit so much. *On the following day* the stomach examination gave: Fasting,

no contents; one hour after the test breakfast, no contents. He is a confirmed alcoholic. Several attempts at aspiration gave like results. He felt well at first when he followed out instructions, but he cannot keep away from liquor. That he is evidently satisfied with my treatment I infer from the fact that he sends me patients whenever he has the opportunity.

CASE VII.—Bertha R., sixty-four years of age. Hungarian. Complains of palpitation, noise in the head, especially at night, anorexia; her tongue, which is bluish, thick, and dry feels "boiled;" uneasy sensation in the epigastrium after meals, constipation; has but few teeth. Tartaric acid and sodium bicarbonate do not inflate the stomach, but the CO_2 generated inflates the ascending colon. Stomach examination on *February 22, 1902*: Fasting, no contents; test meal aspiration one half hour after the eating, about one cubic centimetre.

CASE VIII.—*March 1, 1902*. Mrs. Annie A., fifty years of age. Russian. Anorexia, pressure in epigastrium, sour eructation, which relieves her oppression, headache, occasional vertigo, constipation, hæmorrhoids. Test meal examination: Fasting, no contents; aspiration three quarters of an hour after eating, no contents.

CASE IX.—This is a very interesting case. The patient, Mrs. Fanny S., age sixty-five years, Hungarian, consulted me on *May 30th, 1901*. She then complained of pain in the stomach, bad taste, frontal headache, anorexia, eructations; cannot eat any meat; has flashes of heat and cold; constipation. As she did not want to submit to any stomach examination I gave her the condurango, HCl , and gentian mixture, for the appetite, and sodium sulphate for the constipation. Those medicines she took for some while. She again came on *March 19, 1902*, but then I refused to treat her unless she submitted to a stomach examination, which she did. Fasting, no contents; test meal aspiration, three quarters of an hour after eating, about 2 cubic centimetres. As a result of this examination she received the alkaline treatment three quarters of an hour after her meals and the gentian mixture before meals. She at once began to feel well. She enjoyed her meals, which now included a good deal that was forbidden her by her former physicians, and gained in weight. She remained under constant treatment for some three months. A test meal examination *August 8th*, gave 40 cubic centimetres thirty-five minutes after the eating; the chyme had a "floury layer," and gave free HCl . 12, organic acids 12, general acidity 46. The test meal examination on *August 19th* one hour after the eating, gave no contents.

CASE X.—*March 20, 1902*. Mr. Michael H., fifty-seven years of age. Hungarian. Tailor. Complains of pain in the epigastrium, distention and enlargement of the belly, swelling of his legs, difficult breathing, anorexia for the last five weeks; could eat before that everything but sweets, never vomited; alcoholic history. On physical examination there is a certain resistance in the region of the gall bladder; there are ascites and oedema of both lower extremities. The urine is high colored, contains indican and albumin. This patient had two test meals the same day; one in the morning and another in the afternoon. The stomach examination in the morning

showed no contents in the fasting state, nor any one hour after the eating. In the afternoon, an attempt to aspirate, half an hour after eating, proved fruitless. The patient was put to bed and treated for both his kidney and stomach troubles. On *April 2nd* the oedema and ascites had entirely disappeared, the patient getting constantly better. On *April 30th* he reported doing well, and on examination, half an hour after eating, the test meal gave only 5 cubic centimetres stomach contents. A few days later, the patient resumed his work. He subsequently let me know of his well being in every respect.

CASE XI.—*March 26, 1902*. Mrs. Sara L., forty-eight years of age. Hungarian. Complains of being always hungry but is afraid to eat; burning in the stomach, bowels move only by drugs, no headaches, no vomiting, sour eructations, pain between shoulders, dryness in the throat. Examination showed: Right kidney prolapsed in the fourth degree, enlarged and tender. On the following day her stomach was examined in the morning and in the afternoon. Nothing could be aspired in the morning, one hour after the eating of the test meal, nor were there any contents aspirated half an hour after the eating in the afternoon. The day following this examination the patient came complaining that she had not yet got well and therefore stayed away.

CASE XII.—*April 12, 1902*. Mrs. Rachel W., forty-eight years of age. Hungarian. For the last four years has had cramps in the stomach, off and on, and fulness in the abdomen; appetite is good, but soon after eating she feels very bad; bitter taste, bad tasting eructations, temporal headache, much thirst, flashes of cold at night, lasting about two minutes, and confined chiefly to the left side. Right kidney is tender on palpation and the urine (taken with a catheter) shows albumin. Stomach examination on the 26th: Fasting, no contents; test meal, one hour after eating, no contents. Another attempt to aspirate the stomach three quarters of an hour after the test meal on *April 30th* gave, likewise, negative result.

CASE XIII.—*April 22, 1902*. Mrs. Lena E., twenty-seven years of age. Hungarian. Feels weak and bad after each meal but worse after meat; anorexia, sour taste, must lie down after each meal, palpitation, nausea, a choking sensation, bowels regular; has very few teeth. Her stomach was examined on the 24th of the following month, and showed: Fasting, no contents; test meal, one hour after eating, scarcely a drop. On the 29th there were aspirated, one-half an hour after eating, thirty cubic centimetres of chyme (certainly not very much) which was a homogenous mass and which did not react on tropæolin—absence of free HCl —organic acids 36, general acidity 72. She improved under the treatment.

CASE XIV.—*May 5, 1902*. Mrs. Celia M., fifty-two years of age. Russia. Complains of constipation and diarrhoea alternating with one another, urine scanty, heat in the abdomen, dryness in throat, which is worse at night; no teeth. In introducing the tube the patient worked so skilfully that the tube came out through the left nostril—a feat not easily duplicated. Stomach examination (tube in the stomach this time): Fasting, no contents; test meal after one hour, no contents.

In reporting these cases I refrain from adding a few more in which only one or two cubic centimetres were aspirated. In these cases the chyme, if chyme it could be called at all, was coarse and imbedded in thick mucus, thus clearly showing the genesis of insufficiency. Neither do I report here some few other cases which, clinically, justified the diagnosis of insufficiency and improved under appropriate treatment.

The first case shows remarkable and quite quick improvement, both subjective and objective. But the best that has been reached thus far is: Healthy look, gaining weight, cheerful disposition, and good hope for the future. The stomach itself shows as yet no greater ability to hold the food any longer than it did at the beginning, although now there is no evidence of mucus. But then, insufficient time has elapsed. All in all, the outcome in this case is satisfactory to both the patient and myself.

In case II the stomach shows absolute regaining of normal function, but the contents were not entirely without some mucus at the last examination.

Case VI offers something, apparently, remarkable in the fact that the patient feels worst on Saturdays. But the explanation is not to be sought in some mystic, nervous phenomenon or regularly recurring hebdomadal crises. He is an orthodox Hebrew, who holds it fittest to celebrate his day of rest with an extra allowance of fire water.

Case IX is analogous in its behavior to the first case. Here, as in the first, there is remarkable and rapid general improvement, notwithstanding the old age of the patient. She had been on a starving diet for several months and felt worse nevertheless and finally resigned herself to the inevitable. Indeed, she at first could not muster sufficient confidence to conform to my directions to eat potatoes and noodles along with other food that had been forbidden her. Great indeed was her joy when she found my advice to be good. She gained weight and became cheerful, but her stomach as yet does not care to be decoyed into functioning with youthful, normal vigor. Mayhap, that the long insulted viscus will yet be coaxed into submission.

Case X likewise shows a very happy result notwithstanding the very serious complications of ascites and oedema of both lower extremities. This patient likewise gained weight.

The other cases have not stayed long enough under observation, but have invariably reported feeling better. Not always could I get the consent of the patient to another test meal examination.

In concluding I wish to repeat the last sentence of my first paper: "The object of this article is to establish the presence and identity of the pathological condition herein described and hint at the treatment." The report alone of twenty-six cases, in rapid suc-

cession, of a disease, hitherto not yet recognized, I hope, will prove a sufficient stimulus to conscientious men to seek verification."

136 EAST SEVENTY-EIGHTH STREET.

BEATSON'S CURE OF "INOPERABLE" CASES OF MAMMARY CANCER.

By JENNIE G. DRENNAN, M. D.,
ST. THOMAS, ONTARIO, CANADA.

Any views advanced concerning the physiology of the generative system must as yet be necessarily theoretical; but, for this very reason, herein lies a wide field for the coming gynaecologist; for he must needs be a physiologist if he is to prevent instead of curing disease. In an article entitled *The Maturation of Ova in Relation to Puberty and the Menopause*, published in the *New York Medical Journal* for August 9, 1902, I advanced the theory, that the absorption of matured ova prior to puberty and after the menopause might prevent fatty degenerative changes occurring in the mammary glands, and that, therefore, for the cure of mammary cancer by the development of fatty degeneration in the glands, the removal of the ovaries would be necessary. Since writing the above article my opinion has been changed somewhat—our thoughts of yesterday are not those of to-day—and I am willing to believe that, prior to puberty and after the menopause, no ova are matured, the only function of the ovaries then being the formation of an internal secretion; and, further, that maturation of ova occurs only during the fruitful period of a woman's existence, and then only during the period of ovulation, being one of the acts in the normal physiological generative cycle—ovulation, pregnancy, and lactation. A prototype on a smaller scale is ovulation, menstruation, and slight mammary symptoms; the last two are the fruits of a disappointed pregnancy, two pathological results. At other times the ovaries are in a quiescent state similar to that occurring prior to puberty and subsequently to the menopause. During ovulation there is an increased amount of blood in the ovarian tissue; during pregnancy in the uterus, to nourish the foetus; and during lactation in the mammary glands, to furnish the mammary secretion; also, during the period of pregnancy, a slight increase is noticed in the glands, to prepare them for lactation. In the case of menstruation the uterus is depleted; and instead of, as after pregnancy, the greater amount of blood going to the mammary glands, it is transferred to the ovaries. The abnormal carrying out of this physiological cycle, in which one factor fails to be actively employed, is accountable for much of our present day ovarian and uterine disease; these organs are not allowed their proper amount of rest. Not more than

one of these factors in this cycle can predominate at one time. In the cow, for example—and we must study the lower animals, for life is more natural in them—there is the period of pregnancy and dryness, without mammary secretion. Then, after pregnancy, lactation, and after a certain interval or diminution in the mammary secretion—evidencing the transference of the amount of blood necessary for a larger secretion to the ovaries for the purpose of ovulation—follows the farrow period, which is in its turn followed by pregnancy, a readiness for which is evidenced by sexual excitement on the animal's part. All our human life is so unnatural that such signs are unobserved. In the lower mammals it is most probable that ovulation is not a monthly function, as we believe it to be in the human female. From the foregoing, instead of there being an absorption of matured ova having an effect in inhibiting fatty degenerative changes in the mammary glands, we may say that quiescence of ovulation has the effect of causing a greater supply of blood to the mammaræ, thereby increasing lactation, if it is in progress; and that the removal of the ovaries would cause a still greater vascular supply—spaying of cows; and that, in the case of lactation being altogether absent, there would result from their removal a passive hyperæmia and a fibrosis of the glandular tissue, tending to obliterate the secreting tissue and to hem in the cancerous area, causing the germs to be killed by their own toxins. This fibrosis is, in all points, similar to that which occurs in any diseased glandular structure, liver, kidney, ovary, testis, etc. The fact of scirrhus cancer being the most frequent in this locality points to a fibrosis, the other forms occurring in structures not so prone to fibroid changes. This curing of cancer or other germ diseases—and may not all disease be the result of them?—by hemming in the infected area may be produced in other ways, as by the administration in large doses of iron perchloride in erysipelas; thus causing a coagulated area around the diseased area, fatty degeneration changes not being a needful factor. After the germs have been destroyed by their own toxins the diseased tissue may be replaced by the action of healthy leucocytes and healing may take place.

Typhoid Fever.—Reports from all the principal cities show a very considerable increase in the number of typhoid fever patients, as is generally the case at this season of the year. In Chicago, in particular, the number of sufferers from typhoid fever is quite noticeable, and is larger than it has been at the corresponding period of the year for some time past. As a result, notices have been sent out by the Chicago Health Department warning the citizens against eating uncooked vegetables, as it has been found that the germ is frequently conveyed in this manner.

MASTOID DISEASE IN INFANTS, TWO CASES; IN ADULTS, TWO CASES; THE LATTER COMPLICATED WITH ERYSIPELAS.*

By W. PEYRE PORCHER, M. D.,
CHARLESTON, S. C.

My reason for reporting the two following cases is that I have been unable to get any published report of similar cases from the surgeon-general's office in Washington.

Two cases of mastoid disease in very early infancy have come under my care during the past year. The children were six and eight months old respectively.

Two Cases of Mastoid Disease in Infants.

CASE I.—The first case was that of a white child, aged eight months, in whom the swelling behind the ear was so great that I feared perforation into the cranial cavity might occur, if the operation was not done at once.

The child was sent home, with instructions to be prepared for operation the following morning. I cautioned the friends, however, to watch carefully for any signs of convulsions or brain symptoms of any kind. That afternoon I received an urgent call, saying that the child was turning up its eyes and looked as if it was going into a convulsion. With the least possible delay I made a deep incision into the tumefaction and gave vent to a large quantity of purulent matter. The mastoid cells had become so friable from pressure that the knife passed easily through them. I did not use the curette, because I thought that the opening of so large an abscess was already sufficient to endanger the child's life. After syringing the cavity thoroughly, an iodoform gauze tent was left in the wound. The dressing was kept up regularly for three weeks, at which time no further dressing was necessary.

Comment on this case is unnecessary, but when we think of the extreme youth of the child and the friable condition of the walls of the cells, it is impossible to say how near they came to rupturing into the brain cavity.

Certain it was that it was urgently necessary to give free outlet to the pus, because, if perforation had taken place through the dura, the chances of life at that age would have been almost nil.

The next case presented almost the identical appearance of the former one.

CASE II.—This case occurred in a negro child, aged six months. While on a brief visit away from the city, I was asked to see a child which was crying incessantly, and could only take food with difficulty. I found a very large swelling back of the child's ear, which fluctuation showed to be full of pus. I could get no history, as is usual in these patients, except that the child had taken cold and the swelling had appeared. The mother would not allow any one to touch it, as she said, for fear of doing it an injury. I had nothing in the way of an instrument with me

* Read before the South Carolina Medical Association, April 20, 1902.

except my pocket knife, so I promptly made a large opening in the abscess, let the pus out, and inserted a small piece of lint for drainage. I endured some pangs of conscience after my return home, thinking that I had left the child to certain death with its ignorant mother, but was very much gratified, about two months afterward, when I learned that the child was well and hearty.

These cases are both very instructive, since it is urged by many authorities that every cell must be thoroughly curetted, and no possible source of infection, no pus cells, left for Nature to throw off; and yet we all know of cases both in adults and children, where no such thorough operation has been performed, and yet where complete recovery resulted.

A simple incision into the abscess is all that circumstances will permit of in many instances, and yet Nature throws off the diseased tissue, and no subsequent operation is necessary. Of course I would not be understood by this as advocating the curtailment of the operation where the patient's life would be jeopardized by it, or where brain abscess or thrombosis of the lateral ventricles is suspected, by severe rigors, etc.; but where no such grave symptoms are present, it is a question whether the total mastoid excruciation may not be safely avoided.

Two Cases of Mastoid Disease in Adults, Complicated with Erysipelas.

CASE I.—The first case was that of a gentleman who had had diabetes for several years. The abscess pointed and was opened above the zygomatic process. This is the first instance in my experience where this has occurred. As is frequently the case in diabetics, erysipelas rapidly set in, but under an application of flexible collodion it was easily controlled, and the patient recovered. He succumbed to the diabetes about one year afterward.

CASE II.—Mastoid disease from an old otitis media with erysipelas. About two years ago a gentleman came to me to be treated for an otorrhœa. The discharge stopped in a few weeks, and the patient went off, as he thought, permanently cured. He returned to me about two months ago, complaining of very severe headaches, and also a return of the otorrhœa. I at first feared that there might be an abscess at the base of the brain, on account of the severe headaches, etc., but as some of the other symptoms of brain abscess were absent, I determined to give him the benefit of the doubt, and so contented myself with doing a Stacke operation. This seemed at first to give him great relief. His headaches left him, and he went out of the infirmary in one week, the wound having healed by first intention. At the end of a few days, however, the headaches returned with all their former intensity, and a second operation became necessary. Whiting's radical operation was therefore performed, and the tip of the mastoid removed. The bone was found to be of the eburnated variety; all the cells and landmarks being absent, the operation became much more difficult than usual. The patient rallied promptly, and no rise of temperature set in until the third day, when an ery-

sipelatous rash appeared on the right side of his face and rapidly spread over to the left. The temperature ran up to 104° F.; the pulse had been intermittent about one in ten beats, it now intermitted about one in three, and he had several severe attacks of angina pectoris. Under local stimulating applications and cardiac stimulants, the symptoms all improved, and the patient was discharged in about three weeks.

Correspondence.

LETTER FROM MONTREAL.

The Thirty-fifth Annual Meeting of the Canadian Medical Association.

MONTREAL, September 26, 1902.

The thirty-fifth annual meeting of the Canadian Medical Association was held in Montreal on the 16th, 17th, and 18th September, under the presidency of Dr. Francis J. Shepherd of that city. It was by far the largest meeting ever held in the history of the association, there being present nearly a hundred members more than attended any other previous meeting. On the meeting's convening in the medical buildings of McGill University, Professor Adams moved a resolution of regret at the recent death of Professor Virchow. It was at the same time an appreciation for the great work of the greatest German pathologist. Needless to say the resolution was adopted unanimously. On the meeting's dividing into sections, Dr. McPhedran, of Toronto, took the chair in the Medical Section, while Dr. O. M. Jones, of Victoria, B. C., presided over the Surgical Section. In the Medical Section, Dr. H. A. Lafleur, of Montreal, presented a patient with splenic anæmia. The tumor extended from the lower ribs on the left side to the crest of the ilium. There was absence of mobility. Dr. Osler discussed the case and thought this was one of those cases in which the diagnosis was more surgical than medical. Dr. J. H. Elliott, superintendent of the Gravenhurst Sanatorium, contributed a paper on some further results in the treatment of tuberculosis. His report referred to 555 cases treated at that institution. Five years' experience had shown that almost all of the patients discharged "apparently cured" had remained perfectly well. Of those with disease "arrested," many had progressed to good health at home by following the rules of life learned at the sanatorium. In congratulating Dr. Elliott on the promising results which he had obtained, Dr. Osler mentioned two important points which should be kept well in mind; First, early diagnosis; second, getting patient as soon as possible under proper professional control. Dr. McPhedran emphasized the importance of train-

ing patients how to care for themselves at home. He believed that the neighborhoods of sanatoria were always where tuberculosis was diminishing.

Pleurisy as associated with tuberculosis was a subject dealt with by Dr. John Hunter, of Toronto, who described the manner in which the bacilli reached the visceral and parietal pleuræ and discussed the diagnosis, prognosis, and treatment. Dr. A. E. Orr, of Montreal, contributed some clinical notes on blood pressure in diseased conditions. These investigations had been performed on 400 patients at the Royal Victoria Hospital. The normal pressure was found to range between 110 and 120. Dr. W. S. Morrow gave a practical demonstration on the blackboard and presented a living subject illustrating the technics of recording the venous pulse.

In the Surgical Section, Dr. J. Alexander Hutchison, of Montreal, reported a case of amputation of the upper extremity for sarcoma of the shoulder joint and exhibited the patient, a young woman. Dr. Perry G. Goldsmith, of Belleville, Ont., reported a fatal case of secondary hæmorrhage four days following the removal of adenoids. There was no history of hæmophilia. The cause of the hæmorrhage remained unknown. Dr. H. D. Hamilton, of Montreal, reported a case, in a young man of seventeen years, of complete occlusion of the posterior naris of the right side, the occlusion forming a complete bony partition. A very interesting paper was that read by Dr. G. Grimmer, of Montreal, on the use of subcutaneous injections of paraffin for correcting deformities of the nose. The paraffin was first sterilized and then injected by means of a sterilized syringe, care being taken to protect the inner canthi of the eyes from the spreading of the paraffin. After injection the parts were moulded by the operator as required. Dr. Grimmer exhibited two cases successfully treated in this manner: also two rabbits which had been subjected to similar injections. A symptom not hitherto described, due to paralysis of the bowel in peritonitis, was the subject of an interesting and instructive paper by Dr. George A. Peters, of Toronto. Dr. Peters had observed that where the gurgling sounds due to the passage of gas and liquid in the bowels were absent, from paralysis, the heart sounds were invariably very plainly present over the whole abdomen. In intense cases, particularly in children, both inspiratory and expiratory breath sounds could be heard. Dr. Alexander Primrose, of Toronto, reported a case of filariasis in a man, cured by operation. The patient came from the West Indies, suffering from lymph scrotum. On ex-

amination of the blood, the embryos were found present in large numbers at night, but disappeared from the blood during the day. An operation was performed and a large portion of the scrotum removed. The embryos entirely disappeared, and the inference was that the parent producing them had been removed by operation. Dr. J. H. Elliott, late of the Malaria Expedition in Algeria, from the Liverpool School of Tropical Medicine, had carefully studied the parent worm, and a report of his investigations, with drawings of the worm, formed part of the paper contributed by Dr. Primrose.

At the general session of the afternoon of the first day the address in surgery—The Contributions of Pathology to Surgery—which was to have been delivered by Dr. John Stewart, of Halifax, Nova Scotia, was, on account of his unavoidable absence because of family illness, read, by request of the president, by Dr. J. W. Stirling, of Montreal. The essay was a comprehensive review recording the struggles of the early surgeons for a scientific knowledge of their craft, working on two lines, the long, weary, and often fallacious track of empiricism, and the ample, but often disconnected road constructed by those whose chief aim was, in the words of him who led the vanguard, to "study and search out the secrets of nature." The address was concluded by a reference to the discoveries of Lister; in the chronology of our craft, time was divided into "before" and "after" Lister.

The evening session of the first day was held in the Arts Museum Building, when Dr. Shepherd delivered the annual presidential address, after which a reception was held. In referring to the Dominion registration bill, which had been so ably pushed through Parliament by Dr. Roddick, Dr. Shepherd expressed the hope that no one Province would decline to act in accord with the almost universal desire to see the bill finally made law. The speaker also entered a protest against the freedom with which syphilitics were allowed to mingle with the community at large, and he thought it was high time that the profession took this subject up and educated the public to a better knowledge of sanitary law. Referring to laboratory teaching, Dr. Shepherd pointed out one danger in the great multiplication of laboratories, and that was that it induced men to pursue original investigation who had not the true scientific spirit. Speaking of specialism, he thought all physicians should acquire a good working knowledge of all specialties. At the close of his interesting and able address Dr. Shepherd was accorded a hearty vote of thanks.

The morning session of the second day was devoted to a discussion on diseases of the gall bladder and bile ducts. Dr. McPhedran, of Toronto, dealt with the medical diagnosis, referring to jaundice as being the most common of the cardinal symptoms. A most characteristic sign of gall stones was the return of the attack. Dr. A. D. Blackader, in discussing the treatment of gall bladder affections, confined himself to the catarrhal forms of the disease. He considered that no drugs stimulated the flow of bile to the same extent as the bile salts. The diet should be simple and as far as possible should contain a large amount of fat. Patients should drink plenty of pure water or mineral water. They should also have due regard to a proper method of dress; no corsets or constricting clothing should be worn. The surgical diagnosis was introduced by Dr. James Bell, of Montreal. He said it was common to find early vague symptoms of gastrointestinal indigestion, which were often found to be present for a long time before an acute attack was precipitated. The surgical treatment was introduced by Dr. J. F. W. Ross, of Toronto. Dr. Ross expressed a lack of faith in the so-called medical treatment of gall stones. He advocated drainage through Morrison's pouch and laid great stress on the free use of gauze packing to prevent leakage into the peritoneal cavity. In gangrene and empyema of the gall bladder he did not advise removal of the gall bladder, but preferred opening, flushing, and drainage. Dr. G. E. Armstrong, of Montreal, followed in the discussion. He did not advise removal of the gall bladder for stone in the cystic duct. He recommended lavage of the stomach before operating in all gall bladder cases, and, as it was difficult to know what the surgeon might encounter on opening the abdomen, he advised the administration of calcium chloride before and after the operation, to prevent possible hæmorrhage. The importance of an early operation on the gall bladder was the subject of a paper contributed by Dr. Dudley Allen, of Cleveland, Ohio. An accurate diagnosis being often impossible, he advised an exploratory incision early. He cited a number of cases where the diagnosis had been uncertain, in which he had made an exploratory incision, and he had often been gratified with the results. Sir William Hingston deprecated the exploratory incision, while Dr. A. H. Ferguson, of Chicago, upheld it.

Dr. James Bell, of Montreal, next read a paper on foreign bodies in the vermiform appendix. He expressed the opinion that appendicitis never depended on the presence of foreign bodies in the lumen of the appendix. Among the foreign bodies which he had found in the appendix were—in two cases pins, in two cases seeds, in one case wood fibre, in one case gall stones, and in another case a fish bone.

Dr. R. D. Rudolf, of Toronto, contributed a paper on Kernig's sign at the opening of the Medical Sec-

tion in the afternoon. His investigations had been carried on in the hospitals of Toronto, and a large number of patients of all ages had been examined suffering from divers diseases. He considered that a more convenient plan was to extend the knee and then flex the hip as far as possible. Of the 97 cases in which Kernig's sign had been present, in 59 only an angle of less than 165° at the knee could be obtained. Dr. F. N. G. Starr and Dr. J. J. McKenzie, of Toronto, reported a case of multiple sarcoma which occurred in a woman thirty-eight years of age. The first tumor appeared in April, 1901, and by December the tumors appeared in enormous numbers over the chest, the back, the abdomen, the thighs, the arms above the elbows, the neck, the sides, and the top of the head. The patient died, but, as no autopsy could be obtained, it was impossible to say what might be the source of the disease. Dr. Stuart Paton, of Baltimore, in a paper on the asylum—the hospital for the insane—and the study of psychiatry, advocated hospitals or wards in insane asylums for the proper treatment of acute cases. He also pointed out the benefits to be derived from having medical men form a consulting staff to the asylums. Two very interesting patients, father and son, the subjects of anæsthetic leprosy, were presented by Dr. C. N. Valin, of Montreal, according to whom, they proved to a certainty the contagiousness of this disease. Both were progressing favorably under treatment. Following this, a lantern demonstration was given by Dr. William S. Corlett, of Cleveland, Ohio, on the exanthemata, which was greatly appreciated by all present.

In the Surgical Section on the afternoon of the second day Dr. A. E. Garrow, of Montreal, reported three cases of congenital dislocation of the hip which had been reduced by the open method. The operative treatment of goitre, with a report of cases, formed the subject of a paper read by Dr. Ingersoll Olmsted, of Hamilton, Ont. Twelve cases operated on during the past year were reported, the average stay in the hospital being seven days. All the operations were done under cocaine anæsthesia. The resulting scar was very slight, and little or no pain was complained of during the operation. Dr. Alexander H. Ferguson, of Chicago, next read a paper on the pathological prostate and its removal through the perinæum. Dr. Ferguson's method of removal was by the perineal route. He used a prostatic depressor introduced into the urethra, then elevated in such a manner as to press the prostate down in the perinæum. The fingers of the left hand were passed into the rectum as a guide, and then he made one bold incision through the perinæum down through the prostatic capsule. Dr. G. E. Armstrong, of Montreal, read a paper on the surgical treatment of enlarged prostate, exhibiting a specially constructed suprapubic vesical speculum devised by himself, with a lateral opening

which allowed the prostate alone to come well in view in the speculum. Dr. Armstrong reported seven cases successfully operated on.

At the evening session Dr. William Osler, of Baltimore, delivered the address in medicine. It was a splendid effort and opened with a reference to the noble ancestry of our profession. He said the medical profession was distinguished from all others by its beneficence. Witness, for instance, anæsthesia, sanitation, etc. There was no limit to the science of medicine; and the outlook for the profession was never brighter than to-day. Dr. Osler entered a strong plea for the unity of the profession. Chauvinism was an enemy to progress. There were four forms of Chauvinism, national, provincial, parochial, and individual. He strongly advised young men to go abroad for postgraduate studies, especially those who aspired to teach. He paid a high tribute to Dr. Roddick for his energy in pushing through the Dominion Medical Bill. He considered it an outrage that a graduate in Ontario could not practise in Quebec, or a graduate of Quebec in Manitoba. This was democracy run riot. Diagnosis, not drugging, was our chief weapon of defense, and one should not degenerate into a mere dispenser of quack nostrums, like the drug clerk who had a specific for everything from the pip to the pox. He spoke of charity among the profession. "If you cannot speak well of your brother, keep silence." The x ray as a therapeutic agent was the title of a paper contributed by Dr. C. R. Dickson, of Toronto, which was followed by one on the x ray in cancer, contributed by Dr. A. R. Robinson, of New York. Dr. Robinson stated that when malignant growths had spread deeply the x ray might be considered our best means of treatment.

At the Surgical Section on the third day a paper on excision of the cæcum was read by Dr. O. M. Jones, of Victoria, B. C. Dr. Jones cited four cases operated on. The first patient lived about two years after the operation and a post mortem proved that the cancerous growth had not recurred at the point of the original operation. Dr. Francis J. Shepherd, of Montreal, reported three cases of perforating typhoid ulcer successfully operated on, two being in women twenty-eight and thirty years old respectively, and one in a man aged thirty. Dr. Laphorn Smith, of Montreal, reported a case of total extirpation of the urinary bladder for cancer. The patient recovered from the operation, but death took place on the seventh day, from exhaustion. A resolution approving of the establishment of a Dominion Health Bureau was unanimously adopted. London, Ont., was selected as the next place of meeting. The following were the officers elected: President, Dr. W. H. Moorhouse, of London; treasurer, Dr. H. B. Small, of Ottawa; general secretary, Dr. George Elliott, of Toronto.

Therapeutical Notes.

The Treatment of Ciliary Blepharitis.—Businelli (*Policlinico; Revista de medicina y cirugía*, July 25th) having once cleansed the edges of the lids of crusts, with an alkaline solution, touches them every night with a brush moistened with the following:

R	Water	} of each	50 parts
	Glycerin		
	Picric acid	.....	1 part
M.			

When the water has evaporated, the picric acid remains as a kind of dry application. The trouble disappears, however chronic it may be, in from ten to fifteen days.

* Petrolatum may be substituted for the water and glycerin.

Turpentine as a Hæmostatic in Gynæcology.—Ljenewitsch (*St. Petersburg. med. Woch.* No. 25; *Gazzetta degli ospedali e delle cliniche*, August 26th) has used turpentine as a hæmostatic in uterine fibroids, inflammatory hæmorrhages, the hæmorrhages of the climacteric, and in all cases where uterine abrasions have to be dealt with. His procedure is as follows:

The cervix is exposed with a valve speculum. The cervical canal is cleansed with phenolized glycerin (1 in 3). Then dilatation is effected with a catgut bougie [minugia] and a tampon of iodoform gauze dipped in turpentine is introduced, so as to fill the entire uterine cavity. He has used this method for five years with positive results in all cases, while he has never noted any ill results.

The Treatment of Sciatica.—Dr. Robin, at the Hôpital de la Pitié, has successfully treated cases of sciatica by deep injections of a twenty-five-per-cent. solution of sodium glycerophosphate at the painful points. The injections are given twice in the twenty-four hours. From eight to ten injections have proved sufficient.

The Administration of Quinine in Malarial Disease.—Dr. I. A. McSwain (*Southern Practitioner*, August) says that as quinine acts by destroying the spores, the proper manner and time of administering it is freely at or just after the chill. The chill is contemporary with the segmentation of the parasite in the blood corpuscle, and the discharge of its spores into the blood, so that quinine administered at that time comes into contact with the newly formed spore; before they can reenter the corpuscles and destroys them.

For Rheumatism.—According to the *Buffalo Medical Journal* for September (citing *Cincinnati Lancet Clinic*) Layne, as the result of much investigation, considers the following almost a specific:

R	Extract of xanthoxylum.....	from 1 to 2 ounces;
	Extract of milkweed (<i>Asclepias Cornuti</i>).....	} ½ an ounce;
	Extract of <i>Solanum dulcamara</i>	
	Extract of dandelion.....	2 ounces;
	Whiskey, enough to make.....	8 ounces.
M.	Four teaspoonfuls to be taken after each meal.	

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THE TUBERCULIN TEST IN CATTLE.

We have frequently had occasion to refer to the publications of the United States Department of Agriculture, and particularly to those of its Bureau of Animal Industry. Seldom does the department or the bureau publish anything from which medicine may not profit. In the department's *Yearbook* for 1901, just issued, we find, along with other matter of medical interest, an article on The Tuberculin Test for Tuberculosis, by D. E. Salmon, D. V. M., chief of the Bureau of Animal Industry.

Objections to the tuberculin test for the detection of tuberculous disease in cattle are still occasionally heard, but Dr. Salmon shows conclusively, we think, that it is by far the most trustworthy means of making a diagnosis in the very early stages of pulmonary trouble, before the bacilli can be found and while yet the trouble is not sufficiently advanced for physical signs to be discoverable, and that in almost all stages of tuberculous disease in the abdomen it detects the morbid condition when its existence would not otherwise even be suspected. He shows, too, that certain alleged ill effects that have been attributed to it in the case of healthy cattle have by no means been proved to bear anything more than a coincident connection with the application of the test. It is admitted that in a very small proportion of cases it fails to indicate tuberculous disease that really exists, but either this is explicable by the fact that the foci have, for the time being at least, ceased to progress or even been practically recovered from, or else the disease is so manifest that ordinary physical examination is amply sufficient for a diagnosis. As for the few instances in which a transitory rise of temperature simulating that of the tuberculous reaction to tuberculin occurs when there

is no tuberculous infection, it seems reasonable to view the occurrence as a mere coincidence, since there are many causes that often give rise to ephemeral fever in healthy cattle.

Owners of cattle, he justly says, ought not to require to be coerced or even urged to have their herds tested, for the extermination of stock affected with the disease is quite as much to their interest as to that of the general community. The tuberculin test, he implies, is so incomparably superior to all other methods of detecting tuberculous disease in the very early stage that practically there is nothing to take the place of it in such cases. It ought therefore to be resorted to as a routine procedure. We believe that experience in general abundantly bears out this contention.

VULVOVAGINAL HYPERÆSTHESIA.

Doubtless there has been a tendency to employ the term vaginismus in too broad a way, making it cover a number of conditions of exalted sensitiveness of the vulva, the vagina, or both. In certain remarks introductory to the history of an interesting case, M. Raoul Blondel (*Gynécologie*, August) points to this vagueness of nomenclature. In his opinion vulvovaginal hyperæsthesia is still an ill defined complex. Authors, he says, commonly describe vaginismus on the one hand and pruritus of the vulva on the other. But in reality there are many combinations of phenomena intermediate between the two—for example, pure pruritus, whether idiopathic or accompanied with a primary local lesion, vaginismus with contracture, vaginismus without contracture, pruritus and vaginismus combined, and simple hyperæsthesia without either pruritus or true vaginismus. The nosological range of the word vaginismus, he goes on to say, is rather vague, since we apply it to cases with or without contracture and to those in which the contracture, if there is any, is at the vulvovaginal ring or involves the deeper muscles. He would therefore group these cases under a name denoting the only feature which they have in common—vulvar hyperæsthesia.

Hyperæsthesia, says M. Blondel, meaning exaggerated nervous reaction, is indeed the fundamental feature of all these conditions, and all the patients are what is commonly called nervous, so that they suffer in an exaggerated degree, their reflexes be-

ing out of proportion to the cause that excites them. It is the nervous system that is primarily at fault, though this does not imply that there is any central affection, for commonly the trouble yields permanently to local treatment. M. Blondel looks with favor upon all the operative procedures usually resorted to, but thinks that complete excision of the clitoris is rather an extreme measure. In the case which he relates, a very severe one of long standing, he divided the crura of the clitoris, together with certain branches of the internal pudic nerve, with a bistoury used like a tenotome, and he also excised from the inner surface of each labium majus a portion of mucous membrane about an inch long and a third of an inch wide, and, through the lower ends of the wounds thus made, divided the muscles of the vulvovaginal ring as near the sphincter ani as possible. His patient was immediately and permanently relieved, though she had suffered with intense pruritus in addition to the hyperæsthesia.

THE STRENGTH OF TINCTURES.

Doubtless it would not be practicable to provide in the *Pharmacopœia* that all tinctures should be prepared with a view to uniformity of dose, desirable as such a provision would be as a means of relieving the practitioner of medicine of the task of remembering a lot of varying doses. Perhaps, however, there might be a nearer approach than has yet been made to a division of tinctures—and of other preparations, for that matter—into classes, the dose of each member of any particular class to be the same. At all events, the various official formularies of the world should show a closer approximation to uniformity in the strength of their preparations than is the case at present. Especially is this desirable in the case of very energetic drugs, in order that overdosing by mistake may be avoided.

A glaring example of the discrepancy in question was made the subject of a paper read at the recent annual meeting of the American Pharmaceutical Association by Mr. M. I. Wilbert, of the German Hospital, Philadelphia. The example pointed out by Mr. Wilbert is that of the United States tincture of aconite, which contains thirty-five per cent. of the drug, whereas that of France, Hungary, and Portu-

gal contains twenty per cent., that of Germany, Austria, Italy, Russia, Roumania, Holland, and Switzerland ten per cent., and that of Great Britain only five per cent. The American tincture of this very poisonous drug is, therefore, seven times as strong as the British. It might easily happen, since English medical writings are much read in this country, that an inexperienced American physician should prescribe of our own tincture the dose recommended by an English writer of the British preparation. His patient would then get seven times as much aconite at a dose as the writer relied on had intended. Little is known by the great mass of practitioners in different countries of the discrepancies of the pharmacopœias, and when one finds a certain number of drops of tincture of aconite recommended for a dose, he is very apt not to remember that the tincture which the author had in mind is a very different thing from the tincture that he himself is in the habit of prescribing. There is certainly danger in the existence of such a difference between the aconite tinctures of two nations speaking the same tongue.

But our official formulary is improving in respect to this particular preparation, for when aconite was first made official in the United States, in 1850, the authorized tincture contained fifty per cent. of the drug, in 1860 the strength was reduced to forty per cent., and in 1890 it was still further reduced, being made what it is now. That a substantial additional reduction would not prove repugnant to the pharmacists seems probable from Mr. Wilbert's frank remark that "there are probably few pharmacists who would not be willing to double their stock of any preparation by the simple addition of alcohol and water."

SENSATIONS REFERRED TO LOST LIMBS.

The apparently mysterious fact that sensations of heat and cold, pain, itching, etc., are not seldom felt subjectively and referred to a part that has been amputated has formed the subject of more or less frequent speculation. It has lately been studied by M. Gulbenkian (*Thèse de Paris*, 1902; *Presse médicale*, August 30th), who finds that of the two theories, one of which is to the effect that the causation of the phenomena is wholly central, while the other is that it is entirely peripheral, each is to a certain extent true. The peripheral element, how-

ever, is not always confined to the very end of the stump, for in many cases there is evidence of the implication of nerve trunks at points considerably above the face of the stump. Many measures have been resorted to for doing away with these troublesome sensations, such as diet, drugs, local anesthetics, revulsives, compression, section, elongation, and extirpation of nerves, and electricity, but with only variable results.

THE TREATMENT OF HODGKIN'S DISEASE WITH THE RÖNTGEN RAYS.

As is prone to be the case with new remedies of all kinds, the Röntgen rays have doubtless led to expectations that will not be fully realized. In the *Boston Medical and Surgical Journal* for September 25th, Dr. Francis H. Williams reports concerning one case, out of three of Hodgkin's disease in which he has used the rays, that, although surprisingly rapid improvement was observed for a time, at the end of six months the glands have enlarged again and the patient's general condition is no better than it was at first, in spite of the fact that the treatment has been continued.

THE PROVIDENCE HOSPITAL, EL PASO, TEXAS.

It is announced that a new general hospital corporation has been formed in El Paso, and that a suitable building has been acquired and is being fitted for hospital purposes. It is stated that the affairs of the new hospital, which is to be called the Providence Hospital, will be largely under the control of members of the medical profession, and we notice that four of the seven directors, including the president of the board, are physicians. Another commendable feature of the institution is that medical men who are not members of its staff may send their patients to it under the assurance that every effort will be made to protect their interests. The superintendent is a graduate of the New York Hospital Training School.

THE PRESIDENT'S CASE.

Though it is now apparent that in the President's case the contusion involved the bone, perhaps to the degree of setting up slight exfoliation, there is still, so far as is known at present, no occasion for alarm. At the same time, the course pursued by the Indianapolis surgeons in hastening his return to Washington was dictated by considerations of prudence, and cannot be too highly commended.

News Items.

Society Meetings for the Coming Week:

MONDAY, October 6th.—New York Academy of Medicine (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

TUESDAY, October 7th.—New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson, N. J., County Medical Society (Jersey); Androscoggin, Maine, County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, October 8th.—New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Society for Medical Progress, New York; Pittsfield, Massachusetts, Medical Association (private); Philadelphia County Medical Society.

THURSDAY, October 9th.—Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia; Church Hill Medical Society of Richmond, Virginia.

FRIDAY, October 10th.—New York Academy of Medicine (Section in Neurology); Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y. (anniversary).

SATURDAY, October 11th.—Obstetrical Society of Boston (private).

Pennsylvania Institutions Endowed.—Under the will of the late Harriet S. Benson, of Philadelphia, the sum of \$5,000 was left to each of some thirty institutions, among which are the following: Pennsylvania Hospital, Polyclinic College for Graduates in Medicine, Medico-Chirurgical College and Hospital, Howard Hospital and Infirmary, Wills Eye Hospital, Hahnemann Medical College, Women's Hospital, the Gynæcean Hospital, and the Maternity Hospital.

Kankakee (Ill.) Hospital Officers Exonerated.—The Illinois State Board of Charities which has recently been carrying on an investigation into the manner in which the affairs of the Eastern Hospital of Illinois for the Insane at Kankakee have been conducted have submitted a report to the governor or the State exonerating the officers and employees of the institution from the charges of maltreating the inmates of the institution. One of the witnesses has been arrested on a charge of perjury.

The New York Academy of Medicine.—The next meeting of the Section in Pediatrics will be held on Thursday evening, October 9th. The programme to be presented consists of a paper by Dr. L. E. La Fetra on "Some Observations in the Children's Hospitals of Paris and London"; a paper by Dr. S. McC. Hamill entitled "A Review of the Older

Writings on Infant Feeding," and one by Dr. W. P. Northrup on "The Recent Meeting of the Pediatric Section of the British Medical Association."

A New Hospital for Harvard College.—Through the generosity of Mr. James Stillman, of New York City, Harvard University has been provided with a complete and modern hospital which is said to be better than that of any other college in the United States. The most recent sanitary inventions of value have been used in building and furnishing the hospital, and no expense has been spared to make it as perfect as possible. It will be run on the same lines as other private hospitals, each patient being privileged to choose his own physician.

The Mississippi Valley Medical Association.—Arrangements have been made with the railroads whereby physicians who desire to attend the meeting of the association at Kansas City, Mo., on October 15th, 16th, and 17th, can obtain tickets at a fare and one-third, on the certificate plan. A certificate must be obtained from the ticket agent when the ticket is purchased. This certificate, signed by the secretary of the association, entitles the holder, on the payment of a fee of twenty-five cents, to a return ticket at one-third fare. This reduction does not apply to the cost of a sleeping berth.

A College Students' Medical Society.—Members of the senior class of the College of Physicians and Surgeons of Chicago have organized what members believe to be the first honorary society in a medical school in this country. Not more than fifteen juniors will be elected to membership. Not more than thirty names are to be considered for election from any one class of over 200 students, and the proportion can never exceed one-sixth of the class. The object of this fraternity is to maintain a high standard of thought and action in medical schools and in the profession.

The Wyoming State Medical Society.—At the annual meeting of the Wyoming State Medical Society held in Cheyenne, Wyo., on September 10th, the following officers were elected: President, Dr. S. B. Miller, Laramie; first vice-president, Dr. J. H. Conway, Cheyenne; second vice-president, Dr. Mortimer Jerusum, Douglas; secretary, Dr. J. S. Finney, Rawlins; treasurer, Dr. J. L. Wicks, Evanston; delegate to the meeting of the American Medical Association in 1904, Dr. C. H. Soller, Evanston; alternate, Dr. Newell, Sheridan. Rock Springs was selected as the place of holding the next meeting of the society.

The Rocky Mountain Interstate Medical Association held its meeting at Cheyenne, Wyo., during the week ending September 13th and elected the following officers for the ensuing year: President, Dr. C. H. Soller, of Evanston, Wyo.; first vice-president, Dr. George P. Johnston, of Cheyenne; second vice-president, Dr. U. D. McDowell, of Longmont, Colo.; treasurer, Dr. E. S. Wright, of Salt Lake City; recording secretary, Dr. Henry La Motte, of Salt Lake City; corresponding secretary, Dr. S. D. Hopkins, of Denver. Salt Lake City was selected as the place for holding the annual meeting of 1903, and the first Tuesday and Wednesday in September as the time.

The American Society of Superintendents of Training Schools for Nurses held its annual convention at Pittsburg during the week ending September 13th. The following officers were elected: President, Miss Ida F. Giles; first vice-president, Mrs. L. E. Gretter; second vice-president, Miss Jane A. Delano; secretary, Miss L. L. Dock; treasurer, Miss Anna L. Alline; auditor, Miss Georgia Nevins; two new council members, Miss Mary S. Gilmour and Miss Martha Russell.

Stony Wold Sanatorium.—On September 15th the corner stone of the Stony Wold Sanatorium was laid in the grounds near Malone in the Adirondack forest, which have been purchased for the erection of this structure. The foundations cover an area of 30,736 square feet. The grand stand was erected over one corner of the foundation, and a large number of visitors were present to participate in the ceremony, among them being Bishop Potter, Dr. E. L. Trudeau, and Colonel John W. Vrooman, each of whom made an address.

School Inspection.—Nearly a thousand children have been excluded from the schools in the Borough of Brooklyn alone through the action of the newly appointed Board of School Inspectors. Heretofore the school inspections have been performed in a somewhat perfunctory manner, the inspectors depending wholly upon the reports from the teachers, and not making any personal inspection themselves. This method has been changed, the number of medical inspectors cut down, their pay increased, and each given to understand that he will be required to make a personal inspection of each student in the school under his charge. The first result of the inspection has excluded so many children as to arouse a great deal of unfavorable comment and has brought forth many vigorous protests from the parents of the children excluded. A committee has been appointed from among the physicians on the Board of Health to make a study of the subject and report upon the best plan for carrying out the inspection.

Meetings of National and State Medical Societies for the Month of October:

TRI-STATE MEDICAL SOCIETY of Alabama, Georgia and Tennessee, Birmingham, Ala., October 7, 8 and 9, 1902.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION, Kansas City, Mo., October 15, 16 and 17, 1902.

MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA, October 7, 1902.

IDAHO STATE MEDICAL SOCIETY, Moscow, October 9 and 10, 1902.

NEW YORK STATE MEDICAL ASSOCIATION, New York, October 21, 22 and 23, 1902.

VERMONT STATE MEDICAL SOCIETY, Burlington, October 9 and 10, 1902.

State and County Civil Service Examinations.—Open Competitive Examinations for positions in New York State and County Departments and Institutions will be held on October 25th, 1902, in Albany, Amsterdam, Auburn, Binghamton, Buffalo, Elmira, Hornellsville, Ithaca, Jamestown, Kingston, Lockport, Malone, Newburg, New York, Ogdensburg, Olean, Oneonta, Plattsburg, Poughkeepsie,

Rochester, Syracuse, Utica, and Watertown, for various positions, among which are those of physician, of the first and second grades (including medical interne). The usual salary is \$600 and maintenance. The eligible list will be made up from the standings obtained in the State examinations for license to practice. The examinations are open to men and women. Candidates are desired in both the Regular and the Homœopathic Schools of Medicine.

Applications must be filed in the office of the Commission on or before noon of October 20th. For further particulars and application blank, address the Chief Examiner, State Civil Service Commission, Albany, N. Y.

The Tri-State Medical Society of Alabama, Georgia, and Tennessee will hold its fourteenth annual meeting at Birmingham, Ala., on October 7th, 8th, and 9th. Reduced rates on the certificate plan have been granted from all points south of the Ohio and east of the Mississippi River, and all members of the medical profession in good standing in that section are invited to attend. The preliminary programme embraces a large number of papers from well-known authors. Among those who have already promised papers are Dr. J. C. Le Grand, of Birmingham, Ala.; Dr. W. Cheatham, of Louisville, Ky.; Dr. Frank Trester Smith, of Chattanooga, Tenn.; Dr. Samuel Kirkpatrick, of Selma, Ala.; Dr. G. W. J. Peters, of Birmingham, Ala.; Dr. W. E. Wilder, of Birmingham, Ala.; Dr. R. E. Fort, of Nashville, Tenn.; Dr. G. A. Baxter, of Chattanooga, Tenn.; Dr. W. F. Berry, of Birmingham, Ala.; Dr. Wm. W. Harper, of Selma, Ala.; Dr. H. Berlin, of Chattanooga, Tenn.; Dr. C. Holtzclaw, of Chattanooga, Tenn.; Dr. W. E. B. Davis, of Birmingham, Ala.; Dr. E. B. Ward, of Selma, Ala.; Dr. W. G. Bogart, of Chattanooga, Tenn.; Dr. R. R. Kime, of Atlanta, Ga.; Dr. Louis Edelman, of Huntsville, Ala.; Dr. Searle Harris, of Union Springs, Ala., and Dr. Monroe Smith, of Atlanta, Ga.

The Death Rate of Chicago.—Statement of mortality for the week ending September 27th compared with the preceding week; and with the corresponding week of 1901. Death rates computed on estimated population of 1,820,000 for 1902; of 1,758,025 for 1901:

	Sept. 27 1902	Sept. 20 1902	Sept. 28 1901
Total deaths, all causes	410	487	486
Death rate per annum, in 1,000.	12.73	13.83	14.11
By sexes:			
Males	254	286	268
Females	192	201	218
By ages:			
Under 1 year	82	101	116
Between 1 and 5 years	46	50	49
Over 60 years	88	62	65
Principal causes of death:			
Acute intestinal diseases.....	52	65	73
Apoplexy	5	9	12
Bright's diseases	34	25	25
Bronchitis	10	8	11
Consumption	36	60	52
Cancer	16	10	21
Convulsions	17	9	9
Diphtheria	14	2	6
Heart diseases	32	29	47
Nervous diseases	24	31	35
Pneumonia	42	43	31
Typhoid fever	25	38	15
Scarlet fever	4	0	3
Suicide	5	0	3
Violence (other than suicide)...	24	20	22
Whooping cough	6	6	3
Measles	2	2	1

The Prevention of Consumption.—The Central International Bureau for the Prevention of Consumption has issued a second circular of suggestions as to topics for discussion at the autumn conference. The subjects proposed for discussion are as follows: (1) The attitude of governmental authorities with regard to the prevention of consumption. (2) Obligatory police notification. (3) Organization of dispensaries. (4) The prevention of consumption in the schools. (5) Precautions against the conveyance of consumption by milk. (6) Tuberculosis during infancy. (7) The protection of laborers against infection. (8) Classification and different modes of accommodating consumptives. Between the meetings inspections are provided for, which are in direct connection with the objects of the conference for the prevention of consumption, as for instance the inspection of Koch's establishment for infectious diseases, the Royal clinical establishment for the treatment of consumptives, the Royal Board of Health, the new clinical hospital for laryngeal diseases and in particular the four sanatoriums, opened by the Country Insurance Department (*Landesversicherungsanstalt*) Berlin for convalescents and consumptives of both sexes near Beelitz in the neighborhood of Potsdam. In order to render the stay of the members of the conference in Berlin as pleasant as possible a local committee has been formed from the Berlin Tuberculosis Associations, which will do its best to organize the social part of the conference, as soon as the approximate number of the members who will attend the conference, can be ascertained. Several of the members of the local committee have expressed a desire to welcome those of the gentlemen, who prefer to live in private apartments, as their guests during the conference. Further information concerning the conference may be had from the secretary of the Committee of Organization, Berlin W., Wilhelmplatz, 2.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending September 27, 1902:

DISEASES.	Week end'g Sept. 20		Week end'g Sept. 27	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	151	20	157	23
Scarlet fever.....	102	7	84	4
Cerebrospinal meningitis.....	6	0	0	1
Measles.....	27	1	37	0
Diphtheria and Croup.....	105	28	100	25
Small-pox	3	1	5	1
Tuberculosis	220	128	237	141

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending September 27, 1902:

AMES, H. E., Surgeon, detached from the *Olympia* and ordered home to wait orders.

BERRYHILL, T. A., Surgeon, ordered to the *Pensacola Navy Yard*.

BIDDLE, C., Surgeon, detached from recruiting duty in the field, and ordered to the Naval Recruiting Rendezvous, Philadelphia.

BOGERT, E. S., Medical Director, retired, ordered to the Marine Recruiting Rendezvous, New York.

GARTON, W. M., Passed Assistant Surgeon, ordered to the *Columbia*.

DENNIS, J. B., Passed Assistant Surgeon, detached from the *Brooklyn*, and ordered home to wait orders.

DENNIS, J. B.; Passed Assistant Surgeon, ordered to the *Detroit*.

FOREBEE, N. M., Medical Director, detached from the Naval Hospital, Norfolk, Va., and ordered to the Navy Yard, Washington, D. C.

GARTON, W. M., Passed Assistant Surgeon, detached from the *Columbia* and ordered home to wait orders.

HARMON, G. E. H., Medical Inspector, detached from the Naval Hospital, Yokohama, Japan, and ordered home to wait orders.

HENEBERGER, L. G., Medical Inspector, detached from the *Brooklyn*, and ordered home to await orders.

HENEBERGER, L. G., Medical Inspector, ordered to the *Olympia*.

HERNDON, C. G., Medical Inspector, detached from the Navy Yard, Washington, D. C., and ordered to the Naval Hospital, Yokohama, Japan, sailing from San Francisco October 22d.

LIPPITT, T. McC., Assistant Surgeon, retired from active service, by reason of physical disability,—gunshot wound received in action at Pekin, China.

PERSONS, R. C., Medical Director, detached from the Marine Recruiting Rendezvous, New York, and ordered to the Naval Hospital, Norfolk, Va.

PICKRELL, G., Surgeon, detached from the Naval Dispensary, Washington, D. C., and Naval Hospital, and ordered to the Naval Academy, Annapolis, Md.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending September 27, 1902:

BYRNE, CHARLES B., Lieutenant Colonel and Deputy Surgeon General, ordered to Fort Lincoln, N. D., to investigate the cause of an outbreak of typhoid fever at that post.

CLAYTON, JERE B., First Lieutenant and Assistant Surgeon, ordered to proceed to Fort Riley, Kansas, for temporary duty in connection with the military manoeuvres to be held at that post, and on completion to proceed to Vancouver barracks, Washington, for duty.

DEVEREUX, THOMAS, First Lieutenant and Assistant Surgeon, to proceed to Fort Riley, for temporary duty in connection with the manoeuvres to be held at that post.

HARTNETT, EUGENE H., First Lieutenant and Assistant Surgeon, when his services are no longer required at Fort Preble, he will return to Fort Columbus.

HAYARD, VALERY, Lieutenant Colonel and Deputy Surgeon General upon the completion of the duty to which he was ordered to proceed to Paris, France, and attend the special manoeuvres in connection with the troops in the field of the medical corps of the French army, will return to his proper station at Fort Monroe not later than October 30, 1902.

HESS, LOUIS T., First Lieutenant and Assistant Surgeon, granted leave for twenty days to date about September 25, 1902.

HOFF, JOHN VAN R., Lieutenant Colonel and Deputy Surgeon General, is relieved from duty as a member of the faculty of the Army Medical School, and will proceed to Fort Bayard, N. M., for the purpose of inspecting the U. S. General Hospital at that post, and will then return to his proper station in Washington.

LA GARDE, LOUIS A., Major and Surgeon, in addition to his duties as attending surgeon at the Soldiers' Home, is detailed as a member of the faculty of the Army Medical School as professor of ophthalmology and skiagraphy and lecturer on the duties of medical officers in war and peace.

MCCALLUM, FRANCIS M., Captain and Assistant Surgeon. The sick leave granted him is extended one month on account of sickness.

NELSON, KENT, First Lieutenant and Assistant Surgeon, now on temporary duty at Santa Barbara, Panay, is assigned to permanent duty at that station, relieving Contract Surgeon W. H. Tefft, now sick at the Brigade Hospital, Iloilo.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general during the week ending September 27, 1902:

Smallpox—United States.

California.....	Los Angeles.....	Sept. 6-13.....	7 cases.	
	San Francisco.....	Sept. 7-14.....	5 cases.	
Illinois.....	Chicago.....	Sept. 13-20.....	1 case.	
Indiana.....	Indianapolis.....	Sept. 6-13.....	1 case.	
Kansas.....	Wichita.....	Sept. 6-13.....	1 case.	
Kentucky.....	Covington.....	Sept. 6-13.....	2 cases.	
Louisiana.....	Shreveport.....	Sept. 13-20.....	1 case.	
Maryland.....	Baltimore.....	Sept. 13-20.....	1 case.	
Massachusetts.....	Boston.....	Sept. 13-20.....	18 cases.	1 death.
Michigan.....	Detroit.....	Sept. 13-20.....	8 cases.	
Missouri.....	St. Louis.....	Sept. 14-21.....	1 case.	
N. Hampshire.....	Nashua.....	Sept. 13-20.....	5 cases.	
New Jersey.....	Camden.....	Sept. 13-20.....	2 cases.	
	Newark.....	Sept. 13-20.....	2 cases.	
	Plainfield.....	Sept. 13-20.....	1 death.	
New York.....	New York.....	Sept. 13-20.....	3 cases.	1 death.
Ohio.....	Cincinnati.....	Sept. 12-19.....	1 case.	
	Cleveland.....	Sept. 13-20.....	86 cases.	7 deaths.
	Toledo.....	Sept. 6-13.....	8 cases.	
Youngstown.....	Youngstown.....	Sept. 6-13.....	1 case.	1 death.
Pennsylvania.....	Altoona.....	Sept. 13-20.....	3 cases.	
	Johnstown.....	Sept. 13-20.....	17 cases.	3 deaths.
	McKeesport.....	Sept. 13-20.....	3 cases.	
	Pittsburgh.....	Sept. 13-20.....	20 cases.	6 deaths.
	Philadelphia.....	Sept. 13-20.....	4 cases.	
	Reading.....	Sept. 15-22.....	1 case.	
S. Carolina.....	Charleston.....	Sept. 13-20.....	1 case.	
Tennessee.....	Nashville.....	Sept. 13-20.....	1 case.	

Smallpox—Foreign.

Austria.....	Prague.....	Aug. 23-30.....	3 cases.	
Belgium.....	Antwerp.....	Aug. 30-Sept. 6.....	1 case.	
	Brussels.....	Aug. 30-Sept. 6.....	1 death.	
	Ghent.....	Aug. 30-Sept. 6.....	1 death.	
Ecuador.....	Guayaquil.....	Aug. 23-30.....	3 deaths.	
France.....	Paris.....	Aug. 16-23.....	1 death.	
Gr. Britain.....	Dundee.....	Aug. 30-Sept. 6.....	1 case.	
	Liverpool.....	Sept. 6-13.....	3 cases.	
	London.....	Aug. 30-Sept. 6.....	12 cases.	2 deaths.
India.....	Bombay.....	Aug. 19-26.....	3 deaths.	
	Calcutta.....	Aug. 8-23.....	2 deaths.	
	Madras.....	Aug. 20-Sept. 6.....	2 deaths.	
Italy.....	Palermo.....	Aug. 23-30.....	2 cases.	
Russia.....	Moscow.....	Aug. 16-30.....	3 cases.	2 deaths.
	Odesa.....	Aug. 30-Sept. 6.....	1 case.	
	St. Petersburg.....	Aug. 16-30.....	39 cases.	6 deaths.
	Warsaw.....	Aug. 8-23.....	5 deaths.	

Yellow Fever.

Colombia.....	Panama.....	Sept. 8-15.....	3 cases.	1 death.
Mexico.....	Coatzacoalcas.....	Sept. 6-13.....	3 cases.	1 death.

Cholera—Insular.

Philippine Islands.....	Manila.....	May 10-Aug. 2.....	622 cases.	410 deaths.
	Provinces.....	July 19-Aug. 2.....	2141 c's.	1664 d'ths.

Cholera—Foreign.

China.....	Amoy.....	July 26-Aug. 2.....	40 cases estimated.	
	Hongkong.....	Aug. 2-9.....	12 cases.	11 deaths.
	New Changang.....	Aug. 2-16.....	160 cases.	142 deaths.
Egypt.....	Alexandria.....	Aug. 16-30.....	13 cases.	7 deaths.
India.....	Bombay.....	Aug. 19-26.....	2 deaths.	
	Calcutta.....	Aug. 8-23.....	16 deaths.	
	Karachi.....	Aug. 10-24.....	1 case.	
	Madras.....	Aug. 9-15.....	1 death.	
Straits Settlements.....	Singapore.....	July 26-Aug. 2.....	5 deaths.	

Plague—Foreign.

China.....	Hongkong.....	Aug. 2-9.....	14 cases.	13 deaths.
Egypt.....	Alexandria.....	Aug. 16-30.....	7 cases.	4 deaths.
India.....	Bombay.....	Aug. 19-26.....	35 cases.	19 deaths.
	Calcutta.....	Aug. 8-23.....	19 deaths.	
	Karachi.....	Aug. 10-24.....	20 cases.	17 deaths.
	Madras.....	Aug. 9-15.....	2 deaths.	

Public Health and Marine-Hospital Service:

Official List of Changes of Stations and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service, for the Seven Days ending September 25 1902:

VAUGHAN, G. T., Assistant Surgeon General. Granted leave of absence for one month from October 1—September 19, 1902.

GLENNAN, A. H., Surgeon. Granted five days' extension of leave of absence from September 22—September 20, 1902.

BROOKS, S. D., Surgeon. Granted leave of absence for fifteen days from September 27—September 20, 1902.

STONER, J. B., Passed Assistant Surgeon. To proceed to Washington, D. C., and report to chairman of board of examiners for examination to determine his fitness for promotion to the grade of surgeon—September 19, 1902.

FRICKS, L. D., Assistant Surgeon. Relieved from temporary duty at Savannah Quarantine, and directed to proceed to Savannah, Ga., and assume command of the station—September 19, 1902.

KERR, J. W., Assistant Surgeon. Granted leave of absence for two months and fifteen days upon being relieved from duty at Hongkong, China—September 20, 1902.

ALTREE, G. H., Acting Assistant Surgeon. Granted leave of absence for twenty-six days from September 15—September 20, 1902.

BAILEY, C. W., Acting Assistant Surgeon. Department letter of September 4, 1902, granting Acting Assistant Surgeon Bailey leave of absence, amended so that said leave shall be for a period of two days from August 27—September 16, 1902.

Resignation.

Surgeon T. B. PERRY resigned to take effect September 15, 1902.

Boards Convened.

Board convened to meet at the Bureau, Washington, D. C., at 10 o'clock A. M., September 20, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board—Assistant Surgeon General W. J. PETTUS, Chairman. Assistant Surgeon General H. D. GEDDINGS, Recorder.

Board convened to meet at the Bureau, Washington, D. C., at 12 o'clock, September 20, 1902, for the physical examination of Captain O. S. WILLEY, R. C. S. Detail for the Board—Assistant Surgeon General G. T. VAUGHAN, Chairman. Assistant Surgeon B. S. WARREN, Recorder.

Board convened to meet at the Bureau, Washington, D. C., at 10 o'clock A. M., September 20, 1902, for the examination of Passed Assistant Surgeon J. B. STONER to determine his fitness for promotion to the grade of surgeon. Detail for the Board—Assistant Surgeon General L. L. WILLIAMS, Chairman. Assistant Surgeon General W. J. PETTUS. Assistant Surgeon General H. D. GEDDINGS, Recorder.

Births, Marriages, and Deaths.

Married.

ALLEN—WILKINSON.—In Penn Yan, N. Y., on Wednesday, September 24th, Dr. Frank L. Allen and Miss Belle Dorance Wilkinson.

BROOKE—HERMANN.—In Brooklyn, Maryland, on Wednesday, September 24th, Dr. Charles H. Brooke and Miss Gertrude F. Hermann.

CABOT—BOIT.—In Boston, Mass., on Monday, September 22d, Dr. Hugh Cabot and Miss Mary Anderson Boit.

KANE—WILLIAMS.—In Deer Park, Maryland, on Thursday, October 2d, Dr. J. A. Bayard Kane and Miss Sarah Williams.

ROEMELE—JOUETT.—In Eminence, Kentucky, on Wednesday, October 1st, Dr. Eugene Carl Roemele and Miss Kathryn Jouett.

TUCK—HAMMOND.—In Chestnut Hill, Mass., on Tuesday, September 23d, Dr. Henry Tuck, of New York City, and Mrs. Elenore B. Hammond.

Died.

BURCH.—In Baltimore, Maryland, on Monday, September 21st, Dr. James Cook Burch, in the sixty-fourth year of his age.

CAMERON.—In New York City, on Sunday, September 28th, Dr. Edward Miller Cameron, in the seventy-third year of his age.

COREY.—In Chicago, on Friday, September 26th, Dr. Alphonso L. Cory, in the fifty-first year of his age.

HUNTER.—In Kansas City, Missouri, on Wednesday, September 24th, Dr. E. E. Hunter, in the thirty-eighth year of his age.

KEARNEY.—In New York City, on Wednesday, September 24th, Dr. Thomas J. Kearney, in the fifty-first year of his age.

MAY.—In Kansas City, Kansas, on Wednesday, September 24th, Dr. J. W. May, in the fifty-second year of his age.

MEW.—In Washington, on Friday, September 19th, Dr. W. M. Mew, in the sixty-seventh year of his age.

NEUHAUS.—In Baltimore, Maryland, on Monday, September 22d, Dr. Moritz Newhaus, in the fifty-seventh year of his age.

NICHOLS.—In Rochester, N. Y., on Monday, September 29th, Dr. Arthur E. Nichols, in the forty-eighth year of his age.

OSTROM.—In Goshen, N. Y., on Wednesday, September 24th, Dr. Joshua W. Ostrom, in the eighty-seventh year of his age.

PERRINE.—In Philadelphia, on Thursday, September 18th, Dr. Edward K. Perrine.

PULTZ.—In Sanfordville, N. Y., on Tuesday, September 16th, Dr. M. T. Pultz, in the fifty-eighth year of his age.

THOMAS.—In Chenoa, Illinois, Dr. J. H. Thomas, in the eighty-sixth year of his age.

VAN METER.—In Charleston, Illinois, on Friday, September 19th, Dr. Samuel Van Meter, in the seventy-eighth year of his age.

OBITUARY NOTES.

THOMAS H. PHILLIPS, M. D., of Canton, Ohio, died suddenly on Saturday, August 30, 1902, at the age of sixty-three years. Dr. Phillips was born at Cannonsburg, Pa., and was graduated from the Jefferson Medical College in 1864. He was the oldest practitioner in Canton, and became nationally known as the family physician of the late President McKinley. Previous to his graduation Dr. Phillips was an assistant surgeon in the civil war and accompanied General Sherman in the "March to the Sea." He was widely known as a consultant and was a member of the Canton Medical Club, the Stark County Academy of Medicine, the Northeastern Ohio Medical Association and the American Medical Association.

J. W. MAY, M. D., of Kansas City, Kan., died on Wednesday, September 24th, at the age of fifty-two years. He was well known as an ophthalmologist and otologist and had been connected with the College of Physicians and Surgeons of Kansas City since its organization in 1894. At the time of his death he was dean of the college.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Inflammation of the Diaphragm.—Dr. C. W. G. Rohrer (*Maryland Medical Journal*, September) concludes an article on inflammation of the diaphragm complicating pneumonia as follows:

1. Inflammation of the diaphragm is a common complication of pneumonia. In most of those cases in which it is not found it will be observed that the specimen was obtained from a part of the diaphragm remote from the inflamed lung. Extension of the inflammatory process from the pneumonic lung to the diaphragm takes place in two or three ways: (a) by direct extension; (b) by the lymphatics; (c) by the blood-vascular system.

2. To inflammation of the diaphragm is due in large part the so-called "pleuritic stitch-pain," also the pain in the abdomen often complained of, especially by children. When the patient lies on the affected side the pain is diminished, because there is less motion of the chest wall and diaphragm in that position. The dyspnoea of frequency, always present in pneumonia, is due in large part to the patient's efforts to restrict the movements of the diaphragm.

3. The inflammation especially involves the muscular substance of the diaphragm, and may be mild or intense, in keeping with the grade and extent of the pneumonic condition. It is of bacterial origin, the usual microorganism being the pneumococcus.

Pernicious Anæmia and the Gastrointestinal Tract.—Dr. H. Strauss (*Berliner klinische Wochenschrift*, September 1st) has examined the leucocytes in the gastric mucous membrane in ten cases of pernicious anæmia. In five he found a great increase in their number, in three a small increase, and in two a moderate increase. A constant relation to the parenchyma of the gland could not be demonstrated. In certain respects, this finding corresponds to the increase of lymphocytes in the blood in cases of pernicious anæmia. The author examined the blood of rabbits in which he had artificially induced constipation and found no deviation from the normal blood except a leucocyte increase. As to the origin of pernicious anæmia in persons suffering from chronic gastrointestinal disease, Strauss contends that individual idiosyncrasy plays the most important rôle even though this can not be scientifically defined. The practical results following dietetic treatment of cases of pernicious anæmia speaks for the relationship between the disease and the condition of the alimentary tract.

The Rational Basis for the Dietetic Treatment of Tuberculosis.—Dr. William Henry Porter (*American Medicine*, September 20th) concludes: (1) That a predisposition to tuberculosis is inherited. (2) That tuberculosis by itself is never inherited, but is always acquired after birth. (3) The disease can be fed into or out of the human species. (4) The chief problem in the dietetic treatment of tuberculosis is, first, to overcome the general malnutrition, and, next, to establish a higher grade of local nutrition at the infected foci. (5) The composition, digestibility, and percentage absorption of the various foodstuffs and the oxygenating capacity of the system are accurately known. (6) By this knowledge the quantity of food taken can be accurately

adjusted, so that the full heat production and constructive utilization of the proteids is secured. (7) The oxygenating and carbon-dioxide excreting powers of the system must not be exceeded if the best results are to be secured. (8) By following these accurate laws systematically a perfect diet can be arranged, and the abnormal and pathological conditions can be changed to the normal, physiologically speaking. (9) The most difficult problem to contend with in the dietetic management of tuberculosis is the loss of appetite and the inability on the part of the system to digest and utilize perfectly a sufficient quantity of proteid material to maintain life and, at the same time, repair the damage already wrought. (10) When this is accomplished a large percentage of tuberculous patients are rapidly and permanently cured, more so than by medicinal treatment or simple climatic changes.

Haffkine's Anti-bubonic-plague Serum Administered through the Mouth. By Dr. Vincenzo Mercatelli (*Riforma medica*, August 5th).—The author had charge of the inoculations of Haffkine's serum in the small epidemic of plague which occurred in Naples in 1901. He found the serum to be very efficient, but had great trouble in persuading the people in Naples to submit to subcutaneous inoculation. Patients affected with the disease, or those who had been directly exposed and feared infection generally submitted, but healthy persons to whom the preventive inoculations were proposed, often refused. Besides this the subcutaneous administration of the serum involves the careful sterilization of the needle, the disinfection of the patient's skin, etc. The author then conceived the idea of giving the serum by mouth in the shape of boluses, and thus introducing it into the system. The question was whether the immunizing substances were able to resist the gastric and intestinal juices and the action of bacteria in the digestive tract, and also whether these substances were perfectly absorbed. He gave the serum to some guinea pigs through stomach tubes, and gave the immunizing substance to others in sterilized bread crusts, which they ate after having fasted for twenty-four hours. They were inoculated with plague virus after from ten to fifteen days. The author found in these experiments that large doses of plague vaccine given by mouth gave rise to a toxic gastroenteritis which might terminate fatally. The administration of this serum was also followed by a subnormal state of the temperature, which was found often two or more degrees below normal. This hypothermia continued for from ten to fifteen days, and then the temperature became normal. If the animal died, the temperature continued to sink until death. The guinea pigs that had successfully withstood the administration of the plague vaccine withstood the injection of the minimum fatal dose of the virus. If given five times the fatal dose, they did not always survive, but sometimes died after a few days. These facts prove that a slight immunity is conferred against plague by the mere ingestion of the serum. By the repeated administration of progressively increasing doses of the antiplague serum however, the author hopes to be able to produce complete immunity against this disease. His experiments with the administration of the antiplague serum by mouth are analogous to those of Perini, who tried the same method in the case of antidiphtheritic serum.

The Diagnostic Methods Employed in Determining the Sensitiveness of the Stomach. By Dr. Raffaele Supino (*Riforma medica*, July 24th and 25th).—The author considers the various methods employed to test the sensitiveness of the stomach, including those of Roux, Boas, and Arullani. The instrument of Roux consists of a cylinder in which a cylindrical pistol moves, controlled by means of a spring which regulates the tension according to the degree of pressure used by the examiner's hand. When the appliance is placed upon the epigastrium and when the cylindrical piston is pushed down upon the skin, a scale indicates the amount of pressure used in grammes, up to 5000 gms. Boas's instrument, described in his book in 1894, is on the same principle. Roux says that patients with hyperchlorhydria or with sensory-motor dyspepsia show a capacity for pressure in the epigastrium diminished from 5000 gms., which is normal, to 700 gms. The author criticises these appliances and remarks that they are far from being extinct. In cases in which irritating solutions of hydrochloric acid had been experimentally given, and in others in which anæsthetic substances, such as chloroform, had been administered, the sensitiveness of the epigastrium to pressure by means of Roux's apparatus varied greatly. The patient cannot always tell when his pain begins, to the second, and hence the progressive pressure may go further in the scale in one person and not so far in another. Arullani, acting upon the suggestion of Pescarolo, devised another method of determining the sensitiveness of the stomachic mucosa. His method is based on the principle that the pain and sense of oppression in the stomach are directly proportional to the degree of distention of that organ. He has therefore devised an instrument which is not very different from that which had been previously devised by the author for the determination of the functional motility of the stomach. This instrument consists of a water-manometer of a high degree of sensitiveness, the tube of which, 70 cms. in length, communicates with a horizontal arm, which is connected with an air pump and a gastric syphon tube. The author says that the sensitiveness of the manometer upon which Arullani prides himself so much, is a disadvantage, because such a manometer is influenced by the respiration. The tube should not be made so long, and another liquid than water, less sensitive than the latter, should be selected. The author believes that only the trained hand can diagnose increased sensitiveness in the epigastrium, and that the apparatus of Arullani does not fulfill the requirements of clinical diagnosis.

Acute Infantile Bronchopneumonia (Bronchopneumonitis); Based on the Clinical, Pathological, and Hæmatological Phenomena Observed in Three Fatal Cases. By Dr. J. L. Steven (*Lancet*, September 20th).—The acute bronchopneumonitis of infancy may be classified as primary and secondary. The primary form is more liable to occur in infants; beyond the age of infancy the disease is more likely to be secondary. Among the exciting causes of the primary form, chill from exposure to cold is one of the most powerful. It may cause the disease in quite healthy infants, but is perhaps more likely to do so in those who are weakly or have been suffering from a bronchial cold or from gastrointestinal catarrh. Of secondary acute broncho-

pneumonitis whooping-cough, measles, and diphtheria are probably the most frequent antecedent states; such secondary cases should, perhaps, be regarded as complications or sequelæ. They are more likely to be subacute or chronic in their course than the primary forms, and many of them terminate in tuberculous states. The commonest microorganism found is the Fraenkel-Weichselbaum diplococcus—*i. e.*, Fraenkel's pneumococcus. In the septic pneumonias following measles and diphtheria various organisms are found, among others the staphylococcus and *Streptococcus pyogenes*. Among the numerous microbic agents capable of affecting the respiratory system of infants, the influenza bacillus must also be included. As regards the morbid anatomy of acute bronchopneumonitis, it is to be noted that the inflammatory lesion affects all parts of the respiratory apparatus—the bronchial tubes, the peribronchial tissue, the alveoli, the interstitial tissue, and the pleural membrane. It is not confined to one part as in acute lobar pneumonia or simple bronchitis. A wellmarked leucocytosis was present in all the author's cases, in one case reaching a high degree. The disease is usually sudden in its onset; high fever sets in and the child becomes prostrate, the breathing being rapid and labored, with either marked cyanosis or pale lividity. The cough may not be very urgent; it is often suppressed, and never vigorous or paroxysmal. The function of the bowels is often disturbed, manifested by diarrhœa or constipation with distention. On auscultation of the chest what catches the ear is the sound of sticky, medium or fine crepitant or subcrepitant râles on inspiration, tending to linger in particular areas of the lungs. The dullness may be patchy or entirely absent. The general condition of the baby is of more value in diagnosis than the physical signs. The chief diseases from which acute infantile bronchopneumonitis is to be distinguished, are acute bronchitis, acute lobar pneumonia, and acute pleural effusion. The chief complication is empyema, though its presence indicates that the child has to some extent rallied, or even recovered from the earlier stages of the initial disorder. Empyema should always be suspected if the febrile symptoms show no tendency to abate after a week or ten days, if dullness persists over a single spot, and if with some alleviation of the more severe general symptoms an irregularly remittent type of fever sets in accompanied by sweating. Acute infantile bronchopneumonitis is essentially a disease of debility and treatment should aim at maintaining nutrition and stimulating the heart. All depressant measures, such as the use of emetics, should be strictly avoided. Keep the child in an airy well warmed room, make free use of the bronchitis kettle, apply linseed poultices to the chest, regulate the bowels, and use alcohol prescribed in minims, not in drachms. Ammonium carbonate and digitalis may also be given.

SURGERY AND ANATOMY.

Biliary Surgery.—Dr. O. Zeller (*Berliner klinische Wochenschrift*, September 1st) has devised a method for the diagnosis between occlusion of the ductus choledochus and its compression from outside by adhesive bands or a neoplasm of the pancreas. As he shows in one of the cases reported, it is not always possible to locate a calculus in the duct, even in the

course of an operation. When he, therefore, encounters an occlusion of the duct from an unrecognized cause, he passes a sound from the duodenum by cutting into the intestine exactly in the centre of the descending portion of the duodenum. The author narrates some cases illustrative of the value of this procedure.

Subparietal Rupture of the Kidney.—Dr. Thomas A. Davis (*Annals of Surgery*, September), from the cases collected, and from his own experience, concludes that the reduction in the mortality since Dr. Keen's report has been largely due to improved technics. Fewer deaths have been reported from sepsis. Several deaths have been reported from hæmorrhage, which could undoubtedly have been avoided if more prompt and efficient means had been resorted to. He predicts that the mortality will be reduced to fifteen per cent. The expectant plan of treatment is permissible in cases where slight hæmaturia is the only symptom. Tumefaction, much blood in the urine, severe pain, and a history of great violence, each is a positive indication for prompt operative intervention. Early operations should be done in all cases where the history of the case and the symptoms point to serious injury of the kidney: (a) Nephrotomy, with gauze tamponing, where the patient has not lost enough blood, so that little subsequent hæmorrhage would not endanger life; (b) nephrectomy, where the kidney is irreparably injured, and in less extensive injuries where either sepsis or hæmorrhage is likely to prove fatal. In delayed cases it may be difficult or impossible to know just what is best to do. Every phase of the case must be considered, and then, if in doubt, operate. Shock is the violent disturbance of the nervous system immediately consequent upon injury. While there is some ground for hesitation in those cases of true shock, most of the cases described as shock are depression of the vital force from hæmorrhage or sepsis, and nothing short of prompt surgical intervention will prevent collapse. Operate on the history of the case rather than wait for symptoms which may only suggest what should have been done earlier.

The Influence of the Röntgen Ray Upon the Different Varieties of Sarcoma.—Dr. William B. Coley (*Medical News*, September 20th) asserts that the results in the cases thus far treated prove that the Röntgen ray has a remarkable inhibitory action upon the growth of all forms of malignant disease and that this is especially true of sarcoma. This action in many cases of even far-advanced and "inoperable" malignant disease may result in the total disappearance of the tumors, often without any breaking down of the tissues, the new growth being apparently absorbed. Whether the patients have been cured, or the disease has been merely arrested, to reappear at some future date, is a question that time alone can decide. Recent observations and experiments upon the various forms of carcinoma and sarcoma prove that an agent supposed to be of value only in a very limited class of superficial epitheliomas, promises to be of as great or even greater value in practically every variety of cancer. While at present there is little evidence to show that deep-seated tumors in the abdomen and pelvis can be cured or benefited by the Röntgen ray, there is still some reason to hope

that, with improved apparatus or with greater knowledge and skill in using the apparatus that we now have, even these cases may be benefited. The Röntgen ray has a very marked influence upon the pain of nearly all types of malignant tumors, causing entire relief in the majority of cases.

Some Points in the Treatment of Fractures.—W. Arbuthnot Lane, M. S. (*The Practitioner*, September), points out that the lower end of the humerus is much more liable than the upper to be exposed to a force greater than it can sustain without yielding. The fact that the greater part of the force, in a fall upon the partly flexed arm, passes through the radius to the radial head of the humerus explains the tendency to the outward displacement of the epiphysis, which is not uncommonly associated in a varying degree with the backward displacement, and which renders it so much more difficult to obtain a useful and durable elbow joint. When the displacement of the epiphysis is in a backward direction alone and there is no considerable fracture of the shaft, a very fair arm can usually be obtained by manipulation, the elbow being forcibly flexed in order to enable the coronoid process to exert a leverage upon the lower end of the shaft, and to displace it backwards upon the epiphysis. If this is done thoroughly, the overextension of the elbow joint that results from the rotation of the epiphysis around a transverse axis may usually be reduced very greatly, if not completely removed.

The Excision of Cancer of the Rectum.—The experience of Dr. Lewis H. Adler, Jr. (*American Medicine*, September 20th), would seem to indicate that cancer of the rectum, at the stage usually discovered by the surgeon, is less amenable to the knife than cancer occurring in other portions of the body; that operation is followed by cure in a very small proportion of the cases; that the dangers following excision are great and the results as to comfort anything but satisfactory; and yet, that in *properly selected cases*—those seen early—much good can be accomplished by the operation.

A Case of Traumatic Rupture of the Spleen; Removal Followed by Empyema and Recovery. By E. Beaumont, M. R. C. S., and E. Houseman, M. B. (*Lancet*, September 13th).—The authors report the case of a young man who was run over by a wagon, one wheel of which passed over his body. A diagnosis of severe abdominal lesion was made, based on distention of the abdomen and disappearance of liver dulness, and the abdomen was opened at once. The spleen was found to be completely ruptured into two pieces, and active hæmorrhage was going on. The pedicle of the spleen was ligatured, the spleen removed, and the abdominal cavity flushed out and closed. Up to the time of operation there had been no shock, and the pulse was never above 100. Since the operation the pulse rate has never been below 112. On the third day after operation the patient's temperature rose suddenly to 105° F., and on the sixth day six ounces of decomposing blood were removed by aspiration from the left pleural cavity. On the fifteenth day symptoms of a localized empyema developed, and resection of two ribs was performed, but the purulent discharge persisted and the temperature remained elevated, until the application of pure

oxygen was tried. This was passed into the pleural cavity through a tube, and was attended with the most satisfactory results. The patient slowly improved and is now in fair condition, but has marked general enlargement of the lymphatic glands with some anæmia. When the temperature was at its highest large doses of antistreptococcic serum were given with but little effect, although to get different strains it was obtained from different sources.

The Use of Paraffin for Restoring the Bridge of the Nose. By S. Paget, F. R. C. S. (*British Medical Journal*, September 13th).—The author reports two cases of depression of the bridge of the nose, in which Gersuny's method of restoration by means of the subcutaneous injection of paraffin was tried with very satisfactory results. In these cases the profile can be restored, but a short nose cannot be lengthened, or a broad nose narrowed.

An ordinary glass antitoxine syringe answers every purpose, but the needle must be broad and strong and not longer than an inch and a half. The skin of the nose at the point where the needle is to enter should be just nicked with a scalpel, so that the needle may pass easily. It is best to direct the needle downward, away from the eyelids, and to introduce it at the middle line of the nose. The paraffin used should have a melting point of about 115° F., and it must be kept, during use, about 10° or 15° F. higher, or it will solidify in the needle. For the same reason, the needle and syringe must be kept 15° or 20° F. higher than the paraffin. One case has been recorded of sloughing of the skin, following the use of a paraffin of a higher melting point.

An assistant must make firm pressure, very carefully, all round the nose, and must keep up this pressure until the paraffin is set. After the treatment a fold of lint should be placed over the upper part of the face, and kept moist with cold lotion. There is usually little pain, but there may be some swelling around the nose.

Occlusion of the Lateral Sinus and Internal Jugular Vein an Essential Part of the Method Employed by Nature, and by the Surgeon in Imitation of Nature, for Arrest of Acute General Infection Having Its Origin Within the Temporal Bone. By C. A. Ballance, F. R. C. S. (*Lancet*, September 20th).—After a complete review of the literature of the subject, the author reaches the following conclusions as to ligation of the jugular vein in general systemic infection arising within the temporal bone:

1. *Diagnosis of case before or during operation.*—The surgeon must determine whether his patient is suffering from (a) an acute systemic infection, or (b) a systemic disturbance depending upon a local process.

2. *The operation on the vein.*—This should be undertaken: (a) In acute pyæmia and acute septicæmia, whether the sinus is occupied by clot or by fluid blood; (b) if the sinus wall is gangrenous or its contents putrefying, unless it is clear that on both sides of the area of inflammation the lumen of the sinus is completely blocked by noninfected thrombi; (c) if it is proved, or even suspected, that the blood in the jugular vein is wholly or partly clotted; and (d) if the jugular vein is thrombosed.

The operation on the vein should precede that on the temporal bone. The vein should be exposed in the neck at the level of the cricoid cartilage, its tributaries tied and divided between two ligatures; the vein should be removed completely up to the bulb, ablation being better than simple ligation. The vein having been removed, bone is removed from the region of the sinus, so as to expose it (the sinus) toward the torcular for a distance of at least three-quarters of an inch beyond any inflammatory change, so that the whole area of possible infection of sinus and vein is exposed in one continuous wound.

By this operation (ligature or ablation of the vein) the current of blood flowing from the infected area is arrested and the danger of general systemic infection reduced to a minimum.

OBSTETRICS AND DISEASES OF WOMEN.

Urethroplastic Operations in Gynæcology on Subbotin's Plan.—Dr. V. Grusdew (*Centralblatt für Gynäkologie*, August 31st) has followed Subbotin's plan in extensive cases of vesicovaginal fistula. Subbotin has operated on cases of epispadias and vesical extrophy by dissecting away the lower part of the rectum as far as the anus and uniting this part of the rectum with the bladder, forming a complementary bladder, that is, more literally, a new urethra separated from the rest of the rectum and supplied with its own sphincter. Functionally, the result was perfect, the patients passing the urine independently of the bladder. Grusdew has modified the technics of Subbotin's operation, so that the sacrum need not be resected, by dilatation of the anal ring. The results in three cases were most satisfactory. [The article should be read in the original. Subbotin's original paper appeared in the *Transactions of the First Congress of Russian Surgeons*, p. 155.]

NERVOUS AND MENTAL DISEASES.

Congestion of Facial Veins in Progressive Paralysis.—Dr. E. von Niessl (*Berliner klinische Wochenschrift*, September 15th) remarks that in patients suffering from general paresis, facial cyanosis is often seen. The eyelids are particularly affected and frequently an accompanying ptosis may be noted. The author regards this phenomenon as a diagnostic sign of importance, and although other diseases may be accompanied by cyanosis of the face, it must always be thought of as suggestive of this condition. Von Niessl believes it to be due to vasomotor paralysis.

DISEASES OF CHILDREN.

Splenic Anæmia of Infancy (Pseudoleucæmic Anæmia). By Dr. J. S. Fowler. (*British Medical Journal*, September 6th).—The author has collected some twenty cases of this affection, and his article is based upon a consideration of them. His conclusions are as follows: (1) Enlarged spleen, often associated with anæmia, is not uncommon among young children. In bad cases the blood is much altered, while in slighter ones there may be but little change. (2) The change in the blood differs from that in any other disease, and is characterized by (a)

lymphocytosis, due to the occurrence of numerous transitional and probably immature uninuclear cells, and (b) the presence of erythroblasts, often in numbers out of all proportion to the diminution of the red corpuscles. (3) The name pseudoleucæmic anæmia has been given to the more severe cases, but to draw any hard and fast line between these and slighter ones, or, indeed, to introduce further subdivisions based on any particular blood change, is entirely arbitrary. (4) Since the splenic enlargement is more constant than any single change in the blood, and since both arise independently of any other disease, it is not justifiable to regard these as cases of secondary anæmia. (5) The clinical features of the condition are sufficiently definite to warrant this being looked upon as a primary disease, to which the name splenic anæmia of infancy may be given.

A Case of Ascarides in the Vagina of a Girl Aged Three Years. By Dr. A. Ö. Karmitzky (*Roussky Vrach*, August 31st).—The patient was brought to the clinic on account of restless sleep, scrofula, and pallor. The mother noticed that in the evening, before she fell asleep, she made certain strange motions with the limbs and grew pale and perspired freely. The motions consisted of flexion and extension of the thighs and peculiar rotation of the pelvis, together with up-and-down motions of the arms flexed at the elbows. These motions lasted about half an hour, and were followed by sleep. The fæces were found to contain the links of the *Tania solium* and the eggs of ascarides and *Trichocephalus dispar*. Ascarides were found in the vagina and the onanism was traced to the irritation of these worms.

GENITO-URINARY DISEASES.

Treatment of Senile Hypertrophy of the Prostate.—R. F. Tobin, F. R. C. S. I. (*Dublin Journal of Medical Science*, September), ventures on the statement that the prostate is an essential part of the sexual apparatus, and that in its absence sexual desire and sexual activity are non-existent. He points out that the gland in question is found practically in all animals, and that its size is found to bear a direct relation to sexual desire and sexual power; moreover, he asks, "Does not clinical experience tell us that when in man there is a true hypertrophy of the prostate sexual desire is increased?" He therefore divides cases of the disturbance under consideration into two classes: (1) Those in which there is a true hypertrophy of the prostate with increased activity of its functions; (2) those in which the enlargement is due to adenomatous or other non-malignant formations under the pressure of which the prostate has disappeared. It is to the first class of cases that the author believes vasectomy and orchidectomy to be applicable. He is convinced that these operations are efficacious as regards the urinary trouble; are safe and simple; and, when performed on men of mature years, are followed by none of the changes that characterize them in the case of young subjects. As for complete removal of the prostate, the author's impression is that it is not possible to effect such removal without including the prostatic urethra, and he points out the great danger of the operation, and the fact that, if the prostate is an essential part, the patient is as completely unsexed

as if the testicles were removed. Except in urgent cases, vasectomy should be tried before having recourse to orchidectomy. For the author's second class of cases, in which the enlargement is due to adenomatous or other nonmalignant formations under pressure of which the prostate has disappeared, he considers the operation of enucleation to be the ideal procedure. An offending growth is removed and the parts return to their normal state. The operation is not difficult, and the shock and hemorrhage resulting are small.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Two Cases of Lysol Poisoning.—Dr. Tausch (*Berliner klinische Wochenschrift*, August 25th) records two cases, in one of which a very sick woman, thirty-one years of age, took two tablespoonfuls of lysol, but recovered after gastric lavage. In the second case, the initial symptoms were not severe, but the patient eventually died from a lobar pneumonia. As a rule, caustic effects are not seen in lysol poisoning. More or less deep unconsciousness, frequently accompanied by respiratory and cardiac disturbances, is not uncommon. Albuminuria and a dark color of the urine are frequent.

New Remedy for Bedsores.—Dr. Sträter (*Münchener medicinische Wochenschrift*, September 2nd) recommends the application to the injured area of a piece of felt, ten centimetres long and twelve centimetres broad, with an opening of about four centimetres in diameter. The upper surface is supplied with some adhesive material so that it shall stick well to the skin and not become loosened with the movements of the patient while protecting the bedsores from every pain and pressure. In from five to six days, without any other medication, the dried crust falls off leaving normal skin beneath. The method has proved of excellent service in several cases that the author reports, without any disadvantages.

HYGIENE AND SANITARY SCIENCE.

Questions in Tuberculosis.—Dr. J. Orth (*Berliner klinische Wochenschrift*, August 25th) comes to the conclusion in this paper that the tuberculosis of cattle (*perlsucht*) corresponds to the disease called tuberculosis in man. In his experiments as to the possibility of inoculating calves, pigs, and goats with human tuberculosis, he succeeded in inoculating a calf so that it died of tuberculosis of a progressive character. Positive results were also obtained with a pig and three goats. Inasmuch as these results are in direct contrast to the dicta of Koch, it is evident that the regulations as to sale of the meat of tuberculosis cattle must not be rescinded.

Tetanus and Vaccination; an Analytical Study of 95 Cases of the Complication. By Dr. J. McFarland (*Lancet*, September 13th).—The author's conclusions are as follows: 1. Tetanus is not a frequent complication of vaccination. 2. The number of cases observed during 1901 was out of all proportion to what had been observed heretofore. 3. The cases are chiefly American and occur scattered throughout the eastern United States and Canada.

4. The cases have nothing to do with atmospheric or telluric conditions. 5. A small number occurred after the use of various viruses. 6. An overwhelming proportion occurred after the use of a certain virus. 7. The tetanus organism is in the virus in small numbers, being derived from the hay and manure. 8. Occasionally, through carelessness or accident, the number of bacilli becomes greater than usual and may lead to the epidemic occurrence of tetanus. 9. The future avoidance of the complication is to be sought for in greater care in the preparation of the vaccine virus.

The Prevention and Treatment of Dysentery in Institutions in the Tropics. By W. J. Buchanan, M. B. (*British Medical Journal*, September 20th).—The dysentery of Indian prisons is almost entirely bacillary; very few cases of amœbic dysentery occur. While most cases are due to infected water, yet not all are; the establishment of a good water supply does not banish the disease. Good cooking and good, well cleaned, warm food, are important points in prophylaxis. The communicability of the disease must be recognized; the author has kept the disease at a very low level in a large prison by adherence to (1) isolation, or at least a separate ward for the dysentery cases; (2) disinfection of all clothes, bedding, etc., used by the patients; and (3) the immediate disinfection by lime and incineration of all dysenteric stools.

The great aim in treatment is to prevent relapses: This can be done by attention to the following points: (1) early recognition of the complaint; (2) prompt and effectual treatment; and (3) thorough treatment, namely, by keeping the patient in hospital until cured. The author has treated over 1,130 cases of dysentery with the sulphates of magnesium or sodium with only nine deaths, a mortality of considerably under one per cent. Ipecacuanha is useful, but more troublesome than the salines. He tried sulphur in fifty cases, but thinks it is not to be trusted.

The Granting of Certificates of Fitness to Children and Young Persons Employed in Factories and Workshops. By C. A. Greaves, M. B. (*British Medical Journal*, September 13th).—The objects aimed at in requiring the examination and certification of young persons for employment may be divided into: 1. Avoidance of injury to the health, development, or bodily capacity of the individual inspected. 2. Protection to the fellow workers, of whatever age or sex. 3. Maintenance of legality: This directly protects the employer. 4. Checking unfair competition, and protecting the more conscientious manufacturers from the less scrupulous.

The third and fourth headings relate chiefly to the proof of age required to be produced. Among the grounds for rejection in the interests of the person examined, may be mentioned general debility and malnutrition, dwarfishness and deformity, joint disease, cretinism, rickets, spinal curvature, blepharitis and distance from residence (when a child has to rush home to dinner); the protection of the fellow worker as well as the individual comes into view in cases of abscesses, ulcers, bone sinuses, scrofula, phthisis, ophthalmia, impaired vision, deafness, and imbecility; the guarding of the fellow workers is the chief motive as to eruptive diseases, scarlatinal des-

quamation, mumps, whooping cough, dirt, and phtheiriiasis, ringworm and other skin diseases, and non-vaccination.

The Relation of Phthisis to Factory and Workshop Conditions. By J. Niven, M. B. (*British Medical Journal*, September 13th).—In this article the author enumerates and considers the various unfavorable conditions predisposing to pulmonary tuberculosis which are present in factories, workshops, etc. In order to diminish the incidence of phthisis on work people the following courses of action are necessary: 1. Compulsory notification of all cases of tuberculous phthisis is required, so that every operative may be instructed in the precautions needed to protect his fellow-workmen, and assisted to carry them out efficiently. Voluntary notification is almost equally useful among the poorest classes. 2. All spitting in workshops should be prohibited. The vital necessity for this measure should be impressed upon master and employee. Men requiring to spit should carry a pocket spittoon. 3. Increased efforts should be made to secure systematic wet sweeping, as far as possible daily, in workrooms. It would be an additional safeguard if the rooms were dredged with a disinfectant. 4. The ventilation and lighting should be carefully attended to. It is essential that there should be sufficient light by which to cleanse the workroom in all parts. If lighting must be artificial, it should be by electricity. Air should be introduced in such a manner as not to produce draughts; in many cases the air should be warmed.

PHYSIOLOGY AND PATHOLOGY.

Tropical or Amœbic Abscess of the Liver and Its Relationship to Amœbic Dysentery. By Dr. L. Rogers (*British Medical Journal*, September 20th).—The author's conclusions are as follows: 1. The amœba is constantly found in an active condition in the wall of tropical abscesses of the liver, although frequently absent from the pus in its cavity. The amœba is the only organism constantly found in such abscesses. 2. Staphylococci and other pyogenic bacteria are absent from the pus in the great majority of cases when the abscess is first opened. 3. In cases of which a complete record is available there is either a history of dysentery or lesions of this disease are found post mortem in over ninety per cent. of the cases, and it cannot be certainly excluded in the remainder. 4. The dysentery precedes the liver abscess or lesions in the large bowel of an antecedent date are found post mortem in ninety-five per cent. of the cases. 5. The form of bowel disease associated with the large tropical or amœbic abscess of the liver is amœbic dysentery. 6. Severe sloughing forms of catarrhal dysentery may be associated with small multiple pyæmic abscesses, which is a totally distinct condition from tropical or amœbic abscess, and is very rarely recognized during life. 7. Quinine solutions rapidly destroy the amœba, and may be used with advantage in washing out liver abscesses after they have been opened. They are also worthy of a trial as injections after aspiration of the pus as a possible curative measure, especially in such cases as are found to be free from the ordinary pyogenic organisms.

The Histology of Infectious Granulomas.—Dr. Tomaso Secchi (*Riforma medica*, August 6 and 7, 1902) says that actinomycosis has two forms of lesions, the pyogenic and the neoplastic. The pyogenic action of the actinomycetes, however is not exactly like that of the ordinary pyogenic germs, for no true suppuration takes place. The actinomycetes has a chemiotactic action, not only upon the multinuclear leucocytes, which remain crowded around it, but also upon the uninuclear leucocytes which remain in the peripheral zone. This may be explained by the assumption that the virulence of the actinomycetes is of short duration, and becomes quickly attenuated, being transformed merely into an irritative activity. When the actinomycetes has an irritant rather than a necrotic effect, it produces infectious granulomata of the true type, with epithelial and giant-cells. These are not numerous enough however to give the granuloma the look of an epithelioid tumor. As a rule, the actinic granuloma is composed of lymphocytes with a few plasma cells and is a "lymphoid granuloma." In this it resembles the granulomas produced by the pseudotuberculosis bacillus, which are essentially lymphoid granulomas, and are distinguished from the actinomycotic granulomas which are largely epithelial. There are, however, exceptions on both sides, as there may be granulomas of the actinomycotic type that are due to pseudotuberculosis, and vice versa. The actinomycotic process is diffused by means of the phagocytes. The actinomycotic granuloma, by its mode of diffusion and by the rapidity of necrosis, is in many respects analogous to gumma, and may therefore be defined as a gummatous neoplasm.

Note on a Trypanosoma Occurring in the Blood of Man. By J. E. Dutton, M. B. (*British Medical Journal*, September 20th).—The author reports the case of a man, aged forty-two years, who had suffered for six months from an attack of "fever" that resisted quinine. He had lived for seven years in Gambia. In his blood was found a flagellated protozoon belonging to the genus *trypanosoma*. In fresh blood the parasite appears as a very minute wormlike organism, very difficult to see with a magnification of three hundred diameters. It glides along fairly rapidly in among the red corpuscles, imparting very little movement in them. One end of the organism is drawn out into a whiplike process—the flagellum; the other end is bluntly conical; attached along one side of the body is a transparent flagellike process, the undulating membrane; the body itself is short and thick, and its substance granular. There is a highly refractile spot situated near the posterior end (vacuole). With Romanowsky's stain the flagellum stains a light crimson, the undulating membrane is unstained, and the nucleus stains dark crimson. The protoplasm of the body is unevenly basophilic, showing fine blue stained granules. There was moderate anemia and slight lymphocytosis. The notable clinical features of the case were: 1. Its chronic course. 2. The general wasting and weakness. 3. The irregular rises of temperature, never very high, and of a relapsing type. 4. The local oedemas. 5. The congested areas on the skin. 6. The enlargement of the spleen. 7. Constant increased frequency of pulse and respiration.

Adaptability as a Factor in the Work of the Pancreas and the Gastric Glands.—Dr. L. D. Popelsky (*Roussky Vrach*, August 24th) declares, as a result of a critical study of Pavloff's theory of digestion, that this hypothesis must be wrong. Some facts upon which it is based have no scientific value, others contradict it. Even Professor Pavloff himself can not but admit that his theory is not sufficiently well proved. According to the author, a careful study of the experimental work of Pavloff and his pupils [Collected in Pavloff's book: *Lectures on the Work of the Principal Digestive Glands*], in which the theory is defended that the digestive glands adapt their secretion to the kind of food that is taken in [in other words to the work to be done] shows that these physiologists have far from proved their assertions. Thus, for instance, Pavloff teaches that the pancreas secretes a juice in such quantities and of such qualities as are required for the digestion of a given variety of food. The gland is ordered to prepare one or the other ferment by the contact of each constituent of the food (fat, starch, proteid,) with the special nerve-endings present in the mucous membrane of the small intestine. Each set of these peripheral nerves is brought into activity only under the influence of a particular constituent of food. Thus, for example, when the food consists of fat, only the corresponding set of nerve-endings is brought into action, with the result that the pancreatic juice contains only the fat-emulsifying ferment. According to the author, the experiments of Vassilyeff, Jablonsky, Lintvareff, and Walter, upon which Pavloff's theory is based, cannot be regarded as absolute proofs of this theory. One example of the fallacy of these experiments will suffice here. Jablonsky has found that the proteid ferment completely disappears from the pancreatic juice of dogs fed exclusively on milk and bread, and yet analysis shows that such a dog receives but little less proteid than one fed on meat. Again, in the course of the same period of digestion, one sample of pancreatic juice will show a high percentage of trypsin, and another a low percentage of this ferment, thus showing that a constant response of the pancreas to certain elements in food does not take place.

The Action of Certain Hæmolytic Agents on Nucleated Colored Corpuscles. By Dr. G. N. Stewart (*British Medical Journal*, September 13th).—The results of the author's observations are as follows: 1. Nucleated colored corpuscles of all the varieties investigated absorbed certain substances in preference to others, and the substances which passed easily into the non-nucleated adult mammalian corpuscle passed easily into all the kinds of nucleated corpuscles, and substances which did not pass readily into the non-nucleated, were taken up with difficulty by the nucleated corpuscles. 2. Saponin produced a notable increase in the conductivity of fowl's blood (both fresh and formaldehyde-fixed). As in the case of mammalian blood, the increase was due to the increased permeability of the corpuscles for electrolytes. This increase of permeability was probably produced by an action of the saponin on the cholesterolin and lecithin of the envelope. 3. Intraglobular crystallization of the hæmoglobin of necturus blood was very readily obtained by the action of various hæmolytic agents,

thus showing that the hæmoglobin did not exist in the corpuscles in ordinary aqueous solution. 4. The osmotic peculiarities of the envelope of the corpuscle and the nuclear membrane were not necessarily destroyed by the action of fixing agents. The hæmoglobin, likewise, after fixation, could be brought out of the corpuscles by appropriate means, without the destruction of the corpuscles. 5. By treating necrotic corpuscles hardened by Hayem's solution, successively with hydrogen sulphide, ammonia, and Löffler's blue, an apparent corpuscular envelope and a nuclear membrane could be demonstrated. 6. The permeability of a corpuscle for a given salt does not depend upon a toxic property of this salt for the envelope of the corpuscle.

Intestinal Secretion and the Action of Drugs Thereon. By J. S. Edkins, M. B. (*British Medical Journal*, September 13th).—The author regards the action of cathartics as being primarily due to (a) removal or destruction of the epithelium; (b) diffusion of some part of the drugs into the lymph spaces, thus allowing them to affect the nerve endings, and so cause an increase of peristaltic movements; (c) escape of lymph into the lumen of the gut, causing a watery state of the contents, though this is probably of much less importance than the exalted peristaltic action. It is not in the least necessary to suppose the existence of a secretion (*succus entericus*) heightened by the action of drugs. There is practically no evidence of the existence of such a secretion normally, and the functions of the epithelium can be performed without it.

Some New Properties of Urea (With Demonstrations). By W. Ramsden, M. B. (*British Medical Journal*, September 13th).—The author calls attention to the potent influence upon proteids possessed by urea. The presence of urea up to saturation prevents the coagulation of all proteid solutions. Globulins, caseinogen, acid and alkali albumin, copper albuminate, fibrin, and even heat-coagulated proteids swell up and dissolve in a saturated aqueous solution of urea. Dry gelatin dissolves at room temperature until forty per cent. is in solution. If the urea is removed by dialysis the gelatin sets solid again. Coagulable proteids are converted at room temperature into a substance possessing all the properties of acid or alkali albumin according as the reaction of the original proteid solution was acid or alkaline. In a saturated urea solution no putrefaction ever takes place. These facts are of interest in connection with uræmia, as also with the powerfully destructive effects of extravasated urine upon the tissues with which it comes in contact—effects hitherto supposed to be due to ammoniacal reaction or to bacterial toxins. The minimal percentage of urea producing demonstrable effects upon proteid has not yet been accurately determined.

The Pathology of the Fallopian Tubes.—Dr. I. M. Lvoff (*Roussky Vrach*, August 24th) reports two cases of new growths of the Fallopian tubes, and calls attention to the rarity of these lesions in the salpinx. The most elaborate textbooks on gynecology, those of Veit and Martin, devote but scant space to the subject. The author's first case was one of fibroma of the Fallopian tube in a woman aged thirty-four years, who had been married for eight years but had had no children and no miscar-

riages. For the last four years she had noticed irregularities in her menstruation, and for the last two years she had had pain in the left groin, which increased on walking and working. Her uterus was found enlarged, hard, immovable, tender on pressure, and anteфлекed. There was a bloody discharge from the vagina. On the left side of the uterus, near the fundus, but separate from the latter, there was an elongated, hard, and nodular growth of the size of a hen's egg, which merged imperceptibly below into an inflammatory exudate in the broad ligament. An exudate of the same kind was also present in the right side. The diagnosis of acute exudative inflammation in the broad ligament was made, and the patient was treated palliatively until the exudate was absorbed. The tumor in the tube could be made out with more ease, and it was found to be attached to the uterus by a cord connecting it to the fundus. A posterior colpotomy was performed, and the tumor was removed. The operation was difficult on account of the adhesions surrounding the tumor, but finally the tube was ligated at the uterus and removed. The tumor, which was the size of a walnut, was found to be situated in the tube immediately under the mucous membrane, but it did not obscure the entire lumen of the salpinx. The case is interesting, particularly on account of the severe and constant pain in the groin which the tumor caused, even after the exudate had disappeared. The second case was one of cancer of the left Fallopian tube in a woman aged fifty years, a multipara, who had been irregular in menstruation and had had a bloody discharge for a number of years. The left Fallopian tube was sausage-shaped, hard, slightly painful, displaced backward. The uterus was in a normal position, slightly enlarged, firm, painful on pressure, but movable. A vaginal hysterectomy, including the removal of the left appendages, was performed, the diagnosis being one of cancer of the uterine mucosa and left salpingitis. The patient recovered completely, but a year later new growths appeared in the lower part of the peritonæum. On examination the uterus was found atrophied and the left tube the seat of cancer.

The Differential Leucocyte Count in the New-born.—Dr. Lewis M. Warfield (*American Medicine*, September 20th), has made a study of ten cases, which leads to the conclusion that the leucocytes at the day of birth are more numerous than at any other time of normal life. Nucleated red blood corpuscles rapidly disappear from the circulating blood of the healthy infant within the first three days of life. The percentage of eosinophiles varies widely in the blood of babies of the same age. Myelocytes and mast cells are only occasionally found and in very small numbers. The percentage of large uninuclear and transitional cells is large compared to that found in the blood of adults. The multinuclear cells at birth are not only relatively, but absolutely increased. They begin to decrease in numbers soon after birth, and by the eleventh day of a healthy infant's life they are fewer in number than the lymphocytes, while the number of the latter variety of cell has actually increased; and the differential count of the leucocytes on the eleventh day is practically identical with the count given in the text-books as normal for the infant's blood.

Letters to the Editor.

MR. MCCrackAN'S CITATIONS IN SUPPORT
OF CHRISTIAN SCIENCE.

400 WEST ONE HUNDRED AND FIFTY-THIRD STREET,
NEW YORK, September 23, 1902.

To the Editor of the *New York Medical Journal*:

SIR: It is impracticable, for obvious reasons, that the columns of the *New York Medical Journal* should be thrown open to a general discussion on Christian Science. The editor would soon find himself impaled on the horns of a dilemma; either he would lay himself open to a charge of unfairness in closing the discussion before the multitude of its would-be defenders were satisfied, or he would devote so much space to it as to weary the whole of the *Journal's* readers, who at most can see in it no more than one of very many problems of medical economics of the day. In commenting, therefore on Mr. McCrackan's letter in your issue for September 20th, I shall confine myself strictly within the limits of its four corners, and shall not attempt to enter into the general merits of the subject.

Mr. McCrackan says that the author of a brochure, a brief notice of which in the *New York Medical Journal* for July 12th, p. 88, called forth his letter in defense of Christian Science, "not only sets himself against the teachings of Christian Science, but first of all against idealism in general, and thus against the tendency of many modern physicists and psychologists who admit that matter is but a subjective image or sense perception of mind;" the tendency, in other words, to regard the mental concept of matter as having its origin in the mind and being projected outward therefrom, being thus the cause of the phenomenon of externality of matter (the "idealist" view of metaphysics); not its product, as is held by those who maintain the actuality of the external existence of matter, the emanation of force from which impinging on the physical substratum of consciousness in the self, gives rise to the aforesaid phenomenon (the "realist" view).

Mr. McCrackan, in support of his assertion of the "tendency of many modern physicists and psychologists" to accept the former, or "idealist," view, cites quotations from various philosophic writers, with the great champion of modern physicism, the late Professor Huxley, in the van.

It is a great principle in controversy to "verify your references." A statement may be, very often is, incorrectly quoted; but, even if correctly quoted, it may, when detached from its context, convey a mental impression very different from that intended, possibly even the reverse of it, as would be clearly manifested if the sentence were read in conjunction with its collaterals. However, in this instance I have not had an opportunity to examine Mr. McCrackan's references (even when he thinks fit to give them), but am willing to take them as they stand, and to investigate them to see how far they bear out his contention of a "tendency to admit that matter is but a subjective image or sense perception of the mind."

At the outset, it may be premised that it is self-evident that we can know nothing of anything except as that thing is related to our consciousness. In other words, take away all consciousness, or the power of perception, and whatever may happen to

the thing, our knowledge of it *ipso facto* ceases. It vanishes, however, only for the individual whose consciousness is abolished; not for others whose consciousness remains. We must be careful of not allowing ourselves to be confused into accepting our mental concept of a thing as identical with the thing itself. That is the very point at issue between idealism and realism; and to allow ourselves to be "jockeyed" (excuse the phrase) into tacitly accepting that as axiomatic in reading the quotations cited would be simply to beg the question.

But, to come to the point: Professor Huxley, we are told, says somewhere or other: "After all, what do we know of this terrible matter except as the name of the unknown hypothetical cause of states of our own consciousness?" As I have said above, the fact that we know nothing about a thing does not disprove its existence. Less than twenty years ago we knew nothing of the x rays; but they doubtless existed just the same then, as now. But, that apart, the statement that a thing is the hypothetical cause of states of our own consciousness shows clearly that the author does not mean that it is the result, or product, of the states of our own consciousness. But that is what it would have to mean to support Mr. McCrackan's contention.

Professor Wilhelm Oswald is reported to have written: "Matter is a thing of thought which we have constructed for ourselves rather imperfectly to represent what is permanent in the change of phenomena." I have not access to the original German, but surely "what is permanent *through* [or amid or during] the change of phenomena" must be meant. "What is permanent *in* the change" of phenomena, or of anything else, seems to me like a *reductio ad absurdum*. With this emendation, if the term phenomena is to be taken as distributed, *i. e.*, to include the entire class of phenomena, then, since the change of all phenomena is hypothecated, the thing that is permanent must be outside the class of phenomena, and is therefore something having an external existence. But if there is something existent outside of [all] phenomena, which remains permanent while [all] phenomena change, that is surely a pretty fair description of what we denote as matter.

If, however, the term phenomena is to be taken undistributed *i. e.*, as meaning only some phenomena, so that some phenomena may be said to change, while other phenomena are permanent amid the changes of the others, then what phenomena are permanent? Phenomena are "mental concepts;" what mental concepts are permanent, *i. e.*, always present to us? All our mental concepts are intermittent. But the fact of intermittence negatives that of permanence. I cannot think that Professor Oswald meant to state the latter of the alternative propositions, which is self contradictory; the former one no more supports Mr. McCrackan than Professor Huxley's dictum does.

Professor Ziehen says: "This so-called matter, apart from its hypothetical causal ['casual' was clearly a misprint,] relation to the sensations, is otherwise an entirely unknown element." This is only a repetition of Professor Huxley's statement. A causal relation is the reverse of a resultant relation.

Professor Noah K. Davis says: "Hearing is a specific sense perception, a state of mind; sound is its object, the thing perceived. Sound, then, is a

phenomenon of brain." In the first place, a "phenomenon of brain" is not the same thing as a "phenomenon of mind." In certain forms of complete unconsciousness, the approach of a light to the eyes causes contraction of the pupil; that is a "phenomenon of brain," but surely not a phenomenon of mind, at least so far as mind is held to be synonymous with consciousness. Many, it is true, hold mind to extend far beyond the limits of consciousness, and to include whatever force lies back of any kind of purposive action effected by the nervous system, conscious or not. But, even so, that does not affect Mr. McCrackan's argument, for the admission that a thing is a phenomenon of mind, *i. e.*, a mental concept, does not of itself settle the origin of the concept, which is the point at issue. The question is *not where the act of perception takes place, but whence originates the stimulus that causes that act of perception.*

Professor Davis's other cited statement, that taste is "merely an excited state of an intracranial sensory, and what is immediately perceived is not something in the mouth but something in the sensorium" is equally beside the mark. It does not settle what it is that excites the intracranial sensory or from what direction the force of excitation impinges upon it. Next, Professor Bowne is cited as saying: "Objects exist for us only as the mind builds up valid conceptions within itself." The limitation, "for us," completely nullifies Mr. McCrackan's application of this passage. As already stated, consciousness having been abolished, whatever may happen to the thing, our knowledge of it *ipso facto* ceases. And equally, whatever consciousness has never perceived is not within our knowledge, and consequently has no existence for us; that does not however negative an actual existence outside our state of consciousness, and consequently a potential existence "for us" within it. I need only recall again the illustration of the x ray.

Finally, the same writer is quoted as saying: "A thought world is the only knowledge world; and a thought world is the only real world." A "thought-world" may mean (a) a world created by and existent only in thought, a mere mental concept, *et præterea nihil*; or (b) a world existent in thought in the shape of a mental concept without reference to the source and method of origin of that concept. It is clear that even a coexistent external world could not be *knowable* to us, unless we formed a mental concept of it and converted it into a thought world for ourselves. However, the assertion that "a thought world is the only real world" (which, being practically a universal negative proposition, is logically, insusceptible of proof), confers great likelihood on the conclusion that the former position (a) is the one taken. This, then, is the only one out of the seven passages cited by Mr. McCrackan which in any way tends to support the purpose for which he adduced them, *viz.*, to show the prevalence, even among physicists, of the purely subjective or idealist theory of existence. Out of seven instances, six are against him and one is doubtful.

But, while Mr. McCrackan, when dealing with the opinion of philosophers, was on ground that demanded respectful attention, it is hard to preserve respectful attention, and impossible to retain patience, when he falls back on Mrs. Eddy's balderdash,

which, from beginning to end, is a jumble of ignorant metaphysical pretence, confused metaphor, bad grammar, hopeless illogicality, and stupendous illiteracy. I speak from a practical study of the work itself. The extant writings of Plato, of Aristotle (not to mention what we can learn of the earlier Eleatics who have dealt with the science of ontology, to wit, Xenophanes, Parmenides, Zeno, etc.); of Epicurus and Democritus, and Zeno the Stoic; of Lucretius and Plotinus; of the mediæval schoolmen, Thomas Aquinas, Duns Scotus, William of Ockham; and the philosophers of the modern era, Bacon, Descartes, Locke, Berkeley, Hume, Kant, Hegel, down to our own contemporaries, Tyndall, Huxley, and Herbert Spencer—the extant writings of these and others representing various schools of thought, idealism, realism, nominalism, materialism, empiricism, are of such a character that the student, no matter to which direction his own conviction may lean, cannot fail to recognize in all of them profundity of thought and scholarliness of method. To class Mrs. Eddy's *Science and Health*, and her various other productions, as in *Miscellaneous Writings* and elsewhere, with the works of these philosophers only reminds one of a well-known picture entitled "Dignity and Impudence." Take one instance from a passage cited by Mr. McCrackan: "Either Mind produces, or it is produced." With a sentence the Dualists are disposed of. "If Mind is first it cannot produce its opposite, matter." Matter is not necessarily the "opposite" of mind, any more than a father is necessarily the opposite of a son. Shall we say "If the parents are first they cannot produce their opposite, a child?"

Matter may be the progenitor, the product, or the concomitant of mind. Or again, mind and matter may be one thing under two different conditions of existence, just as ice, water, and steam are one thing under three different conditions of existence. Which of all these it is, is a matter for philosophical consideration, not one to be disposed of by a dogmatic *non sequitur*. As to the argument based on the curative results effected by Christian Science, granting, as I freely do, that many of them have indeed occurred, they prove nothing whatever in favor of Mrs. Eddy's pseudophilosophy. Cures have certainly taken place under the influence of shrines and relics, *e. g.*, Lourdes, the Holy Coat of Treves; aye, even of old time in the pagan temples of Rome and Greece, and yet again at this day, in those of India, China, and elsewhere. "Metallic tractors" not so very long ago produced quite a series of undoubted cures. Hypnotism to-day effects marvellous results. All of which suggests merely the presence of a well known factor common to them all. But, as I began by saying, into the general question we cannot enter here. My object is not to prove a case either for or against Christian Science, but to point out how completely Mr. McCrackan's seemingly startling citations fail to support the contentions urged within the four corners of his letter.

KENNETH W. MILLICAN.

The Woman's Hospital of Philadelphia.—Dr. Ella B. Everitt, physician-in-chief, has resigned to accept the chair of gynaecology in the Woman's Medical College of Pennsylvania. Dr. Everitt is succeeded as chief resident physician by Dr. Alice Seabrooke, formerly of the Methodist Episcopal Hospital, of Philadelphia.

Book Notices.

Modern Obstetrics. General and Operative. By W. A. NEWMAN DORLAND, A. M., M. D., Assistant Demonstrator of Obstetrics, University of Pennsylvania, etc. With 201 Illustrations. Second Edition Revised and Enlarged. Philadelphia and London: W. B. Saunders & Company, 1901. Pp. 7 to 797. (Price, \$4.)

Certainly there can be no comparison made between this edition of Dr. Dorland's work and the one that preceded it. This is a large text book, while the first edition was scarcely more than a manual. Every consideration is given in the present volume to obstetric physiology and pathology, while in the former book some topics now discussed were not mentioned or were but hinted at.

The author devotes several pages to the surgical treatment of puerperal sepsis, and wisely, we think, is conservative in his conclusions. If there is doubt as to the involvement of the uterine walls, he urges a preliminary incision to discover their condition before the performance of a hysterectomy. If ordinary douching seems inefficacious, he advises curetting of the infected uterus. The author is not very sanguine as to the results obtained by the use of Tizzoni's and Cattani's antitoxines.

Although Dr. Dorland does not say outright that he accepts the French view of the hepatic origin of eclampsia, one is led to infer that this aspect of the case meets with his approval. His article on the subject is, however, free from every objection and will, we believe, commend itself to every practical and every theoretical investigator. The directions for prophylaxis and for treatment are especially lucid.

The author makes very clear, we think, the pathology of malignant syncytioma. While the pathologists are battling over the question of the carcinomatous or sarcomatous nature of these growths, a careful consideration of the exact origin of any particular syncytioma will show the precise source of its proliferation; according as this is epiblastic or mesoblastic, the resulting neoplasm will be carcinomatous or sarcomatous.

The practical parts of the book have all been well rewritten, and many new illustrations have been added. The author has given us one of the best of American text books on the subject.

Eczema, with an Analysis of Eight Thousand Cases of the Disease. By L. DUNCAN BULKLEY, A. M., M. D., Physician to the New York Skin and Cancer Hospital, etc. Third Edition of *Eczema and its Management*, entirely Rewritten. New York and London: G. P. Putnam's Sons, 1901. Pp. xii+368.

The third edition of Bulkley's manual on eczema, "entirely rewritten," is a useful compend of the subject for both students and practitioners. Especially is it strong on differential diagnosis and treatment. No disease that could possibly simulate an eczema in any of its phases seems to have been overlooked, and the points of distinction are usually stated clearly.

In regard to treatment, more especially the local treatment, while the details are abundant, we would

have preferred a little more consideration of general principles. As to constitutional measures, and it is on these, as is well known, that Bulkley lays the greatest stress, there is more of theory and something of dogma, too. But for the local remedies the rationale is left somewhat vague. There is no lacking in the number of them, and the very copious formula appended must to the average practitioner, to whose heart a prescription is always dear, be a great boon. But this concrete form of instruction is not what the student or practitioner most needs. Before he is told the remedy for a particular case or variety of eczema he should be taught something of the general action of that remedy on the skin. What is resorcin supposed to do? What ichthylol, sulphur, salicylic acid, tar, and the rest? How do powders, lotions, ointments, and pastes differ in their action? What are the general indications for these different remedies in eczema? The clearer the answers to such questions as these the less the need of a formula of prescriptions, or when the latter is given, it is, as it should be, merely illustrative. Prescriptions, no more than precepts, have much value without principles.

The Ready Reference Handbook of Diseases of the Skin. By GEORGE THOMAS JACKSON, M. D. (Col.), Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York, etc. With 80 Illustrations and 3 Plates. Fourth Edition, thoroughly Revised. New York: Lea Brothers & Company, 1901. Pp. 5 to 642.

The demand for Dr. Jackson's work that is implied in its four rapidly succeeding editions is a compliment no more flattering than it is merited. The author has earned the reputation of a conscientious and thorough worker, and his long experience as a teacher of dermatology qualifies him in a special degree to meet the requirements of students in this field of medicine. It is easy therefore in a general way to understand why his book should meet with favor. It would be interesting to know in what measure this favor is due to the alphabetical arrangement adopted. With its copious cross references the book is practically a dictionary of dermatology, withal, is a more or less encyclopædic one. For ready reference it certainly is very convenient for the student who wants to look up any particular skin disease, but less so for the practitioner little versed in cutaneous affections who is seeking a diagnosis in some would-be doubtful case.

It would seem not impracticable to devise a systematized index to supplement the alphabetical arrangement of the diseases that would add to its practical value very materially. The present index seems almost superfluous in view of the copious cross references in the text. If in its stead a systematized index were adopted—not a strictly scientific one necessarily, in which the names of the diseases were grouped according to more or less obvious clinical characters—the seeker after a diagnosis would have at least an inkling of where to look. We believe that some such arrangement of the index would be feasible, and hope that when he is preparing the next edition of his work, for which we wish an early demand, this subject may occupy the author's attention.

The Practical Medicine Series of Year Books, comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-graduate Medical School. Volume IV. Gynecology, Edited by EMILIUS C. DUDLEY, A. M., M. D., Professor of Gynecology, Northwestern University Medical School, etc., with the Collaboration of WILLIAM HEALY, A. B., M. D., March, 1902. Chicago: The Year Book Publishers, 1902. Pp. 3 to 212. (Price, \$1.25).

The same. Volume V. Obstetrics. Edited by REUBEN PETERSON, A. B., M. D., Professor of Obstetrics and Gynecology in the University of Michigan, and HENRY F. LEWIS, A. B., M. D., Instructor in Obstetrics and Gynecology, Rush Medical College. Chicago: The Year Book Publishers, 1902. Pp. 3 to 233. (Price, \$1.25.)

These small books, each on a special subject, are issued monthly, and, so far, have fully covered their respective subjects. While they cannot compare, for instance, with the large German *Sammelberichte*, they are nevertheless exceedingly well edited, and cover the ground in a most satisfactory manner. The present volumes, dealing with obstetrics and gynecology, contain references as late as February, 1902. We have no doubt that these little books will fill a want felt by many practitioners.

A Practical Treatise on Materia Medica and Therapeutics, with Especial Reference to the Clinical Application of Drugs. By JOHN V. SHOEMAKER, M. D., LL. D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, in the Medico-chirurgical College of Philadelphia, etc. Fifth Edition, thoroughly Revised. Philadelphia: F. A. Davis Company, 1901. Pp. viii-1143. (Price, \$5.)

In this new edition we are pleased to note that the author has made many valuable additions to his book, keeping it thoroughly abreast with the times. Preparations of the British as well as of the American Pharmacopœa are enumerated. Therapeutics is dealt with in its fullest sense, all remedies and measures used in relieving the sick being mentioned and discussed.

The book is divided into two parts, the first dealing with pharmaceutical agents, or drugs, the second treating of non-pharmaceutical expedients and remedies not classed with drugs. The specific use of various preparations of drugs, and the numerous excellent prescriptions, are especially to be recommended in the first part. The second part includes electrotherapy, climatotherapy, the rest cure, massage, diet, light and darkness, etc., concluding with a brief review of various mechanical expedients, such as aspiration, transfusion, rectal alimentation, etc. The excellent articles upon Electricity and Diet in Disease deserve particular attention.

We most cordially recommend this new edition of Dr. Shoemaker's book to students and practitioners because of the vast amount of information it contains as well as the completeness with which it covers the subject.

A Text book of the Diseases of Women. By CHARLES B. PENROSE, M. D., Ph. D., formerly Professor of Gynecology in the University of Pennsylvania, etc. With 221 Illustrations. Fourth Edition, Revised. Philadelphia and London: W. B. Saunders & Company, 1901. Pp. 11 to 539. (Price, \$3.75.)

The fourth edition of Dr. Penrose's excellent work on gynecology has been revised to bring it thoroughly up to date. In comparing it with former editions, we note many changes and additions which enhance its value. There are a number of new illustrations. There is no doubt that for the student it is a good manual; for the general practitioner, it should prove satisfactory for reference.

We note a common error (p. 446) by which the glands of Bartholin are described as "Bartholini's" glands. We are confident that this must be an error of the types.

BOOKS, ETC., RECEIVED.

The International Text-book of Surgery. By American and British Authors. Edited by J. Collins Warren, M.D., LL.D., Hon. F.R.C.S. Eng., Professor of Surgery in Harvard Medical School, etc.; and A. Pearce Gould, M.S., F.R.C.S., Surgeon to Middlesex Hospital, England, etc. Second Edition, thoroughly Revised. Volume I. General and Operative Surgery. With 461 Illustrations in the Text and 9 Full-page Plates in Colors. Pp. 3 to 965. Volume II. Regional Surgery. With 499 Illustrations in the Text and 8 Full-page plates in Colors. Pp. 9 to 1122. Philadelphia and London: W. B. Saunders & Company, 1902. (Price, each volume, \$5.)

A Text-book of Materia Medica, Therapeutics, and Pharmacology. By George Frank Butler, Ph.D., M.D., Professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, Chicago, etc. Fourth Edition, thoroughly Revised. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 9 to 896. (Price, \$4.)

The Treatment of Fractures. By Charles Locke Scudder, M.D., Assistant in Clinical and Operative Surgery, Harvard University Medical School, etc. Third Edition, thoroughly Revised. With 645 Illustrations. Philadelphia and London: W. B. Saunders, 1902. Pp. 9 to 485. (Price, \$4.50.)

Atlas and Epitome of Traumatic Fractures and Dislocations. By Professor Dr. H. Hefelrich, Professor of Surgery at the Royal University, Greifswald, Prussia. Authorized Translation from the German. Edited by Joseph C. Bloodgood, M.D., Associate in Surgery, Johns Hopkins University, Baltimore. Fifth Edition, Revised and Enlarged. With 216 Colored Illustrations on 64 Lithographic Plates, and 190 Figures in the Text. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 3 to 353. (Price, \$3.) (*Saunders's Medical Hand-Atlases.*)

A Text-book of Surgical Principles and Surgical Diseases of the Face, Mouth, and Jaws for Dental Students. By H. Horace Grant, A.M., M.D., Professor of Surgery and of Clinical Surgery in Hospital College of Medicine, Louisville, etc. Illustrated. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 5 to 231. (Price, \$2.50.)

Essentials of the Diseases of the Ear. Arranged in the Form of Questions and Answers. Prepared especially for Students of Medicine and Post-graduate Students. By E. B. Gleason, S.B., M.D., Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia, etc. Third Edition, thoroughly Revised. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 7 to 214. (Price, \$1.) (*Saunders's Question-Compends.*)

Essentials of Histology. By Louis Leroy, B.S., M.D., Professor of Histology and Pathology in Vanderbilt University, Nashville, Tenn., etc. Arranged with Questions following each Chapter. 62 Illustrations. Second Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 11 to 263. (Price, \$1.) (*Saunders's Question-Compends.*)

Diseases of the Stomach. Their Special Pathology, Diagnosis, and Treatment; with Sections on Anatomy, Physiology, Chemical and Microscopical Examination of Stomach Contents, Dietetics, Surgery of the Stomach, etc. By John C. Hemmeter, M.D., Philos.D., Professor in the Medical Department of the University of Maryland, Baltimore, etc. With many Original Illustrations, a Number of which are in Colors, and a Lithograph Frontispiece. Third Enlarged and Revised Edition. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xxiii-17 to 894. (Price, \$6.)

Hand-book of Medical and Orthopedic Gymnastics. By Anders Wide, M.D., Lecturer in Medical Gymnastics and Orthopaedy in the Royal Carolean Medico-Surgical Institute, Stockholm, etc. With a Frontispiece and 94 Illustrations in the Text. Second Revised Edition. New York: Funk & Wagnalls Company, 1902. Pp. 3 to 372. (Price, \$3.)

Compend of Special Pathology. By Alfred Edward Thayer, M.D., Assistant Instructor in Gross Pathology, Cornell Medical College, New York. Containing 34 Illustrations. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xiv-17 to 322. (Price, 80 cents.)

Miscellany.

Chlorosis, Marriage, and Orchitic Extract.—Dr. W. Dufougeré (according to the *Gazette médicale de Nantes* for August 16th, in his essay, *La Chlorose, ses rapports avec le mariage, son traitement par le liquide orchitique*, draws the following conclusions: Chlorosis is due to a selfintoxication of menstrual origin, and to accumulation in the blood of toxic principles which are not destroyed by the internal secretion of the ovary. By reestablishing this internal secretion, lessened or absent, chlorosis and its symptoms are caused to disappear. Marriage influences this secretion, and restores it if it has ceased. This reestablishment of the secretion is due to the absorption during coitus of a certain specific principle which acts directly upon the ovary, and stimulates it out of its torpor. Chlorosis, therefore, so far from being an impediment to marriage, is quite the reverse. The ingestion of "orchitic liquid" by chlorotics will also establish this internal secretion. Its therapeutic action is explained by its physiological character, and agrees perfectly with the effect of "marriage" on chlorosis.

Smallpox in the Sixth Century.—The *Province médicale* for August 2nd publishes the following excerpt from a paper by Dr. Bougon in the *Journal de chirurgie*: In the year 580 A. D., there broke out with violence, in the month of August, an epidemic of small-pox in France, which, beginning among children, spread itself quickly among adults. It must be stated that the disease had already made several other appearances in a sporadic form before that time, but this time it came in epidemic form. Thus, for example, in 563 A. D., St. Gregory of Tours, while he was yet only a deacon and in his twenty-fourth year, had the small-pox and transmitted it to his clerk, Armentaire, at the end of his fourth week of his illness. He had been forty days without being able to drink wine, so coated and bitter was his tongue.

In 577 A. D., the second of the three sons of Frédégonde died from a disease styled *dysentericus morbus* (which, the chances are 98 to 2, was of the same nature as the disease of 580 A. D., dysentery

with *pustule coriales* or of the variolous type), which carried off the eldest and the youngest child. In short, Frédégonde also caught the same disease and came near dying of it; but she recovered so that she was protected against the epidemic that recurred three years later and carried off her two other children, nearly also destroying King Chilpéric himself.

There is not a physician in the world who, in view of the symptoms of the *morbus dysentericus cum pustulis* of the year 580 A. D., which have been so minutely described, would fail to recognize variola, characterized by the three pathognomonic signs of the period of invasion, in the infectious disease with intense fever presenting (1) frontal or cervical headache; (2) unendurable pains in the spine; (3) vomiting of pure bile. Then follows a description of the pustules of an infecting odor, at the moment of desquamation, pustules *χόρια* [χορία], i. e. nuseating, from *χόρις* [κόρις = *cimex lectularius*], a bedbug. It is true that their odor recalls more precisely that of a mouse; but as the proverb says, of colors (and still more of odors) there is no disputing.

The queen of Burgundy [Theodechilde], wife of King Gontran, died at the age of thirty-two years of the same disease, in September. And even the Count of Angoulême [Nantius] presented the characteristic symptoms of black or hæmorrhagic, small-pox.

It will thus be seen that variola is a disease very common among us in the sixth century; and its Latin name, taken from the Greek, of *Morbus dysentericus cum pustulis corialibus*, indicates that it was certainly known among our Gallo-Roman ancestors.

Latent Pneumonia.—Dr. Harvey Littlejohn (*Edinburgh Medical Journal*, April) dwells upon the subject of latency of disease in its medicolegal aspects in cases of sudden or violent death connected with which there are often circumstances tending to incriminate another party. Not only are chronic diseases liable to an insidious onset whereby they make considerable progress before the patient is aware of their existence or the physician can diagnose them, but many acute diseases have also a latent period. Examples are the acute infectious diseases, while in pneumonia, pericarditis, peritonitis, and inflammation of other serous surfaces, not only may the symptoms of disease be masked or absent, but the person affected may continue to go about in a state of apparently good health. Cases in which a disease, whether chronic or acute, remains latent or concealed only in its preliminary stages, possess much less interest and importance than those in which the morbid process remains latent during its whole course, and the existence of which is only discovered after death. Instances of such conditions are especially remarkable, when an acute or chronic disease is found to have extensively implicated organs of primary importance to the carrying on of the most necessary bodily functions.

Christison, in an article on Latent Disease, in the *Cyclopædia of Practical Medicine* (1835) refers to pneumonia, and to the fact, already pointed out by Laennec, that the disease may advance till it completely obstructs a whole lung, without any sign of oppression of the functions of the lungs. He goes on to state that death in such cases may occur sud-

denly without any fresh cause appearing to act, or it may be occasioned by some other disease or agent of a different kind, such as violence.

Of all acute inflammatory diseases which may run a latent course during the whole period of their existence, pneumonia is the most common in Littlejohn's experience.

The author has collected, from his notes on post-mortem examinations during the years 1888-'90 and 1897-1901, thirty-three cases of what may be described as true latent pneumonia. He has not kept a record of all such cases upon which a post-mortem examination has been made, otherwise the list would have been much larger; while it must be borne in mind that many sudden deaths during these years were certified without a previous post-mortem examination, when the circumstances offered no grounds for suspicion.

All the cases have the following characteristics in common: (1) The disease was unsuspected during life, the sufferers having exhibited no sign of bodily weakness sufficient to attract the attention of those living in close relationship with them. (2) Death occurred suddenly, or followed within an hour or two after the appearance of serious illness, and before medical assistance was requisitioned. (3) The disease was well advanced, the lung, in the majority of instances, being in a state of grey hepatization. It would be impossible to get a better illustration of what is meant by "latency" in the symptoms of an acute disease than that afforded by pneumonia. Pneumonia is the most common, and at the same time the best known and most easily recognized, of all the acute febrile conditions. Its onset is rapid, and, as a rule, is characterized, even in the early stages, by well-marked symptoms—debility and prostration, high temperature, shortness of breath, cough, and rusty sputum. It is the disease, of all acute fevers, which we expect most certainly to disclose its presence by producing in the patient a feeling of illness and inability to continue in active occupation; and yet, in the cases recorded, not only were these conceptions falsified, but the disease in most instances had advanced to such an extent as to implicate large portions of one or even both lungs, and had evidently been in existence for a considerable time prior to death.

It may perhaps be scarcely accurate to say that the disease gave no indication of its presence in all instances, since, in a certain proportion, strict inquiry from the friends disclosed that the deceased person had complained of a feeling of illness, sometimes of shortness of breath, pain in the side, cough, etc., but such complaints were indefinite in character and were usually not referred to again. These symptoms apparently never excited alarm amongst those to whom they were mentioned, and they were never such as to lead the sufferer to seek medical advice.

The sudden and unexpected character of the deaths was very striking. In several instances it took place during the night in bed, in others during the day, on the street, or at home, and in the latter cases it was frequently the apparent result of some slight effort or exertion, such as putting on clothes, or in the w.c., etc.; while, in the case of a prostitute, it resulted in the morning, after she had spent the night with a client. In a few cases death was not sudden, the deceased persons being seized with dysp-

noea and collapse, quickly becoming unconscious, and dying in the course of an hour or two.

Of great significance stands out the predominance of excessive alcoholic intemperance. Whenever it was possible, this subject was carefully inquired into, with the result that in seven cases no facts could be obtained, owing to the person being a newcomer in the town, or unknown; in one case, the deceased was strictly temperate; while in the remaining twenty-five cases they were constantly intemperate. The latter class have been subdivided into those (six) who were simply known to drink alcohol in excess whenever their circumstances permitted it, while the remainder (nineteen) are recorded as having been constantly intoxicated, and living in a state of debauch for several days prior to death. In view of the above facts, it is difficult to dissociate the influence of alcoholism, both from the causation of the disease and from being a prominent factor in the latent course which it pursued. Drunkenness not only leads to dangerous exposure to atmospheric conditions, but also tends to produce a peripheral vasomotor paralysis and dilatation of the capillaries of the skin and greater radiation of heat from the body. Brouardel states that in cases of profound intoxication the temperature in the rectum has been found reduced to $75^{\circ}.2$ F. In addition, also, the oxygen-carrying power of the red blood corpuscles is reduced, so that the general nutrition of the tissues is lowered.

Notwithstanding modern views as to the specific nature of the disease, the author does not think that we can deny the potency of a chill and diminished vitality of the tissues, if not in originating, at any rate in actively predisposing to pneumonia.

In conclusion the author advances tentatively the following propositions: 1. Pneumonia may be completely latent during its whole course. 2. The form of the disease most liable to be latent is basal lobar pneumonia. 3. Alcoholic apical pneumonia is rarely latent during its whole course. 4. The disease may be latent even although the whole of one lung, or a considerable portion of both lungs, is affected. 5. In latent pneumonia, sudden death most commonly occurs during the stage of grey hepatization. 6. The condition is practically confined to persons addicted to excessive alcoholic intemperance. 7. Complete consolidation of the whole of one lung is not inconsistent with a person having continued to lead an active life, up till the time of death. 8. Latent pneumonia is most frequent as a cause of sudden death during the winter months. 9. It is most common after the age of forty years and in the male sex. 10. The explanation of "latency" is to be found in the quantity of alcohol consumed after the onset of the disease—first, in masking the ordinary signs and symptoms by dulling sensibility; second, by its stimulating effect, thus enabling the person to go about until he suddenly collapses and dies. 11. In medico-legal cases, the discovery of latent pneumonia may satisfactorily explain the death of an individual, and thus allay all suspicion connected with the case. 12. On the other hand, the existence of pneumonia, even in an advanced stage, will not preclude the possibility of an individual having died from other causes, natural or violent, and of his having been, at the time of receiving an injury, in a state of apparent good health.

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Original Communications.

THE EVOLUTION OF UROLOGY.

AN OPENING ADDRESS DELIVERED AT THE ANNUAL MEETING OF THE AMERICAN UROLOGICAL ASSOCIATION, HELD AT SARATOGA, N. Y., JUNE 13, 1902.

By RAMON GUITERAS, M. D.,
NEW YORK,
PRESIDENT OF THE ASSOCIATION.

Gentlemen: In welcoming you to the first annual meeting of this association I feel that I am performing the rôle of the speaker of the prologue, a functionary whose duty it was in ancient plays to precede the actual performance by a statement of the plot, or "argument," of the play. I will therefore in the present instance adapt my prologue to the programme of this meeting by reviewing briefly the history of urology from its first steps to the more recent advances that have served to develop this important branch of medicine and surgery and to bring it to its present stage of evolution.

Urology; its Scope.—The word "urology," derived from the Greek words *ουρον* (urine) and *λογία* (science), is employed (unfortunately, too rarely in English) to designate the study of the medical and surgical diseases of the urinary tract in the male and female. The purely venereal diseases, syphilis and chancroid, have no place in urology, while gonorrhœal urethritis, though venereal in origin, is legitimately included in the concept urology, inasmuch as it and its complications affect the urinary tract proper.

If this definition is accepted, then the men who are, or should be, interested in urology include: First, physicians who are devoting themselves to the study of internal diseases, including diseases of the kidney, ureter, and bladder; second, surgeons who are interested in the study of surgical urinary conditions; third, gynecologists who are making a special study of the urinary tract in connection with the genital tract of the female; and, fourth, pathologists and chemists who are interested in the pathology and chemistry of those organs and their secretions and discharges.

The territory of urology can be demonstrated in the female in the separate existence of the urinary tract on the one hand and the genital on the other, both opening into a common vestibule, the vulva.

In the male both tracts meet at the posterior urethra, and have a common channel from that point to the external urinary meatus, although the urethra is essentially a urinary canal and does not form a part of the genital tract any more than the intestine forms a part of the biliary tract which empties into it. Yet the urethra can be said to be almost entirely surrounded by genital structures, and in some instances certain parts of them may encroach upon the urethra, giving rise to disease of the urinary organs through interference with the passage of urine.

Ancient Urology.—A glance into the past will show how early in the history of medicine were the beginnings of urology. At first, the treatment of urinary diseases was probably exclusively medical, at any rate, the papyrus Ebers¹, attributed to 1553-1550 B. C., contains nothing of urinary surgery, but gives a number of prescriptions for the treatment of various disturbances of the urinary function. (H. Joachim, *Papyrus Ebers*, XLVII, L. pp. 65-70, Berlin, 1890.)

Passing from this most ancient fountain of medical knowledge we come to the Ayurveda, the ancient medical treatise of the Hindus, where urological subjects, both medical and surgical, are given considerable attention. In the Ayurveda of Susrûta, attributed by the best authorities to the sixth or third century B. C., we find a complete description of the operation of perineal lithotomy, which was frequently performed by the Hindu physicians on account of the prevalence of stone in India.² In all probability, lithotomy originated among the Hindus, and thence was carried, along with other knowledge, into Egypt, where Celsus found it. Certain it is that there is no description of the operation from the time of Susrûta (sixth century B. C.) until that of Celsus (*De Medicina libri octo*, Lib. V, Cap. 26), and a fact to be noted in this connection is that lithotomy among the native physicians of India to-day is essentially the same operation as described by Susrûta. (See A. K. Lindsay, *Transactions of the Medical and Surgical Society of Calcutta*, Vol. iv, 1829, p. 440.)

¹ The papyrus Ebers is a manuscript discovered by George Ebers at Lougour in 1872-'73. It is written in hieratic Egyptian characters and represents a compilation of the medical knowledge of the ancient Egyptians.

² Chikitsa-Sthana, chap. 7, vol. iv, of Susrûta's Ayurveda in Wise's *Review of the History of Medicine*, vol. i, p. 383. London, 1867.

The treatment of strictures of the urethra by gradual dilatation by means of instruments, increasing in size every third day, is also described by this ancient Hindu writer on medicine. The sounds, or "cannules," were usually made of metal or wood. Directions for making injections by the urethra in various diseases of the bladder, etc., are also given in detail. A number of other conditions of the urinary tract are treated in detail in the *Āyurveda*, but space will not permit me to cite more than the above-mentioned examples. These are, I think, sufficient to show that urology among the ancient Hindus was ahead of many other branches of medicine.

Ancient China did not contribute, so far as we know, anything to the early history of urology. According to Sue (quoted by F. A. Lepage, *Recherches historiques sur la médecine des Chinois*, Thèse de Paris, 1813), lithotomy was not practised among the Chinese, and stone in the bladder was a rare condition, except in the neighborhood of Canton. (Wilson, *Medical Notes on China*, London, 1846.)

The surgery of Homer has been studied by such authors as Daremburg, but nothing of importance to urology is recorded.³

The writings of Hippocrates, 460-377 B. C., which must be taken up as next in order of time, show numerous allusions to urological subjects. The most important one is his reference to nephrotomy for suppurating kidney. He wrote: "As soon as a swelling has appeared in the region of the kidney one should incise it (κατὰ τὸν νεφρόν) down to the kidney." (*De affectionibus internis*, 14, 15, 17, in Littré's edition, Vol. vii, pp. 203-204). Although nephrolithotomy is not mentioned, stone in the bladder (ἡ-λιθίασις) receives considerable attention, and Hippocrates describes very accurately how a stone (ὁ λίθος) grows gradually from a nucleus.

A curious fact is that the Hippocratic oath, which many of us took when we graduated in medicine, contains a clause in which the candidate promises never to perform lithotomy, but to leave this operation to persons who make a specialty of it, the so-called lithotomists.⁴ The itinerant lithotomists of the Middle Ages will be spoken of later. The only other reference to urology in Hippocrates is one in regard to urethral abscess (*Aphorisms*, iv, 82, and vii, 57), and to cystitis (*Aphorisms* iv, 77), which is recognized by the presence of branlike particles in the urine.

Cornelius Celsus,⁵ the great commentator and compiler of ancient Roman medicine, who lived from 25 or 30 B. C. to 45 or 50 A. D., collected numerous urological data in Lib. vii, Cap. 26, etc., of his *Treatise on Medicine*. In addition to the masters referred to by older writers, he mentions urethrotomy for stone impacted in the urethra; he describes catheterism for obstructed urinary flow from various causes, including senility (prostatic hypertrophy?), and speaks in detail of the symptoms of vesical calculus, of lithotomy, including the after-treatment, the care of wounds or fistulae, etc.

Galen (131-210 A. D.) speaks of urinary incontinence and retention, and describes an "S"-shaped catheter which he used for the relief of the latter. The catheter contained a thread which was withdrawn after its introduction which, he maintained, allowed the urine to escape.⁶

Cælius Aurelianus, who lived at the beginning of the fourth century A. D., gives a detailed consideration to the diseases of the bladder, and mentions the use of a stone searcher for the diagnosis of lithiasis. (Aurelianus, Amman's edition, Lib. V, Cap. 4, pp. 570, 571, Amsterdam, 1709.)⁷

Medieval Urology.—The medical history of the Middle Ages does not present any brilliant advances in the field of urology. This period was characterized, as we know, by a period of decadence of surgery, when this art was relegated to the barbers, while medicine was for the most part in the hands of the monks, who disdained surgical operations, and it was not until the fourteenth century that scientific surgery can be said to have again taken a start through the foundation of the Collège de Saint-Côme, in Paris, by Jean Pitard.

There are, therefore, but few facts to be recorded in the evolution of urology that belong to the Middle Ages. In 1497 there appeared a treatise on movable kidney, written by Mesure, of Venice, another on the same subject in 1581, by François Pedimontanus, and a third by Riolan in 1682.

Richard Wiseman, surgeon in ordinary to James I (1595-1686), was the first to perform external urethrotomy for stricture, and in 1596 Gittler, of Leipsic, published a dissertation on wounds of the kidney. (Gittlerus, *De renum vulnere et qui huic succedit cruento mictu*, Lipsiæ, 1596.)

We have already referred to the lithotomists of India and ancient Greece, and there is no doubt

³ A. Cornelii Celsi de medicina libri octo. Ad finem optimorum librorum denovo recensuit annotatione critica indicibusque instruxit C. Daremburg. Lipsiæ, 1850.

⁴ Galen, *Medicus*, Cap. 10. Ταῦτα οὐκ ἐπιτρέψω ἢ ἀπαγορεύω. Galeno ascripta introductio seu medicus. Kühn, vol. xiv, p. 674 of *Claudii Galeni opera omnia*, Lipsiæ, 1821-'33.

⁷ Aurelianus says in regard to the stone searcher: *Confirmabitur apprehensio lapidis generalis adhibita melitode, cuius rationem atque usum responsionum libris chirurgiam scribentes plenissime tradidimus. In quibus etiam auferendos lapides opo docuimus.*

² *La médecine dans Homère, ou études archéologiques sur les médecins, l'anatomie, la physiologie, la chirurgie, et la médecine, dans les poèmes Homériques.* (Paris, 1885, 8vo, p. 96.)

³ Οὐ τεύματα δὲ οὐδὲ μὴν λιθιόματα, ἐκ χειρὸς δὲ ἐργάσαντο ἄνθρωποι πρὸς τὴν τήρησιν. Hippocrates, *Complete works*, French Translation. Littré, 10 vols., Paris, 1839-'61.

that they existed at the time of Hippocrates. But the trade of stone extractor flourished particularly in Italy in the Middle Ages and for some centuries later. A city in Perugia named Norcia was a well known breeding place for these wandering lithotomists, and whole generations in that town were engaged in this occupation. These Norcians went about everywhere and performed lithotomy much in the same way that has been described by Sucrùta, and they reaped a rich harvest; for, according to chronicle, stone was frequent in Italy, and surgeons did not deign to perform lithotomy. Some of these lithotomists of Norcia attained considerable fame, and some were salaried by municipalities.⁸

Modern Urology.—Modern urology may be said to have taken root within the present century: The factors in its evolution have been numerous and intimately correlated with the advance of pathology and surgery in other fields. The chief of these factors were: (1) The discovery of anæsthesia; (2) the discovery of pathogenic germs; (3) the perfection of urinary analysis; (4) the possibility of illuminating of the urethra and bladder; (5) the perfection of ureteral catheterism; (6) the introduction of the Röntgen rays; (7) antiseptis and asepsis; (8) advanced therapeutics and improved operative technique.

1. The discovery of anæsthesia, with nitrous oxide gas by Wells, in 1844, with ether by Morton, in 1846, and with chloroform by Simpson, in 1847, put an end to hurried operations, and allowed more precision and attention to technique; but the discovery of local anæsthesia by cocaine, by Carl Koller, has of late supplanted general anæsthesia in some of the operations on the lower part of the urinary tract. Lumbar cocainization, which we owe to Corning, of New York, has been the means of rendering many operations painless.

2. The discovery of pathogenic bacteria. This was the next important step in the development of this as well as other branches of surgery. Pasteur may be regarded as the father of bacteriology; while germs of special interest to us were the gonococcus, discovered by Neisser in 1879, the tubercle bacillus, by Koch in 1882; the streptococcus and staphylococcus by Rosenbach in 1884; and the colon bacillus by Escherich in 1885. The discovery of the tubercle bacillus in the urine and the genito-urinary organs may be said to have marked an era in the field of urology. A number of other microbes, such as the pyocyanus, the proteus, etc., have been found in pus from various parts of the urinary tract, although they are of less importance.

3. The perfection of urinary analysis by chemical

and microscopical means has been another great aid in the diagnosis of urinary diseases. The recognition of the different forms of crystals, of epithelia, of tissue elements, of the urinary microbes, of casts, first described by Viglia in 1838, and of the amount of urea, are familiar to us all. Other adjuncts to the examination of urine, the methylene blue test of Achard and Castaigne (*Gaz. des hôp.*, June 11, 1898), and the phlorrhizin test of Casper and Richter (*Berl. klin. Wochenschr.*, July 16, 1900, p. 643), more recently devised for the purpose of testing the permeability of the kidney, are of undoubted value, but as yet not generally used. Cryoscopy, or the freezing test, applied to urine by Koranyi, of Budapest, in 1897 (*Zeitschr. f. klin. Med.*, 1897-'98) and based upon the physicochemical laws of solutions promulgated by Raoult and Van't Hoff, 1882-1886, is a subject which promises a great deal when fully developed, but as yet its clinical value is not quite settled, and it will require many more observations to determine the significance of variations in the freezing point of urine with regard to the functional conditions of the kidneys.

4. The use of artificial illumination by means of tubes and reflected light was an important step in the advance of modern urology. The study of urethral lesions had been probably the most unsatisfactory of the branches of urology until the invention and perfection of an instrument, the urethroscope, which is to-day an indispensable tool of the surgeon whose field of usefulness includes the urinary tract. The first attempts at the construction of a urethroscope were those of Désormeaux, in 1853 (Désormeaux, *De l'Endoscope*, Paris, Baillière, 1865), who used as a source of illumination a lamp whose rays were thrown into the urethra by means of mirrors through a closed tube. Modifications of this early type were devised by Fürstenheim, of Berlin, and by Tarnowsky, of St. Petersburg. The endoscopic tubes of Gruenfeld came next. Gruenfeld used a lamp whose rays were reflected by means of a head mirror into the tube of the urethroscope. Various modifications of Gruenfeld's instrument were also devised by others until Nitze, in 1878, constructed an instrument which later became known as the Nitze-Oberländer, in which the lamp was in the tube. Oberländer and Kollmann conceived the idea that endoscopic tubes of larger diameters should be used in order to obtain a good illumination of the urethral lesions, and they established the rule that in every examination the largest tubes which can be conveniently passed into the urethral orifice should be employed (*Nitze-Oberländerisches Centralblatt*, xi, 12, 62). In the older urethroscopes a stream of water was necessary to keep the urethral end of the instrument cool, but the models introduced since 1899 have had minute incandescent lights that give

⁸ G. B. Fabbri, *Della litotomia antica e dei litotomisti ed oculisti norcini e preciani*. Memorie della Accademia delle scienze del istituto di Bologna, vol. ix, 1869, p. 239.

comparatively little heat. The essential characteristic of this newer type of urethroscopes is a lamp that gives the minimum of heat and the maximum of light, which I have endeavored to obtain in the instrument that bears my name.

Cystoscopy.—The early attempts at endoscopy were combined with attempts at bladder illumination. The first of these dates from 1805, when Bozzini, of Frankfurt, invented an apparatus which was meant to illuminate the urethra and the bladder. A number of attempts of similar character were made with little success until Désormeaux, Fürstenheim, and Cruise (1853-1865) constructed the first endoscopes and made an examination of the bladder possible. In 1867, Bruck (Bruck, *Das Urethroskop und das Stomatoskop*, Breslau, 1867), a dentist of Breslau, first utilized the incandescent platinum loop, heated to white heat by means of a galvanic current, for examining the mouth. He called his instrument a stomatoscope and advocated the use of electric light in examining the bladder. Bruck's electric instrument for bladder examination was called the diaphanoscope, and although it was found to be impractical, it is interesting because the Nitze instruments, which are now in use, are constructed upon similar principles. In 1876 Nitze devised an electric cystoscope and urethroscope, and demonstrated the instrument in October, 1877. This cystoscope was later improved and simplified by Leiter, of Vienna, so that the first electric cystoscope bears the name of Nitze-Leiter and the date of 1879. The lighting device of this cystoscope was an incandescent platinum loop which was surrounded by a stream of water so as to keep the end of the instrument cool. A flow of water was necessary to keep the temperature of the beak of the instrument below the danger line. The original Nitze-Leiter cystoscope was complicated, cumbersome, and unsatisfactory in many respects. In 1879 Edison first patented his incandescent lamp, which revolutionized the methods of the construction of illuminating instruments in general and of the cystoscope in particular. Since then the incandescent lamp system has been used in cystoscopy. In 1883 Newman, of Glasgow, devised an electric endoscope for the bladder in women. (*Glasgow Med. Jour.*, Aug., 1883.) Two years later, Mayo Robson (*Lancet*, Aug. 22, 1885, p. 341) succeeded in illuminating a carcinoma in the bladder of a woman by means of a small electric lamp. In 1887 came the introduction of the two cystoscopes of Nitze (Nitze, *Illustrierte Monatschrift der ärztl. Polytechnik*, March, 1887) and Leiter (Leiter, *Koenigl. Ges. der Aerzte zu Wien*, 1887), both constructed on similar principles, and since then a number of modifications, including those of Brenner, Fenwick (Fenwick, *Electric Illum. of the Bladder*, Lond., 1889), Albarran, Harrison, and others.

The result of the development of cystoscopy and urethroscopy was a possibility of a closer and more accurate study of the diseased bladder and urethra and the possibility of taking photographs of these lesions. The only drawbacks are the necessity of special training and experience in using these instruments with the best results, but those who have become so skilled now do not hesitate to operate by the aid of vision by means of the "operating" cystoscope perfected by Nitze, whereby cauterization, removal of growths, etc., in the bladder are made possible under the surgeon's eye without opening the organ.

5. Ureteral Catheterism.—Of all the modern refinements of diagnosis, ureteral catheterism is probably the most difficult, and when successful the most satisfactory. The introduction of instruments that made catheterism of the ureters possible was preceded by a long series of attempts to attain this end. Imbert (*Le Cathétérisme des urètres par les voies naturelles*, Thèse de Paris, 1898) has collected the most complete history of the movement that culminated in the invention of the Brenner and the Nitze-Albarran catheterizing cystoscope. The first attempt at obtaining a clue as to the state of each kidney by catheterizing the ureter were made by Iversen (*Centralblatt für Chirurgie*, 1888), Guyon, (*Annales génito-urinaires*, 1891), and others, by abdominal incisions opening the bladder, while Bozeman succeeded in getting at the ureter in a woman through a vesicovaginal incision. All these procedures were, therefore, major operations with all their attending dangers and uncertainties.

The next step in the development of ureteral catheterism was made by Pawlick (*Wiener med. Presse*, 1886). Placing a woman in the genupectoral position, he depressed the posterior vaginal wall with a speculum in such a manner as to expose to view the anterior wall. Taking now certain folds in the anterior wall as a guide, he introduced a catheter into the urethra, feeling the point of the instrument through the vagina until it entered the ureteral orifice. This procedure was exceedingly difficult of execution, rather dangerous on account of the blind manner in which it was performed, and, of course, only applicable in women.

Kelly, of Baltimore, in 1894 (*Am. Jour. of Obstetrics*, Jan., 1894) modified the method that had been employed without much success by Grünfeld (*Allg. Wiener Med.-Zeitung*, 1886), Newman (*Glasgow Med. Jour.*, 1883, p. 131), and Pawlick, some years previously, and devised a method of catheterizing the ureters in women which since then has gained considerable popularity. This procedure consisted in determining the calibre of the meatus, introducing a small cylindrical speculum, allowing the urine to escape, raising the patient's pelvis, and

evacuating the residue by means of a small aspirator or cotton tampon, and then, by means of an electric reflector, illuminating the bladder through the speculum and searching for the ureter with the aid of a long stylet which served to unfold the bladder. When the ureteral orifice has been found, the stylet is replaced by a catheter. While this method has made ureteral catheterism possible in many cases, it presents serious disadvantages, for the meatus of women is not always so easily dilated as sometimes stated, the folds of the bladder interfere, and the hemorrhage obscures the view, while the urine flowing from the ureters interrupts the procedure.

The latest phase of the question of ureteral catheterism was marked by the introduction of the cystoscope illuminating the bladder by direct light. The first of these instruments were those of Brenner (*Ann. des mal. des org. gén.-urinaires*, 1892, p. 443, and 1894, p. 51), of Nitze (*Centrbl. f. Chirurgie*, 1895, No. 9 et seq.), and of Casper (*Deutsche med. Wochenschr.*, 1895, No. 7), which came into use in 1896, and finally that of Albarran, described in 1897 (*Rev. de gynécologie et de chirurgie abdominale*, May and June, 1897).

The catheterizing cystoscope of Brenner is one of the best instruments ever devised for this purpose, and is preferred by a number of surgeons. It is considered the best instrument in the female, and introduces the catheter on the convexity of the instrument instead of on the concavity, as the Nitze and Albarran cystoscopes do. For this reason it is inapplicable in cases of enlarged prostate, where the instrument's beak has to go over the impediment.

Nitze has done more than any other man in perfecting the cystoscope, and to him is due a large measure of credit for the attainment of the present results in catheterizing the ureters. Albarran, however, has added to Nitze's cystoscope an ingenious device which permits of the control of the direction of the point of the catheter at the beak of the instrument, and this has been found a marked improvement in the facility of introducing the ureteral catheter.

The difficulties of this procedure are very great, and it requires a vast amount of special training to accomplish ureteral catheterism with these instruments. There is no doubt, however, that they are the best yet devised. The most difficult part of this procedure is the finding of the ureteral orifice and its exact location, and not the actual introduction of the catheter. Working with Albarran's cystoscope, I have found that this statement as to the difficulty of finding the ureter is correct. There are as yet very few men who are skilled in the use of this instrument, and even the most skilful do not always succeed in introducing the catheter.

The question as to the diagnostic value of ureteral

catheterism is by no means a settled one. At the beginning this procedure met with serious objections on the part of Litten, Kuettner, and Wassidlo, as well as so distinguished an authority as Israel, of Berlin. These observers asserted that this method might infect the ureters, and that the quantity of urine obtained thereby was so small that one could not judge of the state of the organ or of its work by the examination of the amount of the secretion obtained. On the other hand, Albarran (*loc. cit.*), De Sard⁹ and the Necker school are in favor of the widest possible application of this means of diagnosis, and I am inclined to agree with them. The German authorities above quoted as opposing this method have since then relented and are now employing the Nitze-Albarran cystoscope whenever indicated. There is no doubt that the procedure is of great value in cases of renal diseases masked by morbid processes in the bladder, in cases of doubt as to the functional activity of the opposing kidney, and in furnishing a guide to the ureter, preventing its injury and securing drainage from below in renal operations.

Catheterism of the ureters has also been employed for therapeutic purposes—for the relief of renal retention, for the removal of obstruction by stones in the ureters (Kolischer, Casper), for lavage in the early stages of pyelitis, and for the treatment of chronic renal fistulæ by permanent drainage from below.

For my part, I am obliged to disagree with Morris, of London, who regards ureteral catheterism as the *dernier ressort*, and who says that the presence and condition of both kidneys may as a rule be made out without this procedure, and I must also take exception to the advice of Edebohls (*Annals of Surgery*, April, 1898), who prefers bilateral lumbar incision to ureteral catheterism. Even if the kidney is found to be present on the opposite side, it is by no means certain on palpation whether it is normal or affected with nephritis or the seat of small stones or of suppuration. And even if I were inclined to trust palpation, I should use an exploratory laparotomy and not a double lumbar nephrotomy.

To be perfectly frank, I believe that the objections against ureteral catheterism on the part of eminent surgeons are due to the fact that the procedure is one of the most difficult methods of diagnosis yet devised in any branch of medicine or surgery, and that many surgeons feel utterly helpless with a cystoscope in the bladder when they are unable to see the orifices of the ureters, much less to catheterize them. Any one who has had experience in examining the posterior nares or the retina by reflected light can understand how difficult it is to become proficient in

⁹ De Sard, *Le cathétérisme cystoscopique considéré comme un moyen diagnostique*, Paris, Steinheil, 1900, pp. 159, 160.

these two methods of examination, and, yet, they are as child's play compared with examining and catheterizing the ureters. An extended tour of the foreign clinics, during which I made a study of this method of diagnosis, has convinced me that but few surgeons can be relied upon to catheterize the ureters successfully. It is for this reason, too, that I am inclined to believe in the routine use of this method, for the man who only uses it when absolutely necessary will fail in most cases through lack of practice.

Next to ureteral catheterism I must mention the Harris segregator as an important diagnostic procedure in renal surgery. M. L. Harris (*Med. Rec.*, 1899, No. 13, p. 457; *The Uses of the Urine Segregator in the Diagnosis of Diseases of the Urinary Tract*) has described an instrument called the segregator, whereby the urine may be collected from each kidney without inserting an instrument into the ureters. It may be said that, while this method has failed me but once in diagnosing the side affected, it has been pronounced unreliable by a number of observers. Its limitations are obvious from a consideration of the method of procedure. In fungous growths of the bladder and in other conditions of this viscus which are accompanied by an easily bleeding surface, in cases of deformed or contracted bladder, vesical calculus, and hypertrophied prostate, it cannot be expected to give accurate results. In selected cases, however, it has proved valuable, though it cannot supplant ureteral catheterism. The modifications of the Harris instrument introduced by Downes, of Philadelphia, and Luys, of Paris (*Assoc. franç. d'urolog.*, October, 1900, p. 528) present certain advantages, and the subject will be presented to you by Dr. Downes himself at this meeting.

(To be concluded.)

THE INDICATIONS AND LIMITS FOR OPERATIONS BY THE VAGINAL ROUTE.*

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Πρώτον μὴ βλάπτειν.—This old Hippocratic law must always and forever govern and guide the work of the physician as well as of the surgeon. In other words, if there are, generally speaking, two ways to Rome (there are oftentimes unfortunately many more than two), or, expressed specifically, if there are two methods of operative procedures for a certain malady in the body, both presenting, if performed by the same expert surgeon, the same perfect result, always that method and that route are preferable which do the least damage to the patient, as well generally as locally, and in which the least remote

troublesome after-effects are apt to occur. Let us bear this principle in mind in all discussions about vaginal *versus* abdominal route.

It would be carrying owls to Athens if I tried again to point out to you the advantages of the vaginal route for the patient, not always for the operator, in the operative procedures on the female genital organs. I must refer you here to the exhaustive excellent discussions in national and international medical societies about this field and to what has been stated in recent topics on this subject by expert medical authors, as for instance, in Ries's paper before the American Medical Association, in St. Paul: A New Operation for Retrodisplacement of the Uterus (1). I have myself stated my opinion and pointed out the advantages at length in my monograph, *The Retroversioflexio Uteri Mobilis et Fixata*, its Conservative and Operative Treatment (2).

Repeating briefly, they are as follows: In operating by the vaginal route there is less danger of infection and shock, drainage in suitable cases is established through the lowest possible part of the body, there is no visible scar or possibility of ventral hernia, the convalescence after operation is usually smoother, simpler, and shorter, in vaginal shortening of the round ligaments or vaginal suspension of the uterus, for instance, only from eight to twelve days.

Deaver (3), before the American Medical Association, St. Paul, 1901, made concerning the vaginal methods of operation for abscesses in Douglas's pouch the somewhat startling and sweeping statement that the vaginal route for these cases was "a dismal swamp procedure," and that vaginal opening was "not a surgical operation." It took fortunately but one year when "more light was thrown into the dismal swamp of his abdominal operation," to use the words of Ricketts (4), of Cincinnati, and in 1902, before the American Medical Association, at Saratoga Springs, Noble, of Philadelphia, admitted that through this error many a patient had lost her life which probably could have been saved by vaginal incision. *Tempora mutantur, nos et mutamur in illis*. That for cases of permanent abscesses lying in the posterior cul-de-sac and for cases of parametritic and paravesical abscesses, with and without pyosalpinx and pyovarium, easily attainable by way of the vagina, the vaginal route is the method *par excellence*, is nowadays beyond discussion, because it affords drainage extraperitoneally and through the lowest possible part of the body. I need not cite here examples belonging to this class, as many of you will have observed cases of this kind. Reuben Peterson (5), pointing out recently in his article On Infected Ovarian Cysts, the high mortality of cases of infected ovarian cysts and dermoid cysts when operated upon by the abdominal route, advocates vaginal drainage even for these cases, when they are not

* Read by invitation at the seventh annual meeting of the Upper Peninsula Medical Society, July, 1902.

lying too high above the pelvic brim, and states: "So did we shrink from vaginal incision for pus tubes until we found that in certain cases by adopting this treatment we could save more lives than by the bolder, more spectacular, but deadlier enucleation by the abdominal route, and a life saved in this manner is worth dozens of brilliant abdominal enucleations resulting in the death of the patients."

It is, on the other hand, true that, first, not all cases of pyosalpinx and pyovarium are attainable by this route and therefore not amenable to this treatment, and that, second, the patients are in other cases not restored to perfect health by single vaginal incision and drainage through the posterior vaginal vault. A very valuable paper concerning the percentage of absolute cures in cases of pyosalpinx, hydrosalpinx, etc., treated in this manner, was recently published by Treub (6). Of 79 cases operated upon since 1897 (66 cases of pyosalpinx and 13 of hydrosalpinx, with two deaths from puerperal pyemia), 44 treated in the manner cited above were radically cured and therefore saved from climacterium præcox, which is involved in radical abdominal and vaginal operative procedures.

Some gynecologists have thought in later years to enlarge the field of vaginal drainage by incision into the pouch of Douglas in cases of acute inflammation of the pelvic organs after abortions or births where no pus formation has yet taken place, and have tried the same treatment in acute gonorrhoeic infections of the tubes and ovaries. On what logical ground this *sit venia verbo, furor operationis* is based, I have never been able to comprehend. Do you think that one can drain the bacteria out, lying as we know embedded in the tissues of the broad ligament and adjacent organs? One can certainly not. That gonorrhoeic infections of the tube can heal entirely without operative procedures and that years after an infection women give birth to healthy children, has been observed often. Not so seldom, however, these previous infections of the tubes may be a cause of extrauterine pregnancy. I treated a case of gonorrhoeic infection immediately following marriage, in a young lady in whom both tubes were swollen to almost the size of a little finger, conservatively for three years, and the other day I received a letter saying that she had given birth to a healthy child. Therefore it is advisable to let the acute stage of inflammatory processes pass over and to resort to conservative treatment, and only when pus formation has taken place, to follow the old rule of Hippocrates, *ubi pus, ibi evacua*. That in cases of paravesical abscesses, in which oftentimes a bullous cedema of the mucous membrane of the bladder, as demonstrated by cystoscopic examination, leads to the diagnosis of the underlying cause, can better be drained from the anterior vaginal vault is natural.

Cases of abscesses which are lying near the pelvic brim and point to the inguinal region have to be drained by incision over Poupart's ligament. When an abscess of appendicular origin can be reached by way of the vagina without the necessity of going for a large space through the free peritoneal cavity, it must be drained by the vaginal route and the removal of the appendix delayed for a subsequent time.

If an appendicular abscess is lying higher up in the abdomen, or the appendix is the probable cause of an inflammation of the right tube and ovary, making its removal feasible, unquestionably the abdominal route must be resorted to, as already stated in my article *Appendicitis Larvata and Inflammation of the Right Broad Ligament, Tube, and Ovary* (7).

In all cases in which both annexa, with and without the uterus, are affected to such an extent that conservative treatment and vaginal drainage seem inadvisable, I am without exception in favor of the so-called *castration vaginale générale*. To resect by way of the abdominal route both ovaries and tubes, or both tubes and one ovary, leaving the uterus, the medium by which in most of the cases the infection has started, is oftentimes in my opinion illogical and insufficient surgery, because the uterus without its appendages is useless and not seldom a source of subsequent trouble and after-work. It was soon found out that stump exudates on the uterine end of the tubes and perimetritis with menorrhagias and metrorrhagias followed the operation, and the conclusion was arrived at that radical removal of uterus as well as appendages would show better immediate and remote results.

Since Péan first advocated vaginal hysteroplectomy for pus tubes, in 1891, this method has constantly spread, chiefly after improvements and recommendations by Landau and Schauta. Clark, of Philadelphia, who reviews the results of Schauta, published by his assistants, Mandel and Bürger, in an article entitled, *Beiträge zur operativen Behandlung von Eiteransammlungen in den Anhängen der Gebärmutter* (8), in *Progressive Medicine* (9), says: "In considering the very low mortality reported by Schauta, one must admit without further question that his immediate results are highly satisfactory and cannot be improved upon by the abdominal surgeon." Schauta performed 116 vaginal hysteroplectomies because of pus tubes, etc., with three deaths, that is, 2.6 per cent. But if, even, what is very doubtful in my opinion, no higher mortality accompanied abdominal hysteroplectomy, would not in case of rupture of a pus tube (Howard Kelly (10) cites a series of 100 cases of abdominal hysteroplectomy with four per cent. mortality and rupture of a pus sac in 27 cases) the soiling of the abdominal wound be oftentimes a cause of infection and involve in many cases prolongation of convales-

cence and the certain outlook of future abdominal hernia?

I fully agree with Clark, that Schauta's views are very radical and leave but little space for conservative operative methods, such as the above mentioned vaginal drainage, but one thing must be taken into consideration in all cases of this class, that is, the individuality and the social condition of the patient and her age. In women who have to earn their daily bread with their own hands, we shall invariably be inclined to accept more radical operative procedures, provided the convalescence is thereby shortened and absolute freedom from future trouble can be assured. Chiefly is this the case when the age is about forty and there is no more desire for children. In younger women, again, our aim must be to try, if possible, first conservative methods of operative procedures, and when they are exhausted without success, then to use radical procedures. Three cases of my own in which the extent of the disease in the female genital organs made the radical method of Schauta necessary will illustrate my contention.

CASE I.—Miss H., twenty years old, puella publica, seen in consultation with Dr. B., had been suffering for three years from gonorrhoeic infection of the annexa, sometimes with fever and chills. On bimanual examination the uterus was found retroverted, embedded in tense adhesions, and fixed to the rectum, and there was pyosalpinx on each side. Vaginal hysteropappendectomy (clamp method) one year and a half ago. She is perfectly well since that time.

CASE II.—Mrs. F. R., widow, nullipara, fifty-four years of age, seen in consultation with Dr. H., from C., Wisconsin, had been suffering for twelve years from chronic inflammatory processes in the pelvis. Two years ago an abscess was opened by Dr. H. For six months she has been confined to her bed, with constant rise of temperature in the evening. The examination revealed: Vagina extremely narrow, external os of the uterus perfectly closed and not to be detected with the finger, cervix and uterus dilated to the size of a man's fist and fluctuating. Behind the uterus was lying a hard inflammatory mass in which the appendages were not palpable. Diagnosis: Pyometra, chronic perimetritis, annexitis, chronic sepsis. As the lady was in such a condition that she could hardly stand the transportation to the hospital and could not be submitted to a narcosis of longer duration, I first opened the pyometra by incision through the posterior part of the cervix, and after fourteen days, when she had gained strength and the temperature chart showed that in the hard mass behind the uterus undoubtedly a nucleus of pus was concealed, I performed a vaginal hysterectomy with the aid of Schuchardt's incision, thereby effecting perfect drainage. She left the hospital eight weeks afterward and bought, as I have been informed by her physician, a baker's shop a few days ago, in which she performs all her housework herself, being tired of the previous *dolce far niente*.

CASE III.—Kindly transferred to me by Dr. E., of Milwaukee. Mrs. B., forty-two years of age,

mother of six children, five living, had been suffering for two years from pelvic inflammation. For one year, frequent menorrhagias and metrorrhagias. Diagnosis: Chronic metritis and perimetritis, pyosalpinx or hydrosalpinx on each side. By sounding, the inside of the womb was found very irregular (cancer?). During the very difficult vaginal hysterectomy with bisection of the uterus (clamp method) a polypous body was found in the inside of the uterus as the cause of the metrorrhagias. The annex tumor on the right side of the uterus appeared to be a hydrosalpinx, on the left side a pyosalpinx. She left the hospital three weeks ago in perfect health.

Another question now presents itself: Shall we in those cases in which only the appendages on one side are diseased and demand removal, while those on the other side are perfectly normal, use the abdominal or the vaginal route? Without exception I have for these cases used hitherto only the abdominal route, and I am enabled to show you here one specimen of right-sided so-called tuboovarian abscess on which I operated four months ago, through the kindness of Dr. D., of Milwaukee. Mrs. Z., twenty-eight years of age, mother of a child eight years old, has complained of severe pain in her right side for two years, with slight rise of temperature in the evenings lately. Bimanual examination revealed: Left annex normal, tuboovarian abscess on the right side. Laparotomy, extirpation of the right tube and ovary. The pus sac ruptured during the operation; perfect recovery. Infection with smallpox two months after the operation; recovery. Dührssen and Martin have even in such cases usually used the vaginal route, followed later on by vaginal fixation or vaginal suspension of the uterus. In cases where the difficulties encountered are too great by this operative procedure, Dührssen (11) lately divides the broad ligament on the affected side after anterior cœliotomy. Thereby gaining more room, he removes the pus tube on that side and drains if necessary. He reports good results by this so-called colpocœliotomia anterior lateralis and one patient thus treated is in the midst of a normal pregnancy (12).

After having exhausted the field of pelvic inflammation in regard to the advisability of the vaginal and abdominal route, let us now go over to extrauterine pregnancy and its sequels, hæmatocele and hæmatoma. For cases of retrouterine hæmatocele not yielding to conservative treatment within six weeks, or for cases of infected hæmatocele, vaginal drainage is naturally the best method. It is a general presumption that when we find a large hæmatocele or a peritubal hæmatoma originating from a ruptured extrauterine gestation sac, the fœtus is dead and further hæmorrhages do not occur. Should severe hæmorrhage follow an incision into a hæmatocele or the fœtus be alive, of which rare occurrence Winter lately cited a case and of which I have observed a

case of my own, complicated with chronic inflammation of the appendix and a dermoid of the left ovary of about the size of a man's fist (to be published elsewhere), the vaginal incision must be followed usually by abdominal section.

Up to a very few years ago there was for unruptured, and chiefly ruptured, extrauterine gestation sacs but one route in regard to operative procedures; that was abdominal section. Lately this field has been invaded by experts in vaginal operative procedures, and Dührssen (13) reports that he has operated for thirty-six extrauterine pregnancies, from five weeks up to the third month, ruptured and unruptured, by vaginal anterior cœliotomy without a death. Strassman cites at the same place eight cases, and Martin (14), as cited by Beyer, had operated in twelve cases, nine in the same manner, without mortality. It is unnecessary to add anything to these figures, they speak for themselves and show to what perfection in a certain line of work diligence and conscientiousness may develop. Naturally only large experience in vaginal surgery can enable us to undertake such operations, because of the danger of hæmorrhage from the veins in the broad ligament and the vessels in the suspensory ligament of the ovary. Dührssen was twice compelled to remove the uterus because of hæmorrhage, and Veit, who operated in ten cases in this manner, was forced to resort to abdominal section in three cases (15). My own experience is one case in which I removed a so-called tubal hæmatoma originating from an extrauterine pregnancy by the vaginal route with perfect result. In other cases of this class I have operated by the abdominal route.

That for cases of retroversion and retroflexion of the uterus, in which not the intensity of adhesions or the seriousness of diseases of the annexa are contraindications, the vaginal route is preferable to all abdominal incisions, I have already shown in my monograph, *Retroversioflexio Uteri*, etc. Whether or not vaginal shortening of the round ligaments after the methods of Ries or Wertheim, or Dührssen's method of vaginal suspension, or Martin's method of vaginal fixation not higher than from one and a half to two centimetres above the internal os (to avoid disturbances during the childbearing state), will be the method of the future, is still open for scientific discussion. I myself have usually used either Dührssen's or Martin's method, and am very well contented with the results. One of the greatest drawbacks of vaginal fixation has been, up to a certain time disturbance during future pregnancies and births, developing in the same manner as after ventral fixation. Pape (16) cites nine cases of Cæsarean section indicated because of vaginal fixation, and Berndt (17) has added one case later. Dührssen (18) has shown that in his cases operated on after

1895, in which year he introduced vaginal suspension with isolated closure of the plica, no disturbances during birth (forty came to his notice) have occurred. He divides his vaginal anterior cœliotomies, most of them complicated by difficult conservative and radical operations on the annexa and the uterus, myomectomies, ovariectomies, etc., followed by vaginal fixation into two series of cases. In the first series of 500 cases he had three per cent. mortality and in the second series of 428 cases two per cent. mortality. Recurrence of the retroflexion in his cases of vaginal suspension occurred in two per cent. Martin (19), as cited by Rieck, had in his 1,000 vaginal anterior cœliotomies with conservative and radical work on the annexa and the uterus, followed by vaginal fixation of the uterus, one and a half per cent. mortality, and no disturbances during childbearing, after he adopted the fixation of the uterus to the vaginal wall not higher than two centimetres above the internal os.

Another class of cases for which I use and have without exception advocated the vaginal route is that of cases of prolapse of the uterus with and without cystocele. I have stated my opinion at length in my article before the American Medical Association, at Saratoga Springs, *Remarks on the Methods of Operations in Vogue for Cystocele with and without Prolapse of the Uterus* (to be published elsewhere) I have pointed out that in the same manner in which we make use of the rectus muscle in cases of large umbilical hernia, we can make use of the muscular wall of the uterus against the descensus of the bladder. When we open the plica vesicouterina after colporrhaphia anterior, freeing the bladder from the cervix, the vaginal wall, and the plica vesicouterina and pushing up this organ, then fix the uterus beneath the bladder to the vaginal wall, a further descensus will be impossible as long as the uterus remains in this position. For further details I must refer to my article; here I should only like to state that in my opinion this method will do away with ventral fixation and vaginal total extirpation for this class of cases, because it is based upon a logical basis and takes, furthermore, into consideration that in the development of prolapse a retroflexion or retroversion of the uterus is usually the introducing agent.

Lively controversies have arisen and are still in vogue in national and international societies, concerning the preference for the vaginal or abdominal route in operations for uterine fibroids, and the pendulum of scientific opinion is still swinging.

Though I have nothing to add and nothing to detract from what I have said about this topic in my articles *Remarks on Indications for the Radical Therapy of Uterine Fibroids* (20) and *Vaginal Hysteromyomectomy and Morcellation of the Myomatous Uterus* (21), I should like to repeat briefly my

conclusions:

1. It is advisable to limit vaginal morcellation of myomatous uteri to tumors not extending above the navel.

2. It must be possible in narcosis to displace the tumor into the small pelvis, either from vagina by forceps or from the abdomen by pressure. This involves:

3. That cases with large adhesions of the myomatous uterus to other abdominal organs are excluded from vaginal morcellation.

4. The breadth of the vagina and the rigidity of its tissue (nullipara or multipara) must be compared in the individual case with the size of the myomatous uterus; but, of course, this is only a factor of minor importance and can easily be overcome by lateral incisions through the vaginal outlet, directed and sometimes almost extending to the tuber ischii.

5. Myomatous tumors which have grown in a transverse direction and have developed into the broad ligament are better excluded from vaginal hysterectomy and morcellation, because it is (as, for instance, in cases in which the tumor has grown round the ureter) sometimes impossible to save the latter and the bladder from injury while operating. In such cases it is useful to make use of ureteral catheterism and to leave the catheter *in situ* while operating, as Kelly has advised in his vaginal hysterectomy for cancer of the cervix.

6. In cases of patients who are exhausted from menorrhagias or continuous metrorrhagias, and who show the waxlike color which is typical in women suffering from submucous myomata, vaginal hysterectomy and morcellation is the best method, for two reasons: First, because these patients are more susceptible to peritoneal septic infections because of degeneration of the heart muscle and lack of vital energy, and, second, yield much more easily to subsequent operative shock.

Naturally these are no absolute laws. Practice, experience, individuality, and oftentimes the temperament of the surgeon decide which route to use in the individual case. I collected at the same place 564 cases operated on by different operators by vaginal *morcellement* and *allongement*, with a mortality of thirteen, that is, 2.3 per cent. Lately Martin (22) cites his results in the last three years: 87 vaginal myoma operations with two deaths, that is, 2.3 per cent., and 31 abdominal myoma operations with six deaths. Of the 87 vaginal myoma operations, 35 were vaginal hysterectomies with morcellation, without a death, and 52 enucleations with conservation of the uterus, with two deaths. Thorn (23) cites his results recently: 122 vaginal myoma operations (52 vaginal enucleations and 70 vaginal total extirpations with two deaths, 1.64 per cent. I

should have to go too far were I to try to enter upon a discussion of the question of when vaginal enucleation and when vaginal hysterectomy had to be taken into consideration. I should only like to point out here that one does not know in many cases in removing four or more fibroids from the uterus, how many nodules scattered throughout the womb, but imperceptible during operation, one may leave as a source for future growth.

While in almost all of the above cited cases of disease of the female genital organs the vaginal route has doubtless a future in carefully selected cases and is gaining friends and ground slowly but surely, because of the brilliant immediate and remote results of its advocates, as shown in the statistics, I have now to mention one disease in which probably in the future the equilibrium will be swinging to the abdominal route, that is, cancer of the uterus. Once entirely a domain for vaginal operations, the somewhat unsatisfactory remote results have led to the conclusion that one might probably by most radical operations with removal of all the glands by the abdominal route assure a larger percentage of radical cures (Wertheim [24]).

But this field is still in its infancy of evolution, and the number of cases stated and the years of postoperative observations are by no means large enough to base definite and convincing conclusions upon. All scientists must acknowledge the great service done for science by the microscopical work of the evolutionists of the radical abdominal route with removal of glands; Cullen, Ries, and Wertheim. But, on the other hand, it cannot be denied that great objections on some points brought forward by the advocates of the vaginal route, with enlargement of the operative field by Schuchardt's incision, will have to be overcome yet, and the immediate and remote results of Schuchardt (25) cannot be ignored. From 1894 to 1901 he operated in 58 cases of cancer of the uterus, among these 27 complicated and 22 very difficult operations because of the extension of the carcinoma, with 7 deaths, that is, 12 per cent. In 30 cases—51.7 per cent., the cancer recurred, and 21 were perfectly cured and without recurrence, that is, 36.3 per cent. When we take five years as sufficient observation in regard to recurrence he operated from 1894 to 1896, on 25 patients, of whom 2 died after operation, in 13 the cancer recurred, and 10, 40 per cent., are perfectly cured, that is, are without recurrence after five years. Unfortunately, an infection acquired in the fulfillment of his duties lately ended, too early for science, the life of this brilliant surgeon. Wertheim had in his first series of 30 cases operated upon after his abdominal method 12 deaths, in his second series of 27 cases 5 deaths (26), that is, in 57 cases 17 deaths. He himself admits (27) that adipositas in a woman is a contraindication for the abdominal

route because of the impossibility of removing entirely the lymph glands and the interjacent lymphatics, and in one case of this kind he closed the abdomen and performed vaginal hysterectomy. I will not here go into details of further objections brought forward, such, for instance, as that in the early cases the glands are usually not infected and when they are infected there is no possibility of removing all the glands and the interjacent lymphatic tissue infected by the parasite of cancer. Glands may be enlarged and show no carcinomatous degeneration, and they may not be enlarged and therefore hardly perceivable, and still show carcinomatous cell nests, as Ries has pointed out (28). The keynote of the cancer question lies in its early diagnosis by the practitioner. As long as cancer of the cervix is treated for three months by the practitioner under the diagnosis of an erosion, with tinkering with acids (I observed not long ago a case of this class) and comes three months later to the surgeon, when the smell in the room enables us to make a diagnosis, so long there is no wonder that our statistics show a great number of recurrences, no matter by which method or by which route we operate; and the anti-operative physician, who finds more pleasure in curing his patients by petting and by methods which please the patients, not by scientific medicine, thereby covering his ignorance of up-to-date literature, will pleasantly be enabled to point out to his patients and to the public that cancer is an incurable disease. The case which I mentioned above, that of Mrs. Z., was kindly transferred to me by Dr. S., who saw the case two days beforehand. Another physician had examined her four weeks before, and informed her that the case was too far gone for operative procedure. The woman was in such a state that abdominal laparotomy would have meant certain death; still, I extirpated the uterus by the vaginal route, not with the view of curing the patient permanently, but to relieve her from the odor and the hemorrhages. A bladder fistula developed after the operation, which closed in three weeks by itself. For ten months she felt well and gained in strength and flesh; then the cancer recurred and will soon put an end to her life. It must not be forgotten that surgery is not always there to cure, but to relieve suffering, when cure is impossible.

Whether or not Mackenrodt's (29) or Amann's so-called transperitoneal abdominal methods will do away with the high immediate mortality of Wertheim, without difference in the remote results, or enable us to remove more radically the broad ligaments than by Schuchardt's method, the future will show.

That cancer of the cervix complicated by pregnancy is a most severe complication and gives in regard to future recurrence after operative procedures

an extremely bad prognosis, is generally accepted. It is therefore necessary to resort to most radical operative measures in combating this complication. Following Acconci's (30) and Dührssen's (31) advocacy, some operators have performed vaginal Cæsarean section followed by vaginal total extirpation of the uterus in these cases, and already in 1899 A d'Alessandro (32) could collect 16 cases of vaginal Cæsarean section, of which 12 were cases of pregnancy with cancer of the cervix, with a death rate for the mother of 18.75 per cent. and for the children of 62.25 per cent. It is beyond the limits of this paper to go into details of the different indications for operative procedures and for the methods of operations resulting therefrom; they depend, first, on the month of pregnancy, second, on the "operability" or "inoperability" of the malignant growth, third, on the question, whether in case of almost unquestionable early recurrence of the growth after operation (provided the pregnancy has advanced to the second half) the life of the fœtus is of more value to the family (heir) than an attempt to save the life of the mother with destruction of the life of the child. The grave danger of infection in such cases during abdominal laparotomy has induced surgeons to perform the more difficult but safer operation of vaginal Cæsarean section, followed by vaginal extirpation of the puerperal uterus.

For the same reasons vaginal hysterectomy has a well defined field in cases of perforation of the uterus during an abortion, when infection has taken place, and in cases of rupture of the uterus during childbirth, when the child can be extracted *per vias naturales* and the puerperal uterus is infected. When the child or parts of the placenta have invaded the abdominal cavity or the extent of the rupture is so great that the hæmorrhage cannot be stopped by the vaginal route, naturally abdominal section is preferable. When the rupture is incomplete, or complete and no infection has taken place, in some cases simple tamponing or tamponing with conservative abdominal operations may be advisable, and has saved many a life. Naturally no absolute law can be given in such situations.

In cases of stricture of the rectum and a certain class of cancer of the rectum in women the vaginal route is preferable and superior to the perineal and sacral methods, as lately shown by J. B. Murphy, Schuchardt, Caperton, and Rehn.

At the close of my paper I may be allowed to ask your indulgence for a few general considerations. Two requirements are necessary for surgery by the vaginal route:

1. Greatest care in diagnosis and judgment in the selection of cases.
2. Absolute familiarity, as well theoretically as practically, with all *abdominal* operative procedures

on the female sexual and adjacent organs, because the necessity may arise (though very seldom in the hands of experts) of resorting to the combined vaginal and abdominal methods of operation.

It must not be forgotten that almost all surgeons who now ardently advocate the vaginal route have performed in former years almost all of their work by abdominal section, and when the results gained by the vaginal operations taught them the unquestionable great advantages of this route concerning the immediate and remote results of their operative procedures and concerning the safety of their patients, they came gradatim to the conclusions of Fritsch and Thorn (33), that it must be our principle what we *can* operate on by the vaginal route *must* be operated on by this route.

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THE SILENT FORMS OF EPILEPSY.

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"When we see a convulsion of the grand mal type, hear the agonizing epileptic cry; see the victim fall prostrate to the earth; witness the powerful agitation of the muscular system of the entire body; see the bloody froth about the mouth; the lacerated tongue; the deeply congested face; the upturned eyes, and later the labored breathing and prolonged coma that nearly always follows, we have seen but one half the picture, and seeing only that, we are apt to regard epilepsy as a disease that affects the physical to the exclusion of the psychical side, and as a thing of the mind entirely apart. * * * * The greatest medicolegal problem connected with epilepsy is encountered in its purely psychical forms—those unaccompanied by any motor disturbance; that make no rude sign of their approach; that sometimes last for hours or days, or even weeks, and finally pass away as silently as they came."*

It has long, and with perfect soundness, been held that the lighter forms of epilepsy, including petit mal and those more purely psychical, were more difficult of cure than those in which muscular commotion was the most prominent feature.

No other disease of the nervous system calls for so accurate a knowledge of cerebral localization as epilepsy. The character of the fit indicates pretty nearly the part of the brain in which the attack begins and to which it may subsequently spread.

I am speaking now of genuine epilepsy, in which the essential condition or lesion is primarily in the brain, and not of convulsions of a reflex type, in which the cause is in almost any other part of the body, and which only affects the brain secondarily.

The silent forms of epilepsy come from some disturbance in the parts of the brain known as the "organs of the mind" and which physiologists seem to agree in locating in the frontal lobes. Two kinds of epilepsy may come as the result of a disturbance in

* From the author's article on Epilepsy in Its Relation to Crime, printed in the *Journal of Nervous and Mental Disease*, August, 1902.

these parts—the psychical epileptic equivalent, so-called, but what it would seem best to us to designate as the psychomotor epileptic equivalent, because it always embraces a motor element, and the psychical attack pure and simple. So far as the location of the lesion is concerned, they are probably at first identical, differing only in degree, the former being more violent, more commotional in character, and having a general motor disturbance but no regular convulsion; the latter always quiet and unobtrusive and free from motor disturbance of any kind, but just as destructive of the faculties of the mind in the end.

There is never any difficulty in recognizing the psychical epileptic equivalent, for its one characteristic is psychomotor violence; but psychical attacks may go unrecognized for years, even though they repeatedly occur in the presence of unskilled observers.

These mental seizures are most apt to occur in persons of a neurasthenic type and it is because of their disease they manifest neurotic tendencies. They have a feeling that something is wrong; they are apprehensive, restless, nervous, given to sudden impulses, solicitous, unable to act or think logically in a well balanced and connected way, and above all, they have a bad memory, because new impressions are so often destroyed by swiftly changing conditions in the brain that lead to disorganization of the brain cells that hold the function of memory. It is difficult for them to grasp things pointedly and clearly, and at times, when the seizure is present, although they may seem to be in a normal state, their perceptive senses are like camera plates that have been exposed—the recording surface is clouded over, dead to new impressions.

The woman spoken of in the article mentioned above was subject to typical attacks of this kind, until they changed in type, passing into the severer form of the psychical epileptic equivalent, when she became permanently insane in a violent way and had to be sent to a hospital for that class.

People who forget in a striking and unusual way; who disappear for long periods of time, and who find themselves, with returning consciousness, in a distant place, undoubtedly suffer from epilepsy of this type. They have done nothing violent; there has simply been a lapse in the conscious operations of the mind without any violence on the part of the body, the latter continuing to act in a normal though purely automatic manner.

"P. DeM." and "R. F. H.," patients at the colony, manifest typical cases of this kind. The former may be sitting playing cards when a seizure will come on so insidiously in character as to be wholly unobserved by the companions about him, and while in this state he may go and do some of the things he is accustomed to do while in his normal condition, like

sweeping the floor, dusting, arranging the furniture, etc., a knowledge of the execution of which he carries into the subconscious state perfectly, *but its expression in that state is purely automatic*, for it makes no impression on his mind, so he remembers absolutely nothing about it afterward.

We have also seen cases in which attacks of grand mal alternated with those purely of the mind, so that if a person known to have a grosser form of epilepsy should commit a crime and there should be a witness to the act; if the witness should testify that there was no evidence of a fit at the time, there is still no reason why an attack of psychical epilepsy in complete form should not have been present at the moment.

Cases of silent epilepsy are by no means infrequent and are of great importance, both from a medical and a medicolegal standpoint. Medically they constitute the truest cases of sudden, complete insanity; and legally the existence of such a state of mind at the time of the commission of the crime is, of course, proof positive of the lack of responsibility.

My objects in calling attention anew to this form of epilepsy are twofold: First, to help stimulate the spirit of investigation in medical jurisprudence that has for its object the placing of responsibility for crime where it rightly belongs; second, the proper medical care of persons who have this very obscure and often unrecognized affection, while the malady is yet in its most benign stage.

THE CONSTITUTIONAL STATE VERSUS CATARRHAL DEAFNESS.*

By SARGENT F. SNOW, M. D.,

SYRACUSE, N. Y.

In addressing a body of busy practitioners and surgeons on chronic deafness, I clearly appreciate the difficulty I shall have in holding attention. The disease itself is naturally of little interest to you as compared with the many acute thoracic and abdominal cases that you meet with, but these deaf patients, too, need help and it is for us jointly to grapple the subject.

In this disease it can be truly said that the full fruition of our hopes can best come from a combined effort of the specialist and family physician.

It seems to be generally understood that chronic ear cases are unsatisfactory and beyond improvement. To be sure we are told to try inflation of the ear, and that if that does not relieve them further attempts are useless, not even the specialist can help them; and I must confess that has been and is true in a few instances, but medical and surgical progress has decreed that a poor prognosis should much less frequently be given.

* Read before the Medical Society of the State of New York, January, 1902.

During the past fifteen years, cocaine as a local anæsthetic has made it possible to straighten nasal septums, remove exostoses, reduce enlarged turbinates, and so generally improve the catarrhal states dependent thereon that a bettered condition of the ears and improved hearing are frequently noticed, and to-day we can class these intranasal states as among the most prominent causes of middle ear catarrh.

These local intranasal factors must be taken care of before embarking upon a treatment of the deafness itself, but the mistake is often made of supposing that they are the whole cause, and too much benefit is expected from their removal. It is many times thought that the hearing will improve by treatment, or at least be capable of improvement, as soon as the morbid nasal states are out of the way, but in eighty per cent. of the cases, this improvement does not come, and why? Simply because there is some unrecognized constitutional factor keeping the Eustachian tube occluded, and thereby preventing good returns from the best and most thorough operative work within the nose. A course of treatment attempted before this constitutional factor is removed will prove both unwise and unprofitable.

At present our most effective way of handling chronic cases of catarrhal deafness is by jets of stimulative vapor under air pressure through to the middle ear, and no good can come from such treatment if the tube is stopped up by congested membranes.

The skin, liver, stomach, and other organs exert a great influence on head membranes, and any marked disturbance in their functions is sure to be followed by an increase of inflammation. No treatment for the relief of chronic catarrhal conditions will be effective if given while the body is covered by an inactive, sensitive skin. The common habit of warm bathing, coddling, and living in superheated rooms is most pernicious and sure to be followed by membranes that are thick and loaded; with our modern environment it seems absolutely necessary to do something to counteract these tendencies, hence the observance of personal hygiene becomes one of paramount importance. As a rule, cold baths should be taken, but when impracticable, which is seldom, a brisk dry rubbing with a harsh towel not only starts a good reaction, but exercises the skin, an important step in promoting elimination, tone, and vigor. Either or both of these measures can be depended upon so to toughen the surface that it ceases to act as a constant menace to the deeper membranes and organs; head colds are not so common, and Nature has a chance to produce absorption of inflammatory products.

Protection of the body should become less and less a problem of importance as the patient acquires

a prompt skin reaction, but protection for a time has to be considered, and at all times, so far as relates to foot wear, the feet needing to be kept always warm and dry. Silk or wool is the best material for undergarments, while the outer clothing should be selected to insure comfort.

That pathological states of the liver produce an increase in the thickness of membrane lining the Eustachian tube is too often noticed to be gainsaid. In fact, with some, a torpid liver is the most prominent constitutional factor, and may block all our efforts to get local treatments through to the middle ear.

The stomach and bowels come in for their share of attention. Dyspeptic or intestinal disturbances, as well as uric acid and uterine troubles, produce an irritability of the mucous lining of the head quite sufficient to necessitate their correction before the tubes will remain normally patent. These phenomena of congestion and re-congestion of weakened membranes from functional disturbances account in a large measure for the intractibility of chronic catarrhal states.

Deafness in the subacute form, or in recent cases, may respond to rather crude methods of treatment, but when we meet with the more aggravated forms, some of which have been slowly progressive for ten or twenty years, we have a different proposition before us, and but few specialists without any experience in general practice are equipped for the work, and not even then, unless they are painstaking and persistent. Every little side issue must be studied to see what influence it may have on the ear condition.

Habits and environment in the chronically deaf need scrutiny, for they are often pernicious and must be corrected or it is better to advise the patient against further treatment. Professional reputations are too precious to be jeopardized by an attempt to handle such cases without the intelligent and willing cooperation of all intimately concerned.

Vigorous exercise can be made a great aid in relieving distended blood vessels of their load. It has been the author's frequent experience to find the keeping of the Eustachian tubes clear impossible until the patients were persuaded to do vigorous active arm exercise every morning as a routine; local treatments do little more and are not always within reach.

Fleshy people are prone to avoid exertion, but they are not the only ones who need urging to physical exercise. We find them in all lines of clerical or professional work. These people practically use nothing but their brains; all their head membranes are in a state of passive congestion with dilated blood vessels, which condition may be effectively relieved by vigorous arm movements. Surgical and therapeutic problems are small as compared with our difficulty in regulating the diet and habits.

Cold bathing, as a requirement, is not such a hardship after a little practice, neither must one have modern bath conveniences; a wash basin will contain enough water to start a good reaction, and if used immediately after the exercise above mentioned will materially assist in starting the mucus and contracting the arterioles. The dry rub down at night acts in a similar manner and prevents taking cold after perspiring.

It goes without saying that necessary operative work within the nose must be done, and done thoroughly, for no one with a projecting nasal spur or pressing middle or prolapsed lower turbinate has proved to me that the reason why many attempts to relieve chronic catarrhal deafness result in failure is principally because constitutional factors have not been appreciated. Treatments have been forced through a Eustachian tube still too sensitive, only to be followed by an unpleasant reaction and an increase in the bad symptoms.

To sum it all up, it is virtually impossible to successfully handle a case of chronic catarrhal deafness where there is low vitality, a sensitive skin, or frequent functional derangements, whereas without these obstacles a correction of morbid nasal conditions make the disease, as a rule, non-aggressive and capable of much improvement.

707-713 UNIVERSITY BUILDING.

SEPTICÆMIA AND THE CURETTE.

By H. PLYMPTON, M. D.,
BROOKLYN, N. Y.

To attempt to break up an old established custom in any line of life is at best a thankless job and one likely to call down harsh criticism upon the head of the daring iconoclast. To attempt to uproot old prejudices existing in favor of a certain line of practice in surgery, and diametrically oppose such practice, is to invite from some adverse criticism of the harshest kind. The only recompense for this is a logical refutation of or concurrence in the argument advanced, on the part of other members of the profession. This latter is what I hope for, and if I provoke a discussion or start a line of thought in the minds of half of the readers of this article, I shall have achieved all I started to do.

Curetting the uterus to remove fragments of after-birth or other débris has been taught in our medical schools from time immemorial, and it is firmly fixed in the receptive and retentive mind of every medical student that the first move following any such abnormal uterine condition is to cleanse the uterus by means of the curette. That the organ should be thoroughly and aseptically cleansed admits of no argument, but that the work should be done with the curette, I deny most emphatically. The majority

of cases of death following the decomposition of fœtus or placenta *in utero* are caused by the use of the curette, and I hold that septicæmia may be avoided if a more rational procedure is resorted to.

The condition of the uterus containing septic matter is one of great congestion, the thickened walls being coated internally and over the os with a thick, brown, tenacious mucus. The congestion is active, and therefore the more dangerous in the event of the admission of septic matter into the circulation. If the curette is used, denuding the walls of their protective covering, an immediate inoculation takes place with a septic virus, septicæmia following in an incredibly short space of time (chemical metamorphosis is marvelously rapid in the circulatory system), and death quickly ensues. If, without using the curette, we can remove the septic matter from the uterus without disturbing the mucous covering, and enable the uterus of itself to expel the coating, we shall have taken a long step forward in the treatment of this class of uterine cases.

The uterus, by reason of its congestion, may be made to perform a self-cleansing act by exciting the exudation of the serum of the blood into its cavity, thereby washing itself out and expelling all septic matter instead of absorbing it. This process of exosmosis is induced by a properly combined alkaline solution at a temperature above 100° and a strict avoidance of bichloride, carbolic acid, formaldehyde, or any antiseptic of an acid reaction or astringent nature, which would coagulate the fibrin and albumin of the blood.

My method of procedure is as follows:

1. The gentle removal of whatever fragments are lying in the uterine cavity, by means of forceps, care being taken not to tear from the walls any adherent piece.
2. The gentle flushing of the uterine cavity with the alkaline solution (110°), the reservoir containing the fluid being not more than two feet above the level of the hips.

If the flushing could be continuously administered for a few hours (say two or three), the conditions would be more speedily reduced to normal, but the discomfort of the position of the patient (on a douche pan) prevents this, and a flushing once every two hours with one quart of solution is about the limit of treatment.

For flushing the uterus, I use a small dilating uterine douche, and as there is plenty of room for the escape of fluid and fragments, there is no danger of Falloppian colic or salpingitis. The first flushing is frequently followed by contractile pains and expulsion of any previously adherent pieces, together with much of the mucus.

A tablet of extract of *cannabis indica*, $\frac{1}{4}$ grain, and ergotine, $\frac{1}{2}$ grain, every hour till the desired effect is

produced will contract the uterus and alleviate pain. The bowels should be moved freely, both by enema and cathartics.

During the interval between douches, the patient should be kept on her back with the hips sufficiently raised to permit the retention in the vagina of as much of the alkaline solution as it will hold.

The rapidity with which this treatment will reduce temperature, relieve pain, stop vomiting, and remove offensive odor is marvelous to one who has not tried it. Sometimes two flushings are sufficient to cleanse the uterus thoroughly, vaginal douches being all that are needed subsequently to complete the work. Uterine congestion is speedily relieved, and the uterine discharge changes from brown, thick, bad-smelling mucus to a thin, transparent one, accompanied or followed by more or less of a flow of blood.

A reduction in the frequency of the flushings is desirable as soon as a tendency to return to normal conditions begins to be observed, as it frequently will be within twenty-four hours. Then simple vaginal douches every three hours, with an occasional uterine flushing if symptoms indicate it, will suffice.

The action of exosmosis (and endosmosis, for there is every reason to believe in the absorption of some of the fluid) is what is desired to relieve the existing congestion, as in a bronchitis, pneumonia, congestion of the kidney, congestion of any mucous membrane, etc., and is the most rational means of restoring to a normal condition.

I do not wish to be understood as decrying the use of that most valuable instrument the curette, but only the abuse of it, to wit, its employment under such conditions as make it practically a sharp weapon loaded with septic matter, dangerous beyond the poisoned arrow of the Malay or the fang of the Cobra, and utterly opposed to our modern ideas of antiseptics.

2 MACON STREET.

Sporadic Thrush.—Dr. Frederic Griffith sends us the following: "The genial French Canadian physician who looks after the health of the inmates of the prison situated not far off from the Wolfe Monument, upon the Heights of Abraham, above Quebec, recited to me the symptoms and cure of the illness most often assumed by his charges when attempting to feign indisposition. The patient, finding himself unfitted for his task at hand, takes on a look of sadness and asks for the doctor; before the physician's arrival, however, he at a fit opportunity will deftly lick the whitewashed wall. As the physician studying the case of a new patient early seeks to learn the state of the sufferer's tongue, so here a death white member is soon protruded. The doctor, being a man of few words, says nothing, but has the cure ready at hand, for, streaking his finger down the wall, he will protrude his own tongue and, walking away, is soon followed by the convalescent patient returning meditatively to his work."

A CONTRIBUTION TO THE TREATMENT OF SPASMODIC WRY-NECK.*

By GEORGE R. ELLIOTT, M. D.,

The form of wry-neck referred to in this paper is purely a nervous disease, and not the type usually seen by the orthopaedic surgeon.

In some cases the patients are cured by the neurologist. In a larger number they seek one neurologist after another without any permanent relief. They consume large quantities of atropine, gelsemium, conium—the latter being pushed almost to the Socratic limit. The patient is then stretched, galvanized, faradaized, massaged, hypnotized. She is advised to take a course of hydrotherapy. Finding little or no relief from the regular physicians she becomes willing to consult the philistine rank. Hearing that Mark Twain or Thomas Platt has been successfully treated by the osteopath for some age—end nervous affection which had baffled the regulars, she is pummeled by the bone manipulators daily for three months, and at the end is rather worse. She does not even escape the Faith Curist and the Christian Scientist. As said above, this form of wry-neck is purely of a nervous type. It is characterized by spasm of the muscles supplied by the spinal accessory and sometimes by the upper cervical nerves. The patient



FIG. 1.

is usually of a neuropathic constitution, and heredity often plays its part. A clonic and intermittent spasm with pain in the neck characterizes the disease. The sternomastoid and trapezius muscles are the ones usually involved. The head is inclined to the affected side by the trapezius, the chin is raised and the head rotated to the opposite side by the sternomastoid and trapezius. The neuromechanism is irregular and the spasm intermittent. These patients have not done well, as a rule, in the hands of the general

* Read before the American Orthopaedic Association, Philadelphia, June, 1902.

surgeon. Many failures follow nerve resection and muscle cutting, and the second state is often worse than the first. If we cannot always cure, how can we add to our patient's comfort? Apparatus devised for these patients is of the fixed type, and the patient finds it so burdensome that it is usually cast aside.

Rigid appliances are discarded, because the patient finds it absolutely impossible to have the head held in any one position; their nervous make-up demands freedom. To be held as in a vise increases the discomfort.

The apparatus which I have devised is based upon the principle of allowing necessary support, without absolutely restricting any normal movement of the head. The first case in which it was employed with success was that of a patient—a woman aged forty-two years, referred to me by Dr. C. L. Dana, in June, 1898. She had been afflicted with the disease for one year and a half and had been under the treatment of several nervous specialists before she consulted Dr. Dana. Careful and skilful medical treatment had failed to cure her. The muscles affected were the right sternomastoid and trapezius, and the head rotated to the left side. This was accompanied with considerable pain. By supporting her chin with her hand and using a slight amount of force, she could readily bring her chin back to its regular position and, as long as she supported it gently, she felt com-

with the hand in one position soon became very irksome and gradually painful.

The apparatus was made for me by Tiemann & Co., and is shown in the cut. The chin piece is the usual one of Dr. Taylor, with a hard rubber chin cup and two uprights holding the back of the head. The chin piece is readily removable. It is secured to an upright over which is coiled (at c) the spiral rotating spring of Doyle.

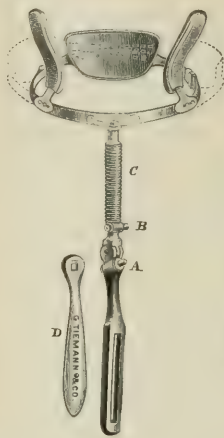


FIG. 3.

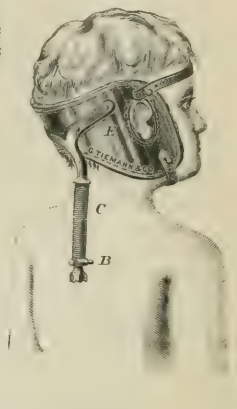


FIG. 4.

Below the spring rod is an Archimedean transverse screw which it worked by a key. By means of this any degree of rotation is produced. A little distance below is another Archimedean screw, also worked by a key, giving flexion and extension.

The lower section of the rod is slotted, and can be attached to any brace or corset by two screws, the long slot permitting raising or lowering of the head-gear. The apparatus is then in every way adjustable. What is especially claimed as original for this appliance is the ability to get rotation as well as the other normal movements of the head under absolute control, and especially rotation without fixation.

In case the spasm to be overcome is so great that dislocation of the maxilla is feared or pressure is disagreeable, the so-called Minerva head piece, as shown in Fig. 4, can be substituted. This has been successfully employed in just such a case.



FIG. 2.

fortable. As soon as she removed her hand the spasm returned after a few moments, and the head gradually rotated to the left side. The force of the spasm had gradually increased. She said more force was required to hold her chin than six months previously. In devising an appliance for her, the object sought was to get exactly the amount of force necessary to do just what she could do with her hand, and to allow her all the natural movements of the neck, for rest to her meant freedom to move her head to any position she desired. Holding it fixedly even

The Squeezing of a Sponge.—The late Dr. Alfred C. Post often took with him to private operations his pupil, the late Dr. George A. Peters, and invariably he enjoined upon young Peters the paramount importance of squeezing the sponges dry. The constant repetition of this somewhat elementary precept finally overtaxed Peters's patience, so that he exclaimed: "Dr. Post, if there's one thing in the world that I believe I can do thoroughly, it is to squeeze a sponge."

Correspondence.

LETTER FROM BRUSSELS.

Concluding Report of the Second International Conference for the Prophylaxis of Syphilis and Venereal Diseases, held in Brussels, Sept. 1, 2, 3, 4, 5, and 6, 1902.

BRUSSELS, September 16, 1902.

Dr. Schrank on the second day (Police Surgeon, Vienna) proposed an international law against the propagation of venereal diseases.

Dr. Stürner (Counsellor of State, St. Petersburg) explained the system followed in Russia.

Mme. Pappritz (Berlin) connected the dissolute life which young men often led with a false point of honor.

M. de Watrazewski (Varsovie) recognized the necessity of a general plan of measures directed against disease (venereal).

Miss Lippington (England) favored free dispensaries where young girls could easily obtain treatment, if the system of regulation was abandoned.

M. le Jeune (Minister of State, Belgium) explained the present state of legislation upon the subject in Belgium. The bully was locked up for seven years as a vagabond. According to the speaker, it was not necessary to bring into play the gradation of law with this class, but to apply the brutality of the Belgian régime.

Mme. Scheven demanded that all houses of debauchery should be closed.

Dr. Valéry Havard (Delegate from the United States War Department) explained the legislation which had taken place in the United States and the measures taken in Havana since the American occupation. As to principles, he was without prejudice. He considered it best to encourage and develop moral prophylaxis, and allow it to suffice, and then if this should not succeed, to try regulation.

The conference then took up the question of (preventative) protection of minors, as also legally organized aid.

Dr. Berthod suggested the idea of a "life insurance," subordinate to complete immunity, that fathers should be informed (without violation of any professional secrecy) and young married people hence be protected from a catastrophe.

Dr. Petrini (Graz) insisted upon free hospitals rendered accessible to all those infected, without distinction of caste or nationality.

Dr. Havard thought that the danger of contamination by vaccination from arm to arm had been much exaggerated (as also did Dr. Cicerone, of Mexico), and declared that animal vaccination was the method of choice.

Dr. Landouzy spoke upon contagion in factories and shops, and maintained that as was well known, many cases of infection arose from contamination of instruments or tools, either from professionals or from the innocent, Professor Landouzy offered the following:

"a. Inasmuch as the régime of regulation, as it has been applied, having proved inefficacious, it ought to be abandoned."

"b. It should be necessary, as regards prophylaxis, to return to the common law, equally as to both men and women."

This modification of his previous views was in accord with the ideas of Dr. Gaucher and Dr. Queyrat, the former having just been appointed chief of clinic at the Hôpital Saint-Louis (Paris) in place of Fournier, who retired by age limit, and the adhesion of Gautier by these views was regarded as a reaction of the French profession toward the "anti-regulationists," especially since the conference of 1899, when Fournier was very strongly opposed to the "abolitionists."

This motion was opposed by Dr. Pileur, citing his thirty years' experience. He admitted that the present régime should be modified, but not suppressed.

He offered the following motion:

1. "The regulation of prostitution should be preserved, but greatly modified, especially as concerns minors.

2. The public authorities are invited to promulgate a sanitary law having in view at the same time, both prostitution and all questions of the responsibility, and of the transmission of venereal disease."

This motion was signed by his colleagues of the Saint-Lazare, Dr. Barthelemy and Dr. Verchère, also by Dr. Chauvel, delegate of the Minister of War, Dr. Polin, the chief medical man of the French Army, and many others.

Dr. Gaucher invoked justice and human dignity in favor of Dr. Landouzy's motion.

Dr. Neisser offered the following:

"It having been shown by the reports submitted to the conference, and by the unanimous declarations of those having taken part, that the systems of regulation actually in vogue are defective from various points of view, and especially as regards the intervention of the police being prejudicial to the action of the sanitary authorities, since they should have but the one object in view; it is the voice of the conference that sanitary and police action should be separate, and that the former should be made independent of the latter, so that prophylaxis of venereal, as of all other transmissible diseases, should be of an exclusively medical and hygienic character." After some objections, Dr. Neisser again proposed: "That the State has the right, and

it is its duty, to combat by legal measures, from a hygienic point of view, the dangers of prostitution. The system in vogue, especially as regards the police, should be transformed into a sanitary system, which should be obligatory, only in so far as would be necessary from a hygienic standpoint."

Dr. Blaschko supported the resolution suggested by Neisser in case of non-unanimity, and his motion was overwhelmingly carried.

The motions proposed could be signed up to the last day of the conference. (Each motion was left upon the secretary's desk, to be signed *pro* or *con*).

At the session of Thursday, September 4th, the question of legal (civil and penal) responsibility was considered. Several of the speakers were well known jurists both of Paris and Brussels, and their remarks received close attention.

Dr. Fiaux (Paris) regarded penal action as a necessity, whereas civil action had frequently proved itself incompetent.

M. Bonnevie (Brussels) approved of both, and said that the statutes as they now stood permitted both. He held that, since prophylaxis as regards professionals was very difficult, civil and penal action would act effectively for the protection of honest persons, and those most deserving of protection. Syphilis insontium, acquired by an innocent party through the fault of another, is legally recognized as quite different from syphilis, the result of voluntary exposure.

Prostitution was not recognized by law; it was a condition.

Dr. Santoliquido (Rome) rejected penal responsibility. The law as proposed would have the result of augmenting prostitution among minors, by removing or diminishing the danger of disease, and it was the danger which acted as a restraint, always to a greater or less extent. The time of infection would simply be changed from twenty to twenty-one years of age, but the number of infections would be just the same. Why stop half way?

To limit penal responsibility to the case of a minor only would, according to his idea, be equivalent to denying all penal responsibility, and to make the existence of a crime dependent upon the circumstance of age would be equivalent to excluding either a personal misdemeanor or a misdemeanor against the public health.

We had the crime of "corruption of minors," which was comprehensible; the law defended whoever by reason of age was supposed not to have sufficient experience or knowledge.

It was the "moral integrity" which the law protected, but in the law proposed what was protected?

Suppose it was a question of minors—not yet corrupted—and the misdemeanor had just taken place,

or suppose a question of carnal violence or of seduction, aggravated by contagion, then the common law would step in, as it provides for all such cases.

But if the minor had already been corrupted, why any privilege in his favor? Had not health the same value at twenty-one as at twenty years of age?

The proposed law had nothing whatever to do with the protection of minors or with carnal violence or seduction; all these conditions, aggravated or not by contagion, had been provided for by the penal code. If the penal codes of the different countries were not always sufficiently explicit, to be able to surely punish the guilty, this conference should suggest the modifications and alterations necessary, in order that criminals could be apprehended. It was, however, quite a different matter to establish a new form of misdemeanor, i. e., an attack upon the health of individuals, in which case it was either necessary or not necessary to regard contamination as a misdemeanor without distinction of age.

On Thursday afternoon definite statutes were adopted by the Association.

The question of individual prophylaxis was formulated as follows:

A. "Presuming that, should the public authorities take prophylactic measures against venereal diseases, then the duty of self-preservation is incumbent above all upon the individuals themselves; upon the healthy to avoid all contact with a contaminated person or object, and upon the diseased to avoid any action upon their part, which might contaminate others."

B. "What are the means of disseminating knowledge, to which we could have recourse, for the instruction of youth as well as the public in general upon the individual and social dangers of syphilis and blennorrhœa, as also upon the direct and indirect methods of contagion of these diseases?"

Dr. Good (France) explained the different methods of individual prophylaxis.

Mrs. Sheldon Amos (England) opposed the teaching of youth that prophylaxis was inevitable.

Dr. Queyrat (Paris) objected to the expression or character of "shameful" applied to certain organs and certain functions.

M. de Morsier (Geneva) insisted upon the necessity of moral prophylaxis.

The conference then took up the second question relative to individual prophylaxis as follows:

"In what manner can individual prophylaxis be facilitated by the aid of hospitals, dispensaries, or medical services, for people of both sexes infected with syphilis or blennorrhœa?"

Dr. Santoliquido (Italy) explained the admirable work accomplished in Italy; private treatment assured to each patient, either in residence or at the hospital; free distribution of medicines; reimbursement of expenses to and from the hospital or dis-

pensary, etc., all of which was arranged by the state.

Professor Iandassohn (Berne) insisted upon the necessity of instructing all diseased persons (venereal) as to the dangers of which they were the source, i. e., to give them printed instructions.

Dr. Valentine (New York) would like to see medical societies publish brochures explaining the prophylactic precautions to be taken by each person.

The discussion upon individual prophylaxis was closed on Friday morning, and the conference took up various personal communications.

Upon motion of Dr. Gaucher, the assembly charged the bureau of correspondence to express to Dr. Fournier (who took such an important part in the conference of 1899) its great regret at his absence, and to convey its best wishes for his speedy restoration to health.

The conference then voted unanimously upon the motion of *Trois-Fontaines*, relative to the instruction of raw army recruits, and upon that of Dr. Neisser, Dr. Gaucher, and Dr. Iandassohn as follows:

"A. It is desirable that the law should guarantee to all 'avaries' the largest measure of gratuitous treatment possible."

"B. It is necessary to look after, or keep track of those unfortunates who wander from hospital, dispensary, or private practice."

"C. It is desirable to respect the modesty of patients in public institutions, and medical secrets should be strictly held to."

The motion of Dr. Minod, adopted, was as follows: "The most important and the most efficacious means of combating the diffusion of venereal diseases consists in the diffusion, as much as possible, of ideas relative to the grave dangers and importance of such diseases. It is especially necessary to teach the male youth, not only that chastity and continence are not harmful, but also that virtue is most to be recommended from a medical point of view."

On Friday afternoon the last session was held. Professor Wolff (Director of the Dermatological Clinic at Strassburg) stated that, at Mühlhausen, where the morbidity had been very low, "houses" had been suppressed three years ago, that since that time the morbidity had increased, and that it was now probable that they would be reopened. The speaker quoted in the same sense the situation at Metz, and regarded these examples as significant.

Dr. Fiaux recalled the fact that, according to Dr. Santoliquido the experience of Italy proved the contrary, and quoted the opinion of the eminent French magistrate, M. Feuilleloy, against the régime of "tolerance," which regarded woman as an article of commerce. As to Metz and Strassburg he showed that these figures only related to males; opposed to this, he said, was the experience of Dresden, where, un-

der the system of "tolerance," morality among women had increased.

Dr. Galavsky (Dresden) said that it was necessary to bear in mind the remarkable increase in the population of Dresden when considering that question.

Dr. Pileur recalled that the statistical methods of Professor Wolff, when applied to Nancy and Paris, had given the same results, the more professional women "employed" the fewer the number of soldiers infected.

M. Louis Frank presented a motion of conciliation, as regarded the nomination of a commission specially instructed to draw up the principles of a rational and progressive education for youths as to sexual intercourse.

He said that ignorance was not innocence; also that there was room for the education of young girls, to protect them against the allurements and seductions of vice. Upon these points the "abolitionists" and "regulators" could easily come together.

This was adopted unanimously.

The question of international statistics was then taken up. The principle of a uniform bureau of statistics for all countries, to be situated at Brussels, was formulated by Dr. Santoliquido.

M. Honorat attached but little importance to such a bureau.

M. Fiaux insisted, on the contrary, that it was necessary, and thought that statistics from such a bureau, in touch with the governments and public administrations, would be very important.

M. Beco called attention to the fact that, since the opening of the conference, statistics had been considered an indispensable base of operations.

Dr. Santoliquido's motion was unanimously adopted.

The conference having concluded its work as laid out, the committee was charged to fix the date and place of the next session. The international committee was to be chosen by the "local bureau of management."

After the usual exchange of felicitations and compliments the conference was declared closed.

JOHN VAN DER POEL, M. D.,

36 West Thirty-ninth Street, New York.

The Woman's Medical College of Baltimore.—The following appointments have recently been made in the faculty: Dr. James Bordley, Jr., professor of diseases of the eye and ear; Dr. L. Gibbons Smart, professor of therapeutics and clinical medicine; Dr. S. Griffith Davis, professor of anatomy and operative and clinical surgery; Dr. Mary A. Waters, professor of hygiene.

Dr. Pearce Kintzing has been transferred from the chair of anatomy and clinical surgery to that of surgery.

Therapeutical Notes.

The Treatment of Pneumonia.—Dr. R. W. Wilcox (*American Journal of the Medical Sciences*, September) in a paper on this subject says that the present status of the treatment of pneumonia is especially satisfactory when results are considered. To summarize: 1. Continuous, persistent, and generous administration of creosote carbonate. 2. Careful adjustment of mechanical conditions. 3. Thorough evacuation of toxines by all possible ways. 4. Temporary supplemental oxygen by inhalation. 5. Liquid diet until physical signs disappear.

To be avoided, are antipyretics, opiates, ill-advised external applications and slowly-acting heart remedies, as digitalis.

An Emulsion of Trional.—*Arte medica* for July 13th gives the following formula for an emulsion of trional to be used as a hypnotic alternately with subphloral:

R Trional..... 1 gramme (15 grains);
Oil of sweet almonds..... 20 grammes (5 drachms);
Sugar..... 9 grammes (135 grains);
Orange-flower water..... 10 grammes (150 minims);
Cherry-laurel water..... 2 grammes (30 minims);
Gum tragacanth..... } of each 0.20 grammes (3 grains).
Gum arabic..... }
M. Shake before using. To be taken in one dose.

For Scabies.—The *Clinical Review* for September says that one of the best preparations is the following:

R Sublimated sulphur..... } of each 3 drachms;
Balsam of Peru..... }
Benzoated lard..... } of each enough to make
Petrolatum ointment..... } 4 ounces.
M. ft ungt.

In those of tough skin the quantities of the first two ingredients should be doubled.

The Treatment of Cirrhosis of the Liver.—The *Revista medica Cubana* for August 1st quotes the following from the *Journal des praticiens* for June 28th:

Hepatic cirrhosis, especially in its hypertrophic forms, is a curable malady. The physician should not lose hope, even on the appearance of ascites.

From the beginning an exclusively milk regimen should be instituted. The quantity of milk taken should be three quarts daily. Between 7 a. m. and 10 p. m., every three hours the patient should take a pint of milk mixed with Vichy water, or with a tablespoonful of lime water. It should be drunk by sipping.

The medicinal treatment must consist of mild aperients and drugs that will unload the liver. For eight days consecutively he should take fasting one powder as follows:

R Calomel..... 0.2 to 0.3 grammes ($\frac{1}{2}$ to $\frac{1}{2}$ grain);
Lactose..... 0.50 gramme ($7\frac{1}{2}$ grains).
M. For one powder. ft. xv.

At the same time, to obviate salivation, gargles of potassium chlorate (a teaspoonful in a cup of water three times daily) should be used. After fifteen (*sic*) days of this treatment a teaspoonful of Carlsbad salt in a cup of hot water, fasting, should

be substituted for the calomel. Or in place of the Carlsbad, a teaspoonful of Seignette salt, with or without half that amount of sodium bicarbonate, may be taken in a cupful of water.

After fifteen days' use of this laxative, of which the dose must be reduced if a very aperient effect is produced, the use of calomel should be returned to, and this alternation of treatment should be carried out for several months.

Abdominal massage should be practised. Huchard and his disciple, Piotot, have demonstrated the diuretic effect of this measure. Every day for ten minutes gentle friction across the abdomen should be made, using the following ointment:

R Tincture of squill..... } of each 5 grammes (75 minims);
Tincture of digitalis..... }
Lanolin..... }
Petrolatum..... } of each 20 grammes (5 drachms).
M. ft unguent.

or the following:

R Tincture of juniper..... } of each 2.50 grammes
Tincture of squill..... } (35 minims);
Tincture of cinchona..... } 5 grammes (75 minims);
Lanolin..... } of each 20 grammes (5 drachms).
Petrolatum..... }
M. ft unguent.

These formulæ may be indefinitely varied, provided that the proportion of from 10 to 15 grammes (150 to 225 minims) of tincture to 40 grammes (10 drachms) of excipient be not exceeded.

Finally, if the patient is restless during the day, diuretic draughts may be given, as follows:

R Oxymel of squill..... 30 grammes (1 ounce);
Potassium acetate..... 4 grammes (60 grains);
Potassium nitrate..... 2 grammes (30 grains);
Decoction of juniper berries. 120 grammes (4 ounces);
Syrup of five roots..... 30 grammes (1 ounce).
M. A tablespoonful to be taken every half hour up to midday.

The Treatment of Blennorrhagic Epididymitis.—Le Clerc Bandoy (*Revue de thérapeutique*, July 15th; *Arte medica*, August 24th) recommends for the local treatment of epididymitis continued moist medication with a sterilized solution of sodium chlorate. The use of ice has the objection of causing induration that may lead to obliteration of the vas deferens.

When the acute initial pain of the disease has been subdued, sitz baths repeated four or five times daily, lasting from fifteen to twenty minutes at least, and finally for forty minutes, should be employed, continuing also the use of the moist compresses. As soon as the sensitiveness has been diminished so as to allow of light massage, frictions with resolvent ointments can be made, twice daily after the bath, for fifteen minutes.

R Tincture of iodine..... 1 gramme (15 minims);
Potassium iodide..... 2 grammes (30 grains);
Petrolatum..... 20 grammes (5 drachms).
M.

Internally, one gramme (15 grains) of potassium iodide should be given daily.

By following this plan accurately one obtains more surely than by any other method, a satisfactory retrogression of the inflammatory infiltration and complete *restitutio ad integrum*.

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THE ARMY MEDICAL SERVICE IN TIME OF WAR.

It was a happy thought on the part of Dr. Enno Sander, of St. Louis, to offer a prize for the best essay on military surgery, a subject that must meet with more and more appreciation in this country as time goes on. The essay for which the prize has been awarded, entitled *The Most Practical Organization for the Medical Department of the United States Army in Active Service*, by Lieutenant-Colonel Valery Havard, deputy surgeon-general of the army, is published in the August and September numbers of the *Journal of the Association of Military Surgeons of the United States*. We have no hesitation in saying that it is a most excellent contribution to the subject.

Dr. Havard first considers the medical service on and near the field of battle, deferring his treatment of the questions relating to camp life and life on the march to the closing portion of his essay. Although troops are usually long encamped before they figure in an engagement, we are not sure that the plan of discussing the battlefield before the encampment is not the best for the purpose in view; at all events, it fixes the reader's attention from the outset, for everybody is interested in the actual clash of arms, and in the present instance the interest is so roused that the reading will be pursued to the end. Early in the essay Dr. Havard insists upon the necessity of actual rank in the medical officer. "It is only with the authority to command," he says, "that he can successfully handle the men under his direction, on or about the battlefield, and exert himself to the best advantage in behalf of the sick and wounded at all times. Every future campaign will show more and more clearly the intimate relations and interdependence existing between the line and the medical department,

therefore how necessary it is for the surgeon to possess the moral influence which is only imparted by rank, and how ill grounded were the prejudices which for so long denied him his proper military status."

Dr. Havard believes that the present arrangement of stations for the surgical force in time of battle—namely, the dressing station behind each regiment, the ambulance hospital behind each brigade, and the field hospital behind each division—will in the future be supplanted by one providing for only the first and the third of these stations; assistance between the two will still be needed, but without the necessity of a special hospital there. The precise situation of the dressing stations should depend upon the nature of the ground and the circumstances of the fight, and had better not be decided upon until the troops have begun their forward movement under fire, the wounded are becoming numerous, and the point has been reached beyond which the hospital corps should not proceed. The number of the dressing stations in proportion to the fighting force engaged must be regulated according to the disposition of the force and the capability of the ground of affording safe shelter. The field hospital, where urgent operations are performed and permanent dressings applied, should be far enough to the rear to be well beyond the range of effective artillery fire—three or four miles, according to the condition of the roads. "One field hospital is attached to each division of troops. It is composed of as many completely organized sections (generally three) as there are brigades in the division, so that when a brigade operates independently it may be accompanied by its respective section."

As regards the personnel, at least four per cent. of the strength of the command should be assigned as litter bearers, wagon drivers, etc., to serve at the stations. To every twenty-four privates there should be a hospital steward, and to every eight privates an acting hospital steward. We quite agree with Dr. Havard that it would be well to change these titles to hospital sergeant and hospital corporal. It is not well to detail men from the ranks to perform sanitary service, except in case of necessity, for they are not likely to be well drilled in the duties that will devolve on them and are not fully under the control of the medical officers. The important point is made that when, on the eve of a war, volunteer regiments

are being mustered in, enlistments for the hospital corps should proceed *pari passu* with those for the fighting force, so that the men may be organized and drilled before their services are needed on the battlefield. Dr. Havard thinks that when regimental bands are present, the chief surgeon should ask that their members be placed under his orders, so that he may assign them to work not requiring special technical skill. The number of medical officers for a division, disposed at the front and in the rear, should be not less than forty (thirty for the front and ten, including the specially skilled operators, for the rear). The ambulance corps and field hospital force of hospital stewards and other helpers should consist of rather more than three hundred men to a division of infantry.

As regards the transportation of the wounded, the present regulation hand litter of our service is the best in the world for general field service, but is doubtless susceptible of further improvement. The latest pattern of ambulance wagon, too, is distinctly better than anything of the kind that has preceded it. It carries four recumbent men safely and comfortably, and they are stowed in it on their own litters, "thus saving time and dangerous handling." If both seats are let down, it carries eight men sitting, and it will accommodate four sitting and two recumbent. Cacolets and other mule litters take up a great deal of space from side to side, and have never been looked upon with favor in the American army. On many trails they are impracticable, and they require strong and specially trained mules.

It seems that we owe mainly to Dr. Havard a very clever device in the way of a diagnosis tag by means of which, after a battle, the wounded who have undergone a superficial preliminary examination and temporary dressing may instantly be classified by the medical officers. The tag, which is to be fastened over the soldier's breast, bears at one end the word "transportable" printed in blue, and at the other end the words "not transportable" printed in red. The directions to be observed are as follows: "In a simple flesh wound, whether the patient is or is not able to walk, tear off both colored borders, leaving only the white body of the tag; if a man is severely wounded, unable to walk, but able to be transported, tear off the red border, leaving the blue; if a man is desperately wounded and cannot be moved without

extreme danger to life, tear off the blue border, leaving the red."

There are other points of great interest and importance in Dr. Havard's admirable essay, but we have not space to mention them in detail. The whole work shows intelligent devotion to the welfare of the soldier, a devotion which, we are glad to believe, is shared by the great majority of the medical officers of our little army.

PHOTOTHERAPY.

A considerable literature is accumulating on this interesting branch of therapeutics, the most recent contribution to which that has come to our notice is a small book by Dr. Antonino Sciascia.¹ Dr. Sciascia has invented a light condenser which he calls a *photocauterio*. This he describes and figures. He also gives some preliminary matter pertaining to the general subject of the therapeutical use of light. But by far the greater portion of the book is taken up with accounts of cases in which he has made use of the light treatment. The morbid conditions represented in his cases are rather numerous, and they are not all of a nature that would *a priori* lead one to conjecture that they might prove amenable to phototherapy. They include malignant pustule (four cases), facial erysipelas, chronic non-febrile periodical erysipelas (*erisipela cronica periodica afebrile*), lupus vulgaris (two cases), tuberculous peritonitis, orrhyenitis, tuberculogummatous lymphangitis, tuberculous polyadenitis, chronic pulmonary tuberculosis, descending diphtheritic croup, whooping-cough (two cases), lobar pneumonia, typhoid fever, puerperal metritis, gastric ulceration with hyperchlorhydria, blennorrhagic arthritis, chorea minor, epilepsy, cataleptic hysteria, acquired deafmutism, hysterical dysphagia, peritonism, tic douloureux, sciatica with exophthalmic goitre, and epithelioma (four cases).

As regards malignant pustule, not only was a cure effected in each of the four instances recorded, but the author states that, in all, he has treated twenty-eight cases, more or less grave, since 1890, and with invariable success. Besides the two cases of lupus here reported as cured, he states that he has treated fourteen others with the most brilliant results. In the

¹ *La Fototerapia*, Roma: Società editrice Dante Alighieri, 1902.

case of orrhymentitis, in a young woman, there was effusion into the pleural, the pericardial, and the peritoneal cavities, and the disease had lasted for forty days. The pleural effusion is said to have occupied two thirds of the thoracic cavity. The patient had fever, her nutrition was impaired, and she was anæmic. Fifteen applications of condensed light over the thorax and abdomen, each lasting an hour and the treatment applied every other day, produced a complete cure. In the case of pulmonary tuberculous disease, the duration was only two months and the physical signs were not positive, but the tuberculin test evoked a decided reaction. At the end of forty days the symptoms began to subside, and twenty subsequent applications were followed by a definitive cure. Seven years have elapsed without a return of the manifestations. The author thinks that like results may be expected in the "pretuberculous" stage, but that after that the treatment can only strengthen the natural forces, rendering the evolution less complicated and diminishing the likelihood of spreading the disease. The patient with ulcer of the stomach was somewhat benefited, but the treatment was not followed to a cure. In the case of epilepsy some mitigation seemed apparent, but the occurrence of a severe paroxysm during one of the applications led the patient to decline further treatment. The author's experience in other cases of epilepsy leads him to regard phototherapy as of no permanent benefit.

In most if not all of the other histories recorded by Dr. Sciascia either recovery or decided improvement followed the employment of phototherapy, but it is well to bear in mind that early reports on new therapeutical methods are apt to be more favorable than further experience quite confirms. Much is to be hoped for from the use of condensed light, no doubt, but our expectations should be tempered by the reflection that therapeutical novelties generally show their brilliancy at first, while it remains for subsequent trials on a large scale to lay bare their failures and their drawbacks.

THE CAMPAIGN AGAINST VENEREAL DISEASE.

Such occurrences as the two international conferences held in Brussels, the one in 1899 and the other last month (the conclusion of the account of which we give in this issue in the form of a letter by Dr.

Van der Poel), together with the investigation made some months ago by a special committee of the Medical Society of the County of New York, whose report we published at the time it was made, show that there is in progress in the chief civilized countries of the world a determined movement having for its object the reduction of venereal disease, especially syphilis, to the minimum, and that the enterprise has engaged the best efforts of most of the prominent syphilographers of Europe and America and those of many teachers and public officials. Though it must be confessed that thus far no very promising measures have been brought forward for accomplishing the object in view, very satisfactory progress has been made in the way of marshalling facts that must in the long run lead to the evolution of some approach to unanimity of thought on the subject.

The first lesson to be learned from what has been done up to the present time, it seems to us, is that the regulation of prostitution as it has been attempted to be carried out for the last hundred years in certain European cities is virtually of no avail in restricting the spread of venereal infection. In this country we hear now and then the hope expressed that some such regulation may be enforced here, but it may be expected that the acknowledged futility of the plan will not be long in dissipating confidence in its efficiency. Another lesson is perhaps that the suppression of tolerated houses of prostitution does not necessarily lead to an increase of street walkers, though the practical suppression of such houses in New York within very recent years did seem to flood the streets with such women, women far more dangerous to our young men than the inmates of the avowed houses of ill fame.

But if we cannot yet look with confidence upon any of the statutory measures that have been proposed, we can at least, as physicians, exert an appreciable influence for good by denying the truth of the widespread popular impression that perfect continence on the part of men is injurious and by impressing upon wayward young women who are still reclaimable a sense of the lasting misery that they are doomed to bring upon themselves if they become confirmed prostitutes. This power and this duty of medical men have lately been so lucidly set forth by Miss Blanche Leppington, of Cublington, England (*Bulletin de la Société internationale de prophylaxie*

sanitaire et morale, ii, 2, 1902), that we are led to quote her very words as follows: "One thing the doctors have pretty much in their own hands. In their personal practice and by the use of their public influence in their own towns or universities they can sow the seeds of the most valuable teaching. They can dispel the illusion that regulation affords a guarantee against disease; they can spread, as no one else can, through all ranks and classes a wholesome anxiety which will act to some extent as a check upon indulgence and which will also tell immediately upon the partner of that indulgence. They can do better still; they can try if there is no allurements for young men in the ideal—recommended by common sense and their physician—of unbroken chastity and a pure marriage. * * * * The doctor who has done nothing to suggest or fortify such a generous ideal in the minds of his men patients has not done his part toward the solution of the quantitative problem." By the "quantitative problem" Miss Leppington means that of reducing the amount of sexual immorality. We feel sure that the influence of the great majority of physicians is actively exerted in the direction that she indicates.

THE HEALTH OF CHICAGO.

According to the Health Department's *Bulletin* for the week ending October 4th, there had been a distinct drop in the number of reported cases of typhoid fever, which was smaller than that for any other week since the one ending August 2d, but the department still fears that there will be a greater prevalence unless sterilization of the drinking water is generally practised. A "malignant lymphatic" type of diphtheria is reported, the child often not complaining of sore throat at all and the early cultures frequently failing to reveal the typical bacillus.

"WHAT IS ONE MAN'S MEAT IS ANOTHER MAN'S POISON."

Many old saws have a great deal of practical truth in them, and the one that forms the heading of this note is one of the truest, and one, also, that in these days of effort toward the attainment of "exact science" in medicine, there seem to be a constant tendency to lose sight of. In a paper in *Roussey's Vrach* for September 7th, abstracted in this issue of the *Journal*, is a communication by Dr. R. A. Katz in which he records the results of experiments instituted to ascertain whether the best mental work can be accomplished when only the working

table is brilliantly illuminated, the rest of the room being in darkness, or when the entire room is well lighted. Surely the question is a purely individual one, and it is safe to assert that in some cases one mode of illumination, in some cases the other, produces the most satisfactory results. Some people are soothed and rested when gazing in solitude upon the sea; the never-ending movement of the water induces extreme nervous irritability in others; some people are excited by tobacco, others soothed by it; in some it stimulates to mental effort, in others it brings about mental lethargy. Why should we expect to find one unvarying rule in such matters? The principle of individuality is being altogether too much ignored in these latter days. A little philosophy with one's science is a very good combination.

A PROFESSIONAL VISIT FROM TWO GERMAN SURGEONS.

It is not a very uncommon occurrence for medical men to be called professionally to foreign countries, so it is not at all remarkable that two German surgeons, Dr. Lorenz and Dr. Müller, should have been called to Chicago in the case of a child affected with congenital dislocation of the femur, especially in view of Dr. Lorenz's reputation in the treatment of fractures and luxations.

GERMS AND STREET DUST.

It was a good move on Commissioner Woodbury's part to instigate an investigation as to the comparative abundance of microorganisms in the dust blown about in various streets of New York. It is not likely that any results he may publish will prove novel to the medical profession, but the general public will undoubtedly discern in them a convincing argument in favor of clean streets at any price.

A BEDSORE OF RAPID FORMATION.

The element of somewhat protracted recumbency is commonly thought to be of importance in the production of bedsores, but that it is not always a necessary factor is exemplified in a case reported by Perriol (*Dauphiné médical*, March; *Gynécologie*, August), that of a woman, forty-nine years old, in whom the phenomena began on the third day after the removal of a voluminous fibroma of the uterus and a large cyst of the ovary. The author attributes the trouble to trophic disturbances produced by section of certain fibres of the sympathetic nerve and of the hypogastric plexus.

THE PROPER FORMATION OF MEDICAL TERMS.

While we have a strong leaning toward absolute philological accuracy in the formation of medical terms, it may be admitted that one may become hypercritical in regard to words well established and sanctioned by long usage. But in the formation of new words, we hold that it behooves us to be very jealous that sound philological principles shall be followed in their construction. It is unsound to believe that there is anything, however trivial it be, related to science, that "doesn't matter." When, then, we have already two homogeneously constructed words for one thing, *e. g.*, subcutaneous and hypodermic (hypodermatic would be better, undoubtedly, but correctness here has been partially sacrificed to conformity with other established words from the same source), it surely seems going out of one's way to be wrong, to invent such a hybrid word as "subdermic." Yet this monstrosity has been given birth in the subject for a prize essay recently announced: "Does the Habitual Subdermic Use of Morphia Cause Organic Disease? If so What?" We might paraphrase this and ask: Does the habitual attention to one medical subject cause philological indifference? If so, Why?

Obituary.

JOHN BYRNE, M. D., LL. D., BROOKLYN.

The fact that Dr. BYRNE died in Switzerland and the suggestion that his last days were rendered melancholy, and possibly his death hastened, by his brooding over the loss of a number of children lend a particular gloom to his decease. Although he was in his seventy-seventh year, he had shown but lightly the marks of age when he left home. He was born in Ireland and received his medical education in Edinburgh, but all the active period of his professional life was spent in Brooklyn, where he long ago acquired an extensive special practice in gynecology and national fame in the treatment of cancer of the cervix uteri by amputation with the galvanic cautery, a procedure that may almost be called his own. The battery which he used for cautery purposes was of his own devising, and the notable feature of it was a mechanical contrivance for insuring the prompt removal of bubbles of hydrogen from the plates or, rather, for preventing their formation.

He took a leading part in the establishment of St. Mary's Hospital, of which he was the chief medical officer. He had been president of the American Gynecological Society and of the New York Obstetrical Society, by the members of which, as indeed by all who knew him, he was beloved as much as he was esteemed. Enthusiastic in his professional work, he was no less genial and high minded as a man.

OBITUARY NOTES.

ABEL MIX PHELPS, M. D.

DR. PHELPS, an orthopedic surgeon of worldwide reputation, died at the comparatively early age of

fifty-one, as the consequence, it is understood, of malignant disease of the omentum. He was a graduate of the medical school of the University of Michigan, of the class of 1873. He was a native of Vermont, but his professional career was passed in the State of New York, a portion of it in Chateaugay, but the greater part in New York. He had served a term as president of the Medical Society of the State of New York, and for several years preceding his death he was a professor of orthopedic surgery in the Post-graduate Medical School. He was a surgeon of much originality.

MORRIS J. ASCH, M. D.,

At the age of seventy, one of the most esteemed of New York laryngologists, DR. MORRIS J. ASCH, died in Irvington, whither he had betaken himself but a few months before, having given up practice in consequence of ill health. He was a graduate of the Jefferson Medical College, Philadelphia, of the class of 1855. Throughout the Civil War he served as a medical officer in the Union Army, and soon after the close of the war he settled in practice in New York, where in a short time he became firmly established. Dr. Asch was exceedingly popular with his professional brethren and with the community in general.

News Items.

Society Meetings for the Coming Week:

MONDAY, *October 13*.—New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Harlem Medical Association of the City of New York; Gynecological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

TUESDAY, *October 14*.—New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Rome, N. Y., Medical Society; Medical Society of the County of Rensselaer, N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, *October 15*.—Woman's Medical Association (New York Academy of Medicine); Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

THURSDAY, *October 16*.—New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, *October 17*.—New York Academy of Medicine (Section in Orthopedic Surgery); Clinical Society of the New York Post-Graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynecological Society (annual).

Changes of Address.—Dr. Thomas H. Allen, to The Madrid, No. 180 West Fifty-ninth Street, New York; Dr. George Beers, to No. 375 Central Park, West, New York; Dr. B. G. Clark, to No. 25 West Seventy-fourth Street, New York; Dr. F. Spencer Halsey, to No. 108 West Seventy-fourth Street, New York; Dr. Frederick C. Heckel, to No. 121 East Ninety-third Street, New York; Dr. L. S. Rau, to No. 161 West Seventy-fourth Street, New York; Dr. Henry Roth, to No. 663 East One Hundred and Fortieth Street, New York.

The College of Physicians and Surgeons of Kansas City, Kansas.—Dr. Joseph E. Sawtell has been chosen to succeed the late Dr. J. W. May as dean of the college.

The Laramie, Wyoming, County Medical Association was organized at Cheyenne on September 29th, with the following named gentlemen as officers: Dr. W. W. Crook, of Cheyenne, president; Dr. A. W. Barber, of Cheyenne, vice-president; Dr. W. A. Burgess, secretary; Dr. W. A. Wyman, treasurer; Dr. G. P. Johnston, Dr. H. M. Bennett, and Dr. J. A. Conway, directors.

The International Medical Congress at Madrid.—Arrangements have been made for an excursion party to Madrid in April, 1903. The total cost for a trip extending a little over four weeks will be \$265. This will include fourteen days' hotel accommodations in Spain and all necessary expenses. The trip will be made via Gibraltar. Full particulars and programme of the itinerary can be obtained of Dr. Charles Wood Fassett, St. Joseph, Missouri.

The County Medical Society's New Directory.—The issue for 1902 of *The Medical Directory of the City of New York*, published by the Medical Society of the County of New York, has been received at this office. Like preceding issues, it is a directory, not only of the City of New York, but also of the States of New York, New Jersey, and Connecticut, and gives the usual information concerning medical institutions. It is a most useful publication.

The New York Academy of Medicine.—At the last meeting of the Section in Otolaryngology, held on Thursday, October 9th, the following cases were to be presented: A case of latent healing of extensive mastoid wound treated by means of skin graft, by Dr. Wendell C. Phillips; a case of malignant growth of the middle ear involving the cranial cavity, by Dr. Edward B. Dench; report of cases and technics of procedure in establishing hearing for deaf mutes, by Dr. Maury M. Stapler, of Macon, Georgia. Specimens and new instruments were to be exhibited.

The next meeting of the Section in General Medicine will be held on Monday evening, October 21st, when the following programme will be presented in the form of a symposium on typhoid fever: "The Etiology and Prevention," by Dr. Herman M. Biggs; "The Symptomatology and Clinical Diagnosis," by Dr. Charles E. Nammack; "Laboratory Aids to the Clinician," by Dr. E. E. Smith; "The Chemical Nature of the Typhoid Bacillus," by Dr. Lewis R. Morris; "The Treatment," by Dr. Hobart A. Hare, of Philadelphia. Discussion by Dr. George B. Fowler, Dr. Leonard Weber, Dr. W. H.

Thomson, Dr. R. Van Santvoord, Dr. H. W. Berg, Dr. James Ewing, Dr. Andrew H. Smith, Dr. A. Jacobi, the Chairman, and others.

The Southern Surgical and Gynecological Association.—The fifteenth annual meeting will be held in Cincinnati, on Tuesday, Wednesday, and Thursday, November 11th, 12th, and 13th, under the presidency of Dr. W. E. B. Davis, of Birmingham, Alabama. The preliminary programme includes the following titles: The Presidential Address; The Present Status of the Treatment of Hypertrophy of the Prostate, by Dr. N. P. Dandridge, of Cincinnati; Drainage, by Dr. S. J. Mixter, of Boston; Conservative Operations upon the Ovary, by Dr. L. H. Dunning, of Indianapolis; The Curse of Gonorrhoea, by Dr. Joseph Taber Johnson, of Washington; Cysts of the Pancreas, by Dr. A. M. Cartledge, of Louisville; Appendicitis and Movable Kidney, by Dr. W. P. Manton, of Detroit; Indications for Extirpation of the Gall Bladder and Technics of the Operation, by Dr. Maurice H. Richardson, of Boston; Perineorrhaphy, by Dr. George H. Noble, of Atlanta; Pregnancy and Parturition following Complete Nephroureterectomy, by Dr. J. Wesley Bovée, of Washington; The Significance of Paralysis of the Bowel, by Dr. George S. Brown, of Birmingham; Personal Experience with McGraw's Method of Gastroenterostomy, by Dr. Samuel Lloyd, of New York; Carcinoma in the Female, by Dr. W. F. Westmoreland, of Atlanta; Gas Bacillus Infection, by Dr. Robert T. Morris, of New York; Surgical versus Medical Treatment of Cholelithiasis, by Dr. John B. Deaver, of Philadelphia; Anterior Transplantation of the Round Ligament for Uterine Displacement, by Dr. A. H. Ferguson, of Chicago; Tuberculous Peritonitis, by Dr. John B. Murphy, of Chicago; Prolonged Intubation, by Dr. J. W. Long, of Salisbury, N. C.; Prolapsus of the Uterus, by Dr. Charles R. Robins, of Richmond; Some Autopsy Findings in Cases of Still-born Children, by Dr. C. J. Miller, of New Orleans; Disease of the Ribs following Typhoid Fever—A New Holder for Gigli Saws, by Dr. J. Shelton Horsley, of El Paso, Texas; Fracture of the Spine, by Dr. Howard J. Williams, of Macon, Georgia; Notes on the Operative Treatment of Fractured Patella, by Dr. Rudolph Matas, of New Orleans; A Study of Adrenal Growths, by Dr. J. E. Thompson, of Galveston; Stone in the Kidney, by Dr. Mack Rogers, of Birmingham; Unilateral Disease of the Kidney simulating Stone, and its Treatment, by Dr. Joseph Ransohoff, of Cincinnati; Endometritis, by Dr. Herman J. Boldt, of New York; What is the Limit of Safety where More than One Operation is Necessary? by Dr. A. Vander Veer, of Albany; Dependent Drainage in Intercalvic and Intraperitoneal Infection in Men, by Dr. Hugh M. Taylor, of Richmond; The Sequelæ of Appendiceal Operations and Repeated Operations, by Dr. Joseph Price, of Philadelphia; The Use of the Electric Cautery Clamp in the Treatment of Cancer of the Uterus, by Dr. Charles P. Noble, of Philadelphia, and Gastroenterostomy for the Relief of Certain Chronic Non-malignant Diseases of the Stomach, by Dr. W. D. Haggard, of Nashville. Other papers, the titles of which are not yet announced, are to be presented by Dr. Hugh H. Young, of Baltimore, Dr. Frank D. Smythe, of Memphis, Dr. Floyd W. McRae, of Atlanta, and Dr. George Ben Johnston, of Richmond.

Brooklyn Ambulance Surgeons.—In accordance with the regulation made several years ago, which the assistant sanitary superintendent of that borough, Dr. Joseph H. Raymond, has recently had occasion to enforce, twelve physicians have been appointed as ambulance surgeons to the Brooklyn hospitals. The records and experiences of those appointed conform to the requirements recently promulgated by Dr. Raymond.

The Death Rate of Boston.—The total number of deaths reported to the Board of Health for the week ending October 4th was 225, against 213 the corresponding week last year, showing an increase of 12 deaths, and making the death rate for the week 20.01. The number of cases and deaths from infectious diseases reported was as follows: Diphtheria, 42 cases and 2 deaths; scarlatina, 23 cases and 1 death; typhoid fever, 82 cases and 6 deaths; measles, 5 cases; tuberculosis, 12 cases and 19 deaths; smallpox, 10 cases and 3 deaths. The deaths from pneumonia were 16, whooping-cough, 6, heart disease 19, bronchitis 3, and marasmus 14. There were 11 deaths from violent causes.

The Solicitous Mother.—A number of years ago, when the late Dr. Fessenden N. Otis was in general practice, he was sent for in great haste one morning, just as his office hours were about to begin, to visit the baby in one of his best families. Arriving at the residence, which was half a mile or more from his own house, he was told that the baby had been crying all the morning. He examined the child very carefully, but could not make out the cause of its crying. He prescribed a placebo and went home. Hardly had he seen the first office patient for the day when he received a still more urgent summons to visit the same baby at once. On reaching the nursery, he asked what the matter was. "Why, doctor," replied the agitated mother, "soon after you left, the baby suddenly stopped crying, and I don't know what to make of it."

The Medical Society of Virginia.—The thirty-third annual meeting was held in Newport News, Virginia, during the week ending September 27th. Officers were elected for the ensuing year as follows: President, Dr. John N. Upshur, of Richmond; first vice-president, Dr. W. F. Cooper, of Newport News; second vice-president, Dr. R. W. Saunders, of Max Meadows; third vice-president, Dr. J. F. Lynch, of Norfolk; recording secretary, Dr. Landon B. Edwards, of Richmond; corresponding secretary, Dr. John F. Winn, of Richmond; treasurer, Dr. R. T. Styll, of Newport News. Dr. W. S. Christian, of Urbana, was chosen orator for the annual address at the next meeting, which is to be held in Roanoke. The retiring president, Dr. R. S. Martin, of Stuart, and Dr. Edwin S. Ricketts, of Cincinnati, were elected honorary fellows.

The Medical Association of the Greater City of New York.—The next meeting will be held at the New York Academy of Medicine, on Monday, October 13th, at 8:30 P. M. The following programme will be presented: A Symptom Indicating the Probable Development of Mastoiditis and the Necessity for Early Operation, by Dr. Henry A. Alderton; Discussion by Dr. Gorham Bacon, Dr. J. E.

Sheppard, Dr. E. B. Dench, Dr. Fred Whiting, and others; Infection with the Bacillus of Dysentery, with Especial Reference to its Role in the Summer Diarrhoeas of Children, by Dr. Simon Flexner, Professor of Pathology in the University of Pennsylvania; In this paper the character of the diseases which are now associated with the occurrence of the *Bacillus dysenteriae* will be considered with a view to explaining the wide divergence in symptoms and lesions; Discussion by Dr. Francis Delafield, Dr. W. H. Porter, Dr. W. P. Northrop, Dr. E. K. Dunham, Dr. L. E. Holt, Dr. James Ewing, Dr. H. D. Chapin, Dr. H. Koplik, Dr. H. Illoway and others.

The Vermont Society for the Study and Prevention of Tuberculosis.—A society to be so known was organized at a meeting held at Burlington on September 28th, by a number of physicians and laymen from the different parts of the State. The organization of such a society has been under discussion by the medical profession for a long time and culminated in the meeting of the 28th of September. A constitution was adopted, resolutions relative to a State sanitarium and supporting the work of the State cattle commission were adopted, officers were elected and various phases of tuberculosis were discussed. The gathering was called to order by Dr. H. Edwin Lewis, of Burlington. Dr. H. D. Holton, of Brattleboro, secretary of the State board of health, was elected temporary chairman and Dr. H. Edwin Lewis temporary secretary. Dr. C. W. Peck, of Brandon; Dr. Don D. Grout, of Waterbury, and Dr. W. N. Platt, of Shoreham, were appointed a committee to prepare a constitution. Officers were elected as follows: President, Hon. E. C. Smith, of St. Albans; vice-presidents, Dr. Don D. Grout, of Waterbury, and Dr. C. W. Peck, of Brandon; secretary, Dr. H. E. Lewis, of Burlington; treasurer, H. L. Stilson, of Bennington.

The State Board of Medical Examiners of New Jersey.—At a meeting held at Newark, N. J., October 1st, twenty-three of the twenty-eight physicians who took the State examination held at Trenton, N. J., September 16-17, were duly licensed to practice medicine in New Jersey. The following medical colleges were represented by the candidates:

Baltimore Medical College, 3; College of Physicians and Surgeons of Baltimore, 3; Columbia University, Medical Department, 3; Baltimore University, School of Medicine, 2; Hahnemann Medical College and Hospital of Philadelphia, 2; Jefferson Medical College, 2; University of Naples, Italy, 2; Boston University, School of Medicine, 1; Columbian University, Medical Department, 1; Dartmouth Medical College, 1; Medico-Chirurgical College of Philadelphia, 1; Shaw University, Medical Department, 1; University of Montpelier, France, 1; University of the South, Medical Department, 1; University of Turin, Italy, 1; University of Vermont, Medical Department, 1; Woman's Medical College of Pennsylvania, 1; Yale University, Medical Department, 1. The percentage of rejections for the September examination was eighteen.

Beginning with the examination in June, 1903, each applicant for examination will be required to file with his application a recent photograph of himself, with autograph signature, duly attested before and under the seal of a notary.

In the matter of interstate reciprocity of medical license, the policy of the board in endorsing the licenses issued by other States whose examining requirements are substantially the same as those of New Jersey, provided that the applicant fully meets the academic and medical requirements of the State, is gaining favor both with the profession and with other State boards. This policy places the admission of an applicant upon the basis of his personal fitness and the thoroughness of his examination, which is believed to be the fairest and the most equitable method of endorsement so far devised.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending October 4, 1902:

DISEASES.	Week end'g Sept. 27		Week end'g Oct. 4	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	157	23	190	24
Scarlet fever.....	84	4	100	8
Cerebro-spinal meningitis.....	0	1	0	0
Measles.....	37	0	47	1
Diphtheria and Croup.....	149	25	239	26
Small-pox.....	5	1	0	0
Tuberculosis.....	237	141	195	113

Public Health and Marine-Hospital Service:

Official List of Changes of Stations and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service, for the Seven Days ending October 2, 1902:

STONER, G. M., Surgeon. Granted leave of absence for sixteen days from September 15. Bureau letter of September 11, 1902, granting Surgeon Stoner leave of absence for sixteen days, amended so that said leave shall be for fourteen days.

BROOKS, S. D., Surgeon. Granted leave of absence for fifteen days from September 27 by Bureau letter of September 20, amended so that it shall commence September 29.

COBB, J. O., Surgeon. Granted leave of absence for two months from October 8, 1902, on account of sickness.

HASTINGS, HILL. Passed Assistant Surgeon. Granted extension of leave of absence for two months and twenty-six days from October 3d.

HEISER, V. G., Assistant Surgeon. Relieved from duty as immigrant inspector in Canada and directed to visit different points between the United States and Canada, to institute a system whereby uniformity in medical inspection of alien immigrants bound for ports in the United States can be assured.

WARREN, B. S., Assistant Surgeon. Granted leave of absence for fourteen days from September 29th.

DUFFY, FRANCIS, Acting Assistant Surgeon. Granted leave of absence for six days by Bureau letter of August 22, revoked.

SCOTT, E. B., Senior Pharmacist. Department letter granting Pharmacist Scott leave of absence for nineteen days from September 6 amended, so that said leave shall date from September 16th.

Resignation.

Passed Assistant Surgeon HILL HASTINGS resigned, to take effect December 29, 1902.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending October 4, 1902:

McCULLOUGH, F. E., Passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Alert*.

PRYOR, J. C., Passed Assistant Surgeon. Detached from the *Massachusetts* and ordered to the *Bancroft*.

LEYS, J. F., Passed Assistant Surgeon. Detached from the Naval Hospital, Newport, R. I., and ordered to the *Supply*.

COOK, F. C., Passed Assistant Surgeon. Detached from the *Supply* and ordered to the Naval Hospital, Newport, R. I.

ARMSTRONG, E. V., Passed Assistant Surgeon. Placed on the retired list September 27, 1902.

LAW, H. L., Surgeon. Retired. Ordered to the naval rendezvous, Boston.

HOLLOWAY, J. H., Acting Assistant Surgeon. Appointed Assistant Surgeon September 27, 1902, with rank of lieutenant (junior grade).

The following named officers were detached from the *Solace*, ordered home and to wait orders: Passed Assistant Surgeon A. R. ALFRED, Passed Assistant Surgeon C. P. BAGG, Passed Assistant Surgeon M. K. JOHNSON, and Assistant Surgeon H. E. ODELL.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending October 4, 1902:

Smallpox—United States.

Delaware.....	Sussex Co.....	Sept. 1-25.....	7 cases.	
Illinois.....	Freeport.....	Sept. 20-27.....	2 cases.	
Indiana.....	Indianapolis.....	Sept. 20-27.....	2 cases.	
.....	South Bend.....	Sept. 20-27.....	2 cases.	
Kansas.....	Wichita.....	Sept. 20-27.....	3 cases.	
Massachusetts.....	Chelsea.....	Sept. 20-27.....	1 case.	
Michigan.....	Grand Rapids.....	Sept. 13-20.....	1 case.	
Montana.....	Butte.....	Sept. 20-28.....	1 case.	
N. Hampshire.....	Nashua.....	Sept. 20-27.....	13 cases.	1 death.
New Jersey.....	Newark.....	Sept. 20-27.....	3 cases.	
New York.....	New York.....	Sept. 20-27.....	5 cases.	1 death.
.....	Cleveland.....	Sept. 20-27.....	79 cases.	17 deaths.
Pennsylvania.....	Erie.....	Sept. 20-27.....	1 case.	
.....	McKeesport.....	Sept. 20-27.....	14 cases.	2 deaths.
.....	Pittsburgh.....	Sept. 20-27.....	7 cases.	7 deaths.
S. Carolina.....	Charleston.....	Sept. 20-27.....	1 case.	
Wisconsin.....	Greenbay.....	Sept. 20-28.....	1 case.	

Smallpox—Foreign.

Barbados.....	Aug. 31-Sept. 15.....	226 cases.	11 deaths.
Canada.....	Amherstburg.....	Sept. 20-27.....	1 case.
.....	Dundee.....	Sept. 13-20.....	1 case.
.....	Liverpool.....	Sept. 13-20.....	3 cases.
.....	London.....	Sept. 6-13.....	7 cases.
.....	Sunderland.....	Sept. 6-13.....	4 cases.
Italy.....	Naples.....	Sept. 6-13.....	1 case.
.....	Palermo.....	Sept. 6-13.....	10 cases.
Mexico.....	Mexico.....	Sept. 14-21.....	1 death.
Russia.....	St. Petersburg.....	Aug. 30-Sept. 13.....	18 cases.
Strait Settlements.....	Singapore.....	Aug. 2-16.....	1 case.

Yellow Fever.

Colombia.....	Panama.....	Sept. 15-22.....	3 cases.
Cuba.....	Havana.....	Sept. 19.....	1 case removed from S.S. Havana, from Mexican ports.
Mexico.....	Coatzacoalcas.....	Sept. 13-20.....	1 case.
.....	Mexico.....	Sept. 14-21.....	2 cases.
.....	Tampico.....	Sept. 26.....	1 death.

Cholera—Foreign.

China.....	Hongkong.....	Aug. 9-16.....	21 cases.
India.....	Calcutta.....	Aug. 23-30.....	11 deaths.
Japan.....	Osaka & Hiogo.....	Aug. 30-Sept. 6.....	17 cases.
Java.....	Batavia.....	Aug. 16-23.....	38 cases.
Strait Settlements.....	Singapore.....	Aug. 2-16.....	55 cases.

Plague—United States.

California.....	San Francisco.....	Sept. 11.....	1 case.
.....	.....	Sept. 16.....	1 case.

Plague—Foreign.

China.....	Hongkong.....	Aug. 9-16.....	12 cases.
India.....	Calcutta.....	Aug. 23-30.....	24 deaths.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two weeks ending October 4, 1902:

BORDEN, WILLIAM C., Major and Surgeon, is relieved from duty as a member of the board of medical officers convened for the examination of candidates for admission to the Medical Corps of the Army.

CLARKE, JOSEPH T., Captain and Assistant Surgeon, is relieved from duty as attending surgeon and examiner of recruits in Philadelphia, and will proceed to Fort Ethan Allen, Vermont, for duty, to relieve MARLBOROUGH C. WYETH, Major and Surgeon, who will proceed to Fort Wadsworth, New York, for duty.

GIRARD, ALFRED C., Colonel and Assistant Surgeon General, is relieved from further duty in Washington, to take effect upon the adjournment of the present session of the army medical examining board, and will proceed to San Francisco for transportation to Manila.

IRELAND, MERRITTE W., Captain and Assistant Surgeon, is relieved from duty as attending surgeon and examiner of recruits in St. Louis, and will proceed to Washington for duty.

LIPPITT, WILLIAM F., Captain and Assistant Surgeon, is relieved from duty at Fort McHenry, and will proceed to Fort Monroe Virginia, to relieve FRANK R. KEEFER, Major and Surgeon, who will proceed to Fort Meade, South Dakota, for duty, to relieve EDWARD T. COMEGYS, Lieutenant Colonel and Deputy Surgeon General. Lieutenant Colonel Comegys will proceed to Fort Bayard, New Mexico, and assume command of the United States General Hospital, relieving DANIEL M. APPEL, Major and Surgeon. Major Appel, upon being relieved, will proceed to San Francisco for transportation to Manila.

MARROW, CHARLES E., First Lieutenant and Assistant Surgeon, will proceed to Fort Riley, Kansas, for temporary duty in connection with the military manoeuvres at that post.

PHILLIPS, JOHN L., Major and Surgeon, will proceed to San Francisco from Manila.

RHOADS, THOMAS L., First Lieutenant and Assistant Surgeon, will proceed to San Francisco for duty at the United States General Hospital at that place.

ROBBINS, CHANDLER P., First Lieutenant and Assistant Surgeon, will proceed to Fort Terry, New York, to relieve ERNEST W. FOWLER, Contract Surgeon, who will proceed to Fort Mansfield, Rhode Island, for duty.

RUSSELL, FREDERICK F., First Lieutenant and Assistant Surgeon, is granted leave of absence for three months.

SMITH, ALLEN M., Captain and Assistant Surgeon, is relieved from duty as attending surgeon and examiner of recruits in Baltimore, and will proceed to Fort Douglass, Utah, for duty.

SHIMER, IRA A., First Lieutenant and Assistant Surgeon, is relieved from temporary duty at Fort Michie, N. Y., and will return to his proper station, Fort Niagara, N. Y.

TAYLOR, BLAIR D., Lieutenant Colonel and Deputy Surgeon General, is relieved from duty at Fort Snelling, and will proceed to Hot Springs, Arkansas, and assume command of the United States General Hospital at that place, relieving GEORGE H. TORNEY, Major and Surgeon. Major Torney will proceed to San Francisco for transportation to Manila.

TURRILL, HENRY S., Lieutenant Colonel and Deputy Surgeon General, is relieved from duty as chief surgeon, Department of the Missouri, and will proceed to New York and assume charge of the medical supply depot in that city during the absence of JUSTUS M. BROWN, Colonel and Assistant Surgeon General.

USHER, FRANCIS M. C., First Lieutenant and Assistant Surgeon, is relieved from further duty in the Division of the Philippines, and as transport surgeon on the *Lawton*, and will report to the commanding general, Department of California, for duty.

Births, Marriages, and Deaths.**Married.**

ATEN—NAYLOR.—In San Francisco, on Thursday, September 25th, Dr. Wilbur Orcutt Aten and Miss Mabel Elwood Naylor.

BARRY—REED.—In Chicago, on Wednesday, October 1st, Dr. George Fravel Barry and Miss Mary Florence Reed.

BEAL—HOBBS.—In Shrewsbury, Massachusetts, on Wednesday, October 1st, Dr. Howard W. Beal, United States Army, and Miss Henrietta Hobbs.

BUCHANAN—DARRAH.—In St. Joseph, Missouri, on Monday, September 29th, Dr. W. C. K. Buchanan, of Kansas City, and Miss Marcia Darrah.

COFFIN—TRICE.—In Bowling Green, Missouri, on Tuesday, September 30th, Dr. George O. Coffin, of Kansas City, and Mrs. Allie M. Trice.

FISKE—HAWKE.—In Mare Island, California, on Thursday, September 25th, Dr. Charles N. Fiske, United States Navy, and Miss Helen T. Hawke, daughter of Dr. J. T. Hawke, United States Navy.

HERBST—DURKER.—In Kansas City, Missouri, on Wednesday, September 24th, Dr. Philip Francis Herbst and Miss Mabel Mayfield Durker.

HUNTER—GEORGE.—In St. Louis, on Tuesday, September 23rd, Dr. A. H. Hunter, of Staunton, Illinois, and Miss Byrta George.

KNOX—EVANS.—In Jersey City, on Saturday, October 5th, Dr. Louis G. Knox, of Danbury, Connecticut, and Miss Blanche Evans.

MCINTIRE—LIVINGSTON.—In Brooklyn, on Tuesday, September 30th, Mr. William A. McIntire and Dr. Elizabeth Hanford Livingston.

NEFF—COLE.—In Knoxville, Tennessee, on Tuesday, September 30th, Dr. Frank Chaffee Neff, of Kansas City, Missouri, and Miss Josephine Cole.

NORTON—EXLEY.—In Savannah, on Monday, October 6th, Dr. George Mosse Norton and Miss Leila Walton Exley.

PRICE—BAKER.—In New York, on Wednesday, October 1st, Dr. Warren Price, of Hyattstown, Maryland, and Miss Alice M. Baker.

SMITH—HERRICK.—In Wellington, Ohio, on Thursday, October 2d, Dr. A. B. Smith and Miss Mary L. Herrick.

TURNURE—PELL.—In New York, on Wednesday, October 8th, Dr. Percy R. Turnure and Mrs. Sadie Price Pell.

Died.

ASCH.—In New York, on Sunday, October 5th, Dr. Morris J. Asch, in the seventieth year of his age.

BANG.—In New York, on Monday, September 29th, Frances, wife of Dr. Richard T. Bang.

BYRNE.—In Montreux, Switzerland, on Wednesday, October 1st, Dr. John Byrne, of Brooklyn, in the seventy-seventh year of his age.

FOGARTY.—In New York, on Sunday, October 5th, Dr. Daniel E. Fogarty, in the thirty-second year of his age.

HUNTER.—In St. Louis, on Wednesday, September 24th, Byrta, wife of Dr. A. H. Hunter, of Staunton, Illinois.

JACKSON.—In Manila, Philippine Islands, on Wednesday, October 1st, Dr. Frederick C. Jackson, United States Volunteers.

LACKEY.—In Scranton, Pennsylvania, on Wednesday, October 1st, Dr. H. B. Lackey, in the fifty-eighth year of his age.

PHELPS.—In New York, on Monday, October 6th, Dr. Abel Mix Phelps, in the fifty-first year of his age.

SEARS.—In Boston, on Friday, September 26th, Dr. Henry T. Sears, in the forty-fifth year of his age.

SPENCER.—In Toronto, Ontario, on Sunday, September 28th, Dr. Bertram Spencer, in the forty-sixth year of his age.

WALLS.—In New York, on Sunday, October 5th, Dr. George Walls, of Washington.

WILDE.—In Brooklyn, on Monday, October 6th, Dr. Thomas Wilde, in the sixty-fifth year of his age.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Alcohol in Experimental Tuberculosis.—Dr. Attilio Gervino (*Gazzetta degli ospedali e delle cliniche*, August 3rd) found, as the result of a series of experiments on animals dealing with the question of the influence of alcohol upon tuberculosis, (1) That rabbits that were taking alcohol, but had not been infected with tuberculosis reacted more promptly to the tuberculin test as regarded temperature but less vividly as regarded general signs, than normal rabbits. (2) After tuberculinization by the injection of tuberculin, the reaction was less pronounced in the alcoholic rabbits than in the others. (3) Alcoholic rabbits responded but slightly to tuberculous infection, being evidently able in some way or other to keep the infection localized. Buchner introduced the application of alcohol in local surgical tuberculosis and Mircoli proved that alcohol exercised not only a local action, but also a general effect, as testified by the increase in the antitoxicity of the blood in tuberculous subjects that indulged in alcohol. Mircoli concluded as a result of these findings, that the administration of alcohol, in such forms and quantities as not to prejudice the system, was beneficial in tuberculosis, inasmuch as it increased the resistance of the tissues against the invasion of the tubercle bacillus. All the prominent observers on tuberculosis, from Brehmer to Maragliano, have recommended the systematic use of alcohol in this disease, and this view is now rapidly gaining a foothold where formerly there was much opposition to the use of alcoholic stimulants in tuberculosis.

Various Forms of Werlhof's Disease, and one Type thereof, Characterized by a very Acute Course, with abundant Hæmorrhages, and a Peculiar set of Alterations in the Blood. By Professor S. V. Levascheff (*Roussky Vrach*, August 31st).—Werlhof's disease, morbus hæmorrhagicus maculosus Werlhofii, presents a large variety of clinical types. In some cases it is characterized merely by hæmorrhages into the skin, in others there is an effusion of blood into the mucous membranes, and in others again there are with these hæmorrhages severe constitutional symptoms. In such cases the pulse grows weak and small, with irregular rhythm, and the face grows pale, of an earthy tint, and there is great prostration, accompanied by syncope, cold extremities, and vertigo. Gradually the typhoid state supervenes. In many cases these general symptoms do not seem to depend upon the amount of blood lost. In some cases there are from the beginning signs of severe involvement of the central nervous system. In other cases the gastrointestinal system seems to be affected, and there are severe pains in the abdomen, vomiting of blood, and bloody diarrhœa. Still in others there is an involvement of the joints. The pathological changes observed in Werlhof's disease after death are as manifold as those seen clinically in these various types. Werlhof's disease is probably an essential primary hæmorrhagic anæmia, and not a secondary condition. The author describes a case of this disease in which the clinical history differed from any type hitherto described. A student, aged twenty-two years, came to the author for obstinate hæmorrhages from the gums

and fever, which had lasted about ten days and were accompanied by general malaise, anorexia, prostration, and headache. He had been suffering from malaria for the past three years. His gums were found bleeding but not ulcerated, and there were several hæmorrhagic spots varying in size from a fifty cent piece to the palm of the hand. In other places he had petechiæ. Soft systolic murmurs without accents were heard at all the orifices of the heart. Nothing abnormal was found in the urine or in the blood. The diagnosis lay between the pernicious anæmias and leucæmia on the one hand, and the various types of primary hæmophilia on the other, including scurvy and the purpuric affections classed under the group name of Werlhof's disease. Leucæmia was excluded on account of the absence of the characteristic changes in the blood. No plasmodia were found in the blood, so the malarial factor was excluded also. Hæmophilia was excluded because there was no history of hereditary influence, and the bleeding had only begun recently. Scurvy was ruled out on account of the absence of ulceration in the gums, absence of cachexia, and of fever. The only remaining possibility was Werlhof's disease, which, according to von Etlinger, is divided into three subtypes, namely (1) purpura simplex; (2) purpura hæmorrhagica, or morbus Werlhofii proper; and finally (3), peliosis, or purpura rheumatica. In this case there was a remittent fever rising at night, and it was therefore purpura hæmorrhagica with fever. The infectious nature of this disease has been suggested by a number of investigators, but repeated bacteriological examinations of the blood showed no bacteria. On the tenth day after admission the patient's blood showed hæmoglobin thirty per cent., and red cells only 1,900,000, while the white cells numbered 8,000. The hæmorrhages continued and the patient died in collapse on the fourteenth day, the blood during the last days showing still greater changes. This case shows that acute changes may occur in the blood of certain patients with Werlhof's disease in whom the malady takes the form that it took in this case.

In *Roussky Vrach*, September 7th, the author says that the changes found in the blood of a patient with purpura hæmorrhagica were practically those of leucæmia. It is possible that the patient had been subjected to conditions that evoked leucæmia either during the course of the purpura, or during convalescence from the latter disease. A number of cases are recorded in literature in which a disease was followed by leucæmic changes in the blood. The patient's blood in the present case showed the changes of pernicious anæmia associated with those of myelogenous leucæmia. The autopsy showed fatty degeneration of the heart, swelling of the isolated glands and Peyer's patches, but not of the lymphnodes throughout the body; hæmorrhages into all the mucous and serous membranes, and fatty degeneration of the kidneys. Werlhof's disease is characterized more or less constantly by a decrease in the number of red cells and an increase in that of the white cells, but in a certain type of the disease, accompanied, as in the present instance, by abundant hæmorrhages, there may be acute alterations of a most marked character in the blood, involving a considerable increase in the proportion of white cells against the red. The explana-

tion hitherto accepted for the increase in white cells observed in Werlhof's disease was that it was due to the same cause as leucocytosis occurring in other infectious diseases, and also to the abundant hæmorrhages. It is a well-known clinical and experimental fact that, after marked losses of blood, there is a leucocytosis proportionate to the hæmorrhage. The white cells increase in the blood because (1) they are carried into the stream constantly from the thoracic duct; (2) they are more adherent to the walls of the vessels and pass out less easily than the red cells. In Werlhof's disease it is always found that the amount of blood lost is the controlling factor in the measure of leucocytosis present. Whether the loss of blood alone causes the increase in white cells, or whether more white cells are formed in the body of a patient with this disease, is an unsettled question. In conclusion, the author calls attention to the need of systematic observations upon the blood of patients with hæmorrhagic purpura, in order to collect data that would bring out the character and cause of the changes found in the blood of such patients.

The Clinical Value of Cryoscopy.—Dr. Gaetano Florio (*Gazzetta degli ospedali e delle cliniche*, July 6th) concludes as follows as regards the clinical significance of cryoscopic examinations: The cryoscopic examination of urine gives very important clues as to the functional state of the kidneys. The urine of twenty-four hours should be collected for the freezing test, but it is not necessary to obtain the urine from each kidney by urethral catheterization. The freezing point of urine taken from the bladder in a case of unilateral renal disease is different from that of a case in which the lesion is bilateral. When one kidney is diseased, the freezing point does not reach below 0.95 while, when both are diseased, it is nearer to 0.45 or 0.30. The proteid substances, such as albumin, pus, etc., do not take part like the crystalline substances, in influencing the freezing point in the urine, and therefore cryoscopy offers a means of differentiating most readily cystitis from pyelitis and pyelonephritis. This fact also explains the independence of the freezing point from the specific gravity, which may be increased by the proteid substances. The freezing-point of blood is not proportional in any way to that of urine, as the toxic substances in the blood are not wholly excreted by the kidneys alone. The loss of renal permeability through disease would influence the freezing point of blood only if the other excretories were also impaired. The formulæ of Claude and Balthazar, whereby the relation between the chlorides of the urine and the organic substances excreted by the kidneys can be established have no application in surgery, as the chlorides vary with the amount of chlorides taken in, and with the intensity of intestinal fermentation. Cryoscopy has no application in surgical conditions which do not involve the kidneys directly or indirectly.

The Radical Treatment of Chronic Intestinal Tuberculosis, with Suggestions for Treatment in More Acute Disease and in Tuberculous Peritonitis. By A. W. M. Robson, F. R. C. S. (*Lancet*, September 27th).—The author reports seven cases of radical surgical treatment of chronic intestinal tuberculosis, with encouraging results, only one patient dying as a result of the operation. He suggests

the possibility of doing good in more acute cases where, if the disease is strictly limited, a radical operation might remove it, but where, if more extensive, a short-circuiting might set the part at rest and relieve it from irritation, thus enabling the ulcers to heal. In recurrent cases of tuberculous peritonitis after abdominal section, the explanation of the recurrence may lie in the fact that the original focus of disease in the ovaries, Fallopian tubes, or bowel has not been removed and has been again the starting point for a further diffusion of the tubercle through the peritoneal cavity.

Pythogenic Pneumonia. By Dr. A. H. Cope-man (*Lancet*, September 27th).—The author gives the details of a succession of cases of pneumonia in one household. The family consisted of a man, his wife, and five children. Of these, three of the children, the mother, and the father developed acute lobar pneumonia, the disease proving fatal in the father's case. The chief features of the epidemic were: (1) The very sudden onset; (2) the high temperature; and (3) the extraordinary manner in which the patients appeared to be prostrated from the very onset of the attacks.

An Outbreak of Rabies Seven Months After a Pasteur Inoculation.—Dr. T. Kasperek and Dr. K. Teuner (*Berliner klinische Wochenschrift*, September 8th) report the case of a child seven years of age who was inoculated two weeks after being bitten by a rabid dog and who, seven months later, was seized with rabies and died with typical symptoms in two weeks. The diagnosis was confirmed by subdural injections into guinea pigs. The child had been bitten on the hand, as were three other children at the same time, who, however, have remained well up to the present time. The case is interesting because of the prognosis offered by Pasteur inoculations and the length of time before the disease appeared.

The Diagnosis of Hour-Glass Stomach.—Dr. J. Decker (*Münchener medizinische Wochenschrift*, September 16th) says that the essential symptoms of this condition are: 1. Gastric lavage is followed first by clear water and then suddenly by remnants of food. 2. Water put into the stomach by means of the stomach tube disappears into the depths of the stomach and does not reappear; this will occur when the pyloric end is more dilated than the cardiac. For diagnostic purposes, therefore, it is advisable to pour two glasses of water into the stomach in succession. 3. Ballooning the stomach gives an irregular outline, and it is especially significant if the cardia dilates first. 4. Electric illumination shows an unevenly illuminated area, the region of the contraction being somewhat darkened by a shadow. 5. When the stomach is ballooned up with gas, pressure on one-half of the stomach will be accompanied by the phenomenon of air rushing to the other half which can be distinctly heard; but if pressure is made over the contracted area, the phenomenon is absent.

Hæmatological Findings in a Case of Plumbic Anæmia.—Dr. A. Wolff (*Berliner klinische Wochenschrift*, September 8th) narrates a case of a man thirty years of age who died of a gradually increasing weakness after having suffered from many

attacks of lead colic. The blood findings in general were a slight insufficiency of the bone marrow compared with granulocytic formation, but relatively increased to the erythrocytes. The spleen was myeloid. From these findings the author draws the conclusion that in myelogenous leucæmia probably the spleen and the lymph glands become myeloid.

SURGERY AND ANATOMY.

The Radical Cure of Phimosis by Duplay's Method.—Dr. A. Balduzzi (*Gazzetta degli ospedali e delle cliniche*, July 6th) describes Duplay's method of operating in cases of phimosis, and says that this method is adapted for the restoration of a prepuce that glides easily over the glans and does not give rise to compression or adhesions. The first step is the introduction of a grooved director underneath the prepuce, and the separation of the adhesions uniting the latter to the edge of the glans. In order to shorten the prepuce it is now seized with a small forceps or clamp and gently drawn forward beyond the glans, the forceps being carried obliquely in the direction of the sulcus of the glans. The prepuce is now resected behind the forceps. When this takes place the skin, which is elastic, contracts and recedes behind the glans, while the mucosa, which is not so elastic, remains covering the glans. The mucosa is incised with a pair of scissors in the median line of the upper surface of the glans, and the corners of these mucous flaps are rounded off by means of the scissors. The hæmorrhage having been arrested, the mucosa is sutured to the skin with catgut and silk-worm gut, and, if the frenulum is short, the latter may be nicked transversely and the edges of the incision sutured longitudinally. Local anæsthesia suffices, as it enables us to perform this operation without any difficulty. If the prepuce is very thick, two Kocher's forceps may be employed instead of one in clamping it in front of the glans. A compress of gauze wrung out of hot water is usually sufficient to arrest the bleeding, and ligation of any vessels is not necessary.

The Iliopsoas Bursa: Its Surgical Importance and the Treatment of Its Inflammatory Conditions, with Report of Three Cases.—Dr. F. B. Lund (*Boston Medical and Surgical Journal*, September 25th) asserts that the iliopsoas bursa possesses surgical importance, owing to its position and its frequent connection with the hip joint. It frequently extends above the pelvic brim. It may be involved in osteoarthritis, gonorrhœal infection, or suppurative arthritis of the joint, and the symptoms due to the disease of the bursa may dominate the clinical picture. In gonorrhœal arthritis, incision of the bursa affords an easy method for reaching and draining the joint. In osteoarthritis relief of pain is afforded by incision of the bursa. The bursa is best reached by a vertical incision just below Poupert's ligament, between the anterior crural nerve and the femoral artery. The iliopsoas muscle may be drawn inward, or, as is perhaps more direct and preferable, the fibres may be separated by blunt dissection in the line of the incision. Where the bursa is connected with the joint a ready diagnosis of the condition of the head of the femur and acetabulum may be made by passing the finger through the opening in the bottom of the bursa. Iliopsoas bursitis

should be more often considered in the diagnosis of obscure tumors in the groin, and such a diagnosis should be possible in cases where the hip-joint is known to be diseased and a tumor suddenly appears in front of the joint, under the anterior crural nerve and femoral vessels, which is very painful and tender, and perhaps gives to the palpating finger a sensation of deep fluctuation.

Operations Under Analgesia Produced by Intraspinal Injections of Cocaine. By H. Littlewood, F. R. C. S. (*Lancet*, September 27th).—The author reports eleven operative cases in which, instead of general anæsthesia, analgesia produced by intraspinal injections of cocaine was made use of. In all the cases the anæsthetic effect of the cocaine was rapid and thorough, and the result of the operations successful. The faintness of some of the patients was a little alarming. In a few cases hypodermics of strychnine were given before the cocaine injection with good effect. Several of the patients vomited after the operation. But the author has not operated on any case by spinal cocaineization since April, 1901. It is not immensely superior to other methods, and the being conscious of what is going on is very distressing to some of the patients.

A Simple and Effectual Method of Sterilizing Catgut. By A. W. M. Robson, F. R. C. S. (*British Medical Journal*, September 27th).—The author uses skeins of ordinary unmedicated catgut or formalin catgut. The constricting centre of each skein is undone and loosely reapplied; the skein is then introduced into a metal cylinder, the cap of which screws on, and after the cylinder has been filled with xylol, the cap is screwed on very firmly, as it is quite fatal to the preparation, either to allow any water to enter the cylinder, or to allow the xylol to evaporate. The cylinder is then put in the sterilizer and boiled for half an hour. After being thus sterilized, the catgut is stored in five-per-cent. carbolic acid solution in methylated spirit. The catgut shrinks, gains in strength, and "bites" better when tied.

Some Cases of Chronic Pancreatitis. By B. Q. A. Moynihan, F. R. C. S. (*Lancet*, September 27th).—Chronic pancreatitis, as seen by the surgeon, is always secondary. It is dependent upon infection extending from the intestinal canal or from the bile passages, upon the long-standing irritation of gall or pancreatic stones, or upon the invasion of malignant disease. The poisons of syphilis, tubercle, and alcohol are among the toxic substances brought by the blood to the gland, which are capable of setting up chronic inflammation. Cholelithiasis is the preeminent cause. In all cases the duodenal end is more affected than the body of the gland. The tail is implicated only in the severe and long-standing cases. Syphilitic disease of the pancreas may assume two forms, a chronic diffuse interstitial inflammation, or a localized gummatous inflammation. It is more common in children than in adults and is frequently a congenital lesion. The treatment of chronic interstitial pancreatitis must be mainly concerned with the removal of the cause of the gland implication. In all cases drainage of the gall bladder is necessary. The author reports seven cases of chronic pancreatitis operated upon by him, with most satisfactory results.

The Inoperable Nature of the Pulmonary Tuberculous Lesion.—Dr. Horace J. Whitacre (*Journal of the American Medical Association*, September 28th) essays to prove that the excision of the pulmonary lesion is, in the majority of cases, both impossible and irrational; that the incision and drainage of tuberculous cavities in the lung does not seem to be a justifiable operation; that the nitrogen compression method of Murphy is a rational procedure in a limited number of selected cases, its application is safe, and the effect on the tuberculous lung seems favorable, and that the reported results are encouraging. The author asserts that thoracoplasty, while based on the same sound principles that give value to the nitrogen method, is an extensive operative procedure involving great risk to life, and furnishes slight promise of improving the percentage of cures obtained by climatic treatment.

Fractures of the Astragalus.—M. L. Ombrédanne (*Revue de chirurgie*, September 10th) says that fractures of the astragalus arise in two ways, by tearing and by crushing. The latter cause is rare and is due to direct injury. In the former variety, the neck and the body may be injured, the body alone, or the posterior tubercles. The symptoms are characteristic. The foot is thrown inward with or without a throwing of the sole inward. This deformity is characteristic if the malleoli are intact. Fracture of the posterior tubercles is marked by persistent uselessness of the foot, with pteralgia or Achillobdymia. Fractures of the neck and body are to be treated by total astragalectomy. If the tubercles are fractured and pain is continuous, the foot should be submitted to a skiagraphic observation; if the diagnosis is confirmed, removal of the fractured pieces is advised.

Congenital Ectopion of the Kidney.—M. Delore (*Revue de chirurgie*, September 10th) says that the surgical treatment of this condition presents some peculiarities. Laparotomy may be necessary for diagnosis, and it alone assures efficacious treatment, for the kidney lies rather retroperitoneal than lumbar. Ablation of the organ may be practised as for a mesenteric or pancreatic tumor. If the kidney is deeply fixed and its vessels multiple and of abnormal distribution, access to it should be easy enough for the simple termination of the operation by nephrectomy. The lumbar route is contraindicated on account of the abnormal situation and fixity of the organ. The vaginal route should be followed only if the kidney lies in the cul-de-sac. Laparotomy fulfils all the indications by providing abundant space for operation and access to the adherent and abnormally vascular organ.

Some Morbid Conditions of the Mouth. By E. W. Roughton, F. R. C. S. (*Lancet*, September 27th).—In the first of three lectures on the above-mentioned subject, the author discusses dental caries, the pain caused thereby, and the reflex neuroses of dental origin. There are about six species of bacterial organisms which seem to find the conditions of the mouth exactly to their liking; they flourish and crowd out all others. Among them are lepto- and jointed bacilli, micrococci, tetrads, and Klein's

vibrio. These organisms aid in digestion, but also may do harm; in these lectures the author deals with some of the morbid conditions which they produce. The mouth bacteria are the direct cause of dental caries; certain of them possess the power of forming acids (chiefly lactic acid) which acting upon the lime salts of the enamel, disintegrate it and thus permit the entrance of organisms into the dental tubules, where they continue the process by dissolving the lime salts from the dentine; and afterwards, certain other bacteria liquefy, peptonize, or digest the basic substance, thus removing the organic tissue and forming a cavity of decay. The most generally recognized symptom or effect of dental caries is pain. Extensive caries may be present without toothache as long as the person is in good health, but diseased teeth are prone to ache when the patient's health is deranged. It is quite common for the pain due to a diseased tooth to be referred to a neighboring tooth which is quite sound, to the other jaw, or to a region remote from the mouth (earache, headache, or facial neuralgia). As a rule, the recognition of the nature of a case of remote dental pain is not difficult. But each tooth should be examined separately, and cavities hidden in the interstices or below the gum must be sought for. Percussing the teeth with a steel instrument and syringing with cold water are useful means of diagnosis. The most difficult cases to diagnose are those in which isolated nodules of secondary dentine occur in the pulps of externally healthy teeth. Such a condition may cause severe neuralgia and can only be recognized after the tooth has been extracted and split open. There are many conditions which cause healthy teeth to ache or seem to ache; inflammation of the antrum, syphilitic nodes, and exostoses or other lesions of the fifth nerve. The term "neuralgia" should be reserved for those cases where there is no discoverable lesion.

Reflex spasm may be due to dental disease. Trismus or inability to open the mouth may be due to spasm of the masticatory muscles due to an impacted lower wisdom tooth. But, although muscular spasm may be due to dental irritation, it is very doubtful whether paresis or paralysis is ever due to the same cause. It is also extremely doubtful whether any actual eye or ear disease is really a reflex dental neurosis.

OBSTETRICS AND DISEASES OF WOMEN.

Results of Hysterectomy in Cancer of the Uterus.—M. S. Pozzi (*Presse médicale*, September 17th) concludes from an exhaustive study that surgical treatment of uterine cancer does not bring about a definite cure; it rarely offers a cure beyond two years, and, exceptionally, the cure lasts from four to six years. Hysterectomy is not justifiable after the disease has passed the limits of the uterus and has invaded the circumuterine tissues rendering the organ immovable. Palliative treatment by means of curetting and the actual cautery, sufficient to destroy the fungosities, prolongs life and is harmless. The compression of ureters by means of glands is a rare accident and the rôle of glands in terminal and postoperative recurrences has been exaggerated.

Abdominal hysterectomy increases the chances of infection more than the vaginal operation, and should

be reserved for special cases. It is indicated in cases in which the uterus is immovable and in which there is an induration of circumuterine tissues. Pozzi does not favor the extirpation of the pelvic cellular tissue and the following up of infected glands, as he believes the results are more grave than the benefits entailed would warrant. In beginning cancer, simple ablation of the uterus may be beneficial, and when the disease is advanced and death is a certain sequel, benign palliative treatment is preferable to dangerous pseudocurative measures. Vaginal hysterectomy, since it offers least chance of infection, remains the operation of choice in those cases, unfortunately rare, in which the uterus is movable and there is no infiltration in the neighboring tissues. The operation may be done from above, however, when the size of the uterus would otherwise demand a morcellement if removed by the vaginal route.

Uterine Rupture in the Early Months of Pregnancy.—Dr. Karl Kober (*Münchener medizinische Wochenschrift*, September 9th), in reporting a case of this character, says that a curetting of a uterus for abortion should never be undertaken before pains have started. Forcible dilatation of the uterus is to be avoided on account of the danger of severe laceration of tissues; it is better in the earlier months (up to three months) to induce gradual dilatation by means of laminaria tents, in the later months by means of rubber dilators. If pains have started and considerable dilatation is present, but not sufficient for the expulsion of the fœtus, the retained portions of the ovum are best removed by the use of the dull curette; all instruments which are used, however, must be dull and broad.

Myomectomy versus Hysterectomy.—Dr. Andrew J. McCosh (*Medical News*, September 27th) reaches the following conclusions: (1) In young women with uterine fibroids demanding removal, myomectomy should always be the operation of choice. (2) Myomectomy is possible and advisable in the great majority of cases of fibroid tumors in young women. (3) For the safe performance of myomectomy the strictest asepsis is needed, otherwise it becomes a most dangerous operation. (4) In the operation of myomectomy fear of hæmorrhage should be cast aside, and bold and rapid methods should be adopted. (5) The operation is attended by the same danger to life as is hysterectomy. (6) The ultimate results as regards menstruation, pain, and pregnancy, are satisfactory.

Placental Insertion of the Umbilical Cord.—Dr. Elis Essen-Möller (*Nordiskt Medicinskt Arkiv*, August 12th), concludes from the study of hundreds of placenta, that the umbilical cord in the vast majority of mature placenta, is inserted excentrically, and that, therefore, at full term, a central insertion is to be regarded as an unusual exception. No relation can be found to exist between the umbilical insertion and the height of the site of the mature placenta in the uterus. Further, the excentric insertion of the cord follows no rule—it may be found at the superior, the lateral, or the inferior border of the placenta.

NERVOUS AND MENTAL DISEASES.

Myotonia Periodica.—Dr. N. Kulneff (*Nordiskt Medicinskt Arkiv*, August 5th) describes this disease as a separate entity. It is characterized by a more or less complete temporary paralysis (lasting for one-half hour or longer) appearing at irregular times. It affects a few or the greater part of the voluntary muscles and shows a simultaneous loss of electrical and mechanical irritation. There is no psychic disturbance, or interference with sensation or the functions of the perceptive or vegetative organs. The disease is hereditary and congenital.

Hyperalgesias of the Skin and their Connection with various Diseases of the Internal Organs. By Dr. B. I. Gebstein (*Roussky Vrach*, August 31st).—An English physician, Head, three years ago described certain areas of superficial limits of pain in various internal diseases, which, according to the author, were very valuable in diagnosis. The exaggeration of the sensitiveness of the skin in some internal affections, and the location of this hyperalgesia in certain areas had been noted by others before Head, but it was his merit to have systematized this conception and applied it to diagnosis. Head showed, for instance, that in diseases of the stomach the areas of superficial hyperalgesia were always limited in a very strict manner, and never present regions of gradual transition into the less sensitive parts. Head concluded as follows: Every disease of an internal organ has its corresponding area of dermal hyperalgesia, which is definitely limited. Each such area takes the shape of a belt and extends on either side of the vertebral column toward the sternum. These belts correspond to the nerve fibres going from the segments of the spinal cord, which also serve as origins for the posterior roots of the spinal nerves. In each belt there are generally two spots of maximum sensitiveness, which are always located in the same places. The belts of hyperalgesia correspond to the belts of sensitiveness observed in herpes zoster. The skin reflexes in these belts are always increased. The observations of Head have been confirmed since then by a number of observers. The author describes a number of cases in which he found these belts of hyperalgesia, and shows their location on charts accompanying the article. While Head's belts are not pathognomonic of disease of a certain organ in every instance, some of them being the same for two or three organs, yet further investigations are needed in this field, to make it more complete and more available for diagnostic purposes.

LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

Laryngeal Menstrual Herpes.—Dr. Bettmann (*Berliner klinische Wochenschrift*, September 8th) reports a case of a young woman twenty-three years of age suffering from the secondary symptoms of syphilis, upon whose larynx a vesicular eruption was noticed simultaneously with an undoubted herpes eruption on the nose. This combination, together with the fact that at her menstrual periods herpetic spots appeared on different parts of the body, makes the conclusion clear that the laryngeal eruption was herpetic and was to be classed among the menstrual exanthemata, a rare form of eruptions.

GENITO-URINARY DISEASES.

Pollution and Spermatorrhœa among Railroad Employees.—Dr. N. A. Bogoraz (Roussey *Vraich*, August 31st) has reported to the authorities a series of statistical facts which prove that railroad men are, as a class, more subject to functional sexual disturbances than other professions. He found, for example, that 20 per cent. of all the engine drivers were afflicted with spermatorrhœa (constant discharge of semen) and the same affection was found in 19 per cent. of conductors. In other professions the number of cases of spermatorrhœa is only 4 per cent., so that the railroad men form from 65 to 68 per cent. of all patients with spermatorrhœa. Of the engine drivers, 20 per cent. admitted having masturbated formerly, but only 2 out of 300 made the same admission as regards the present time. Among the conductors, former masturbation was admitted in 14 per cent., and among other professions outside of railroads, in 11 per cent. Gonorrhœa was found, however, to have a more close relation to spermatorrhœa, for 35 per cent. of all engine drivers had had gonorrhœa, and of these 8 per cent. had chronic urethritis. Of the cases of spermatorrhœa, 69 per cent. were found to have followed gonorrhœa in engine drivers, and 58 per cent. among the conductors. The men who had had chronic gonorrhœa were found especially prone to spermatorrhœa. As the percentage of railroad employees who had had chronic urethritis was not extraordinary, it was thought that some other cause was behind the frequency of spermatorrhœa in engine drivers and conductors. Constipation was found to be very prevalent among these men, affecting 54 per cent. in engine men and 45 per cent. in conductors. Among men in other walks of life this percentage is 11 per cent. Venous stasis in the lower part of the body is specially characteristic in railroad employees. Only 22 per cent. of the engine men were free from signs of this condition, and in 49 per cent. there was well marked varicocele. In conductors these percentages were 30 and 51 per cent. respectively. In other walks of life, they were 67 and 21 per cent. respectively. The author concludes that railroad employees, as a class, suffer a diminution in sexual power in the course of time as the result of their occupation. [It would be interesting, in the light of this study, to trace the birth rate among these employees' families, and to ascertain whether it had suffered diminution in consequence of impaired sexual function.]

Infection of the Female Genitals by Non-Gonococcic Chronic Urethritis.—M. Audistère (*Progrès médical*, September 6th) concludes from his exhaustive study that a chronic urethritis of non-gonococcic character can be contagious, since secondary infections may arise from extraconjugal or conjugal relations. These infections are due to a certain receptivity on the part of the urethra, which can be overcome, however, by prolonged antiseptic treatment. A healthy woman can be infected by a non-gonococcic chronic urethritis in a man, although it is sometimes difficult to prove this on account of the absence of clinical and bacteriological proof in the man. The infection usually takes place in the first few days of married life and demands a certain receptivity on the part of the mucosa of the woman. One probable cause is the congestion of the uterovaginal tract due to repeated sexual acts, and others

lie in the congestion due to menstruation and the fact that newly married women are not accustomed to the performance of the sexual act, which renders them more susceptible to infection.

As to the marriage of a man suffering from a chronic urethritis, the author thinks that a man with a microbic infection should not be allowed to enter the conjugal state. Marriage may be permitted, however, to a man with a permanent or intermittent urethritis with no demonstrable bacteria and who has never had a secondary infection; also to men who have had no reinfection for from six to eight months despite sexual indulgence. This period ought to be extended as long a time as possible. In case of marriage during the period of possible infection or receptivity, the husband should disinfect the meatus with a one to 4,000 solution of bichloride of mercury and the wife should take morning and evening douches of some weak solution of sublimate. Inter-course is to be interdicted during the menses and fidelity of the husband must be insisted upon. In case of infection of either husband or wife, inter-course must be forbidden until a complete cure is effected.

On Hereditary Immunity to Syphilis and the So-Called Law of Profeta. By Dr. M. A. Tchenoff (*Roussey Vraich*, September 7th).—The fact that the children of syphilitic parents are, as a rule, immune from syphilitic infection is known as the law of Profeta. The latter formulated this law in 1865 in the following manner: If a syphilitic mother, infected before or after conception, gives birth to a healthy child, she will not infect her offspring by nursing, kissing, etc., even if she has contagious lesions on her nipples. This law was subsequently broadened to include also immunity for children born of a syphilitic father or of a syphilitic mother who was in the tertiary stage. At one time Anzias-Turenne even suggested that all prostitutes, sailors, and soldiers, as chief spreaders of syphilis, should be infected with the disease. In view of this broadening of Profeta's law, and in view especially of a large number of new facts that have been observed since its promulgation, this theory needs thorough revision. Ogilvie (*British Journal of Dermatology*, 1899, Nos. 2 and 3) contributed the most comprehensive treatise on the question. The present author analyzes this work, and adds some observations of his own based on several noteworthy cases. Ogilvie, in the first place, denies entirely that immunity is conferred by a syphilitic father. In these cases, he says, the history of the case in both parents is almost always practically unknown. According to Ogilvie the offspring of a syphilitic father can become infected with syphilis as early as two years after birth. This view does not meet with the author's entire approval, although he admits that syphilis in the father has less protective influence than that in the mother, yet cases are on record where its immunizing influence is clearly shown, as, for example, the case of Tarnovsky, in which a daughter of a syphilitic married a man with condylomata and had connection with him with impunity. While, theoretically, the conferring of immunity through the father's syphilis as well as through the mother's is probable, yet the influence of the father's disease upon the offspring seems to be less marked and of shorter duration (only two years in one case) than that of the mother's syphilis.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

The Intestinal Action of Atropine.—Dr. Paul Ostermaier (*Münchener medizinische Wochenschrift*, September 9th) says that in addition to digitalis, iodine, mercury, quinine, and the recognized sedatives and narcotics, atropine is a drug of the greatest value. It is of special value in cases of external intestinal incarceration as a substitute for taxis, but not for hernia; in cases of ileus, it should not be used as a measure of preference over an operation, which should not be postponed more than a few hours; but it should be chosen as a drug rather than opium in these cases.

Acute Formalin Poisoning.—Dr. A. Gerlach (*Münchener medizinische Wochenschrift*, September 9th) reports the case of a young woman who suffered from acute poisoning after taking douches of formalin. The principal symptoms were unconsciousness for fifteen hours, intense vertigo, anuria lasting twelve hours, a slight irritation of the kidneys, a moderate intestinal catarrh, and somewhat augmented breathing and pulse rates. Recovery was prompt.

Therapeutic Uses of the Cacodylic Combination.—Dr. Aage Kock (*Nordiskt Medicinskt Arkiv*, August 5th) concludes that sodium cacodylate, an organic preparation of arsenic containing fifty-four per cent. of arsenic, has for its principal action upon the organism the same effect as arsenic. Among the secondary effects were noted nausea, eructations, cardialgia, anorexia, diarrhoea, headache, facial congestion, epistaxis, hæmoptysis, psychic excitation, rise of temperature, local sweating, and albuminuria. The hypodermic injection of the drug, frequently followed by itching, redness, and induration, does not prevent the characteristic appearance of a garlicky smell in the breath and of albuminuria. There is a rapid increase of red cells following the use of the cacodylate of sodium and there may be an increase of hæmoglobin, but it is not in proportion to the augmentation of erythrocytes. In tuberculosis, the drug, like arsenic, diminishes expectoration and, to a lesser degree, the cough. It reduces night sweats and sometimes reduces the temperature. It also seems to exert a favorable influence upon the local process in the lungs, but occasionally in severe cases, it seemed to augment the unfavorable symptoms.

HYGIENE AND SANITARY SCIENCE.

The Influence of Artificial Illumination upon Well-Being and Capacity for Work. By Dr. R. A. Katz (*Roussky Vrach*, September 7th).—The question as to whether mental work can be accomplished under the best possible conditions in a room in which only the centre of work, the writing table, etc., is brilliantly illuminated and the walls comparatively dark, is variously answered by different observers. Some assert that it is better to have dark walls upon which the eye may rest in the intervals of work when it is fixed upon a brightly lit surface, as in reading, writing, etc. Others on the other hand say that the transition from light to darkness is not a rest to the eye, but a positive strain upon it, and hold that the walls of a study should be well illuminated as well as the table. The author, who has made a study of

the subject for a number of years, and who has written a number of articles on similar themes, holds strongly to the latter view. He finds that working in a room illuminated by a lamp that is shaded so as to exclude light from the walls produces a depressing sensation in most individuals, and gives rise in many on whom he has experimented to a feeling of lassitude and an irresistible somnolence. On the other hand, when the walls were lit properly, the capacity for work and the freedom from somnolence increased in proportion as the room in general increased in brightness. In all these cases the somnolence was produced merely by the abstraction of the necessary light energy, not by lassitude after the day's work, for this feeling came on at different times in different seasons, earlier in winter, later in summer, etc. The question is, What is depressing to the nerves about artificial light? Is it the incompleteness of its spectrum, or the insufficiency of light as compared to daylight? Trivus, of Bechterieff's psychological laboratory, shows by experiments that various colored lights have depressing effects upon the rate and volume of the pulse wave. The activity of the nerves demands a certain amount of light energy, and as each color is but a part of the spectrum of the rays of the sun, it follows that colored light cannot give the same energy as white light. Hence when placed in colored light the subject is in a state of what might be called "light hunger." Various colors affect the pulse more than others. Thus yellow light, being in the brightest part of the spectrum does not affect the pulse rate as much as violet light, which is the darkest part of it. However, the author believes from his experiments on persons and their capacity for work in artificial light that it is not the part of the spectrum that counts, but the "insufficiency in the amount of light energy" that acts as a depressant to the brain and nervous system. Therefore the use of colored shades for softening the light in workrooms and the centralization of the light in such a way as to leave the walls of the room in semi-obscurity are wrong from the viewpoint of hygiene.

PHYSIOLOGY AND PATHOLOGY.

Phloridzin Diabetes, and Renal Permeability. By Dr. Nicola De Dominicis (*Gazzetta degli ospedali e delle cliniche*, July 6th).—Phloridzin is a substance which was found in various fruits by Koenig and Stass in 1895, and which, on the addition of dilute acids is decomposed into glucose and phloretin. Von Mering, in 1897, showed that if this substance was injected into the blood of animals it gave rise to a glycosuria. According to an old Galenic theory, the changes found in the kidneys in diabetes are not the effects, but the causes, of the diabetes. This view has of late received endorsement on the part of Lépine, and other observers, including the present author, although for a number of years the opposite opinion was generally held. Numerous experiments have been performed with phloridzin-glycosuria, and it has been found that neither puncture of the fourth ventricle, nor extirpation of the pancreas gives such constant glycosurias as phloridzin. The pathogenesis of this glycosuria is a moot question, however, and the author has performed a series of experiments that tend to throw some light on the subject. He has found that injections of phloridzin produce a

glycosuria within forty minutes, and that at the same time the amount of glucose in the blood increases. Injections of phloridzin into dogs from which the kidneys had been removed were then tried, and it was found that in these cases too, the glucose in the blood increased. The author also tested the effects of phloridzin upon various internal organs, such as the kidneys, the brain, etc. He exposed one kidney in the loin, decapsulated it, ligated the afferent arteries, left the efferent veins intact, and tapped the ureter, so as to receive the urine into a vessel. Then he introduced a cannula into the renal artery above the ligature and injected a one-per-cent. solution of phloridzin. In no case was there a trace of sugar in the urine that issued from the tapped ureter, but there was always sugar in the urine found in the bladder. The kidney was then removed and boiled, after having been cut into pieces. The decoction did not contain any glucose. To test the effect of phloridzin on the brain, the author removed a small amount of blood from the carotid, then injected phloridzin into this artery and after a time removed a sample of blood from the jugular vein on the same side. The result was that the same amounts of glucose were found in both samples of blood. Practically the same result was obtained with experiments dealing with the liver. Finally he made extracts of fresh dead tissues with water and added phloridzin. The effect of this substance upon the dead tissues was that there was no difference between the amount of glucose found in the extract before and after addition of phloridzin. The author believes that these experimental facts show that the action of phloridzin upon the tissues takes place through the medium of the nervous system, and not directly. By injections of a solution of sodium chloride, sodium phosphate, and sodium sulphate into the veins of markedly glycosuric dogs deprived of their pancreas, the author was able to observe the disappearance of the glycosuria for three or four days, and was able to suspend or diminish the glycosuria for a few days, either by changes induced experimentally in the kidneys, or by injuries to some of the abdominal organs. It is impossible to say, as yet, what rôle the kidneys play in the origin of this experimental glycosuria, although the amount of glucose in the urine seems certainly to depend upon the permeability of the organ.

Entrance of Air into the Veins.—Dr. Malcolm Goodridge (*American Journal of the Medical Sciences*, September) reports a series of very interesting experiments from the Physiological Laboratory of Columbia University, and concludes an important paper by applying the results obtained to preventive and radical treatment, as follows:

1. *Preventive.* When operating in the region known as the "danger zone" none but the prone position should be permitted, for should one of the veins be injured, the semiprone or sitting posture predisposes to entrance of air into the veins. If any dissection is necessary, as is often the case, it should invariably be performed with a blunt instrument, never with a scalpel. Special care should be used if the operation is one for the removal of cancerous or tuberculous glands, which are always more or less intimately connected with structures adjacent.

2. *Radical.* Should attention be called by the hissing sound accompanying the rush of air into the veins to the injury of a vessel in this region, the finger should be forced into the wound to prevent further

entrance of air, the wound cavity should be filled with salt solution, and the chest should be compressed forcibly. If bubbles are seen in the fluid contained in the wound they are due to air coming out. If, however, the heart becomes tumultuous, if the churning sound attracts attention, and if the respirations become labored and the inspirations forced, a needle should be inserted into the fourth left interspace one inch from the left border of the sternum; it should be directed obliquely upward and backward, and the right ventricle will be entered; aspiration should be continued until the blood comes out unmixed with air; then, an assistant having previously prepared a solution of normal salt at a temperature of 115° to 120° F., it should be infused into the patient until fluid has been introduced equal in quantity to the blood taken from the heart. The most convenient region in which to perform this infusion is the median basilic vein.

To sum up, the following facts seem clear:

(1) That entrance of air into the veins, even in small amounts, is to be dreaded, as it may result in death. (2) That death is due to gaseous distention of the right heart or to air emboli in the coronary vessels, and not to primary respiratory paralysis. (3) That combined treatment by aspiration and infusion we may expect to be attended with good results.

In conclusion, Dr. Goodridge believes the statement "that large quantities of air may be introduced into the veins without unfavorable result" to be pernicious teaching and not supported by fact.

The Leucocytes in Malaria. By Dr. C. H. Melland (*British Medical Journal*, September 27th).—From the study of the leucocytes in the blood of ten cases of malarial fever, the author draws the following conclusions: Cases of malaria show constantly at some period an increased percentage of large uninnuclear leucocytes. This is most marked at times when the patient is free from fever; no conclusions are to be drawn from the leucocytes during the rise of temperature. In a case suspected to be of malarial nature, the presence of ten per cent. of large uninnuclear cells is strong presumptive evidence that the case is one of malaria; the presence of less than eight per cent. is strong presumptive evidence that the case is not one of malaria. These remarks apply solely to the blood of adults; in children the method is valueless, since in them the number of large uninnuclear cells may be increased in many chronic illnesses.

Variations in Albumin in Constant and Intermittent Albuminuria.—M. Daremberg and M. Moriez (*Revue de médecine*, September 10th) conclude that all albuminurias which make no great impression upon the organism, are at their minimum in the morning. In different varieties, the maximum hour of elimination is very variable; but in cases of permanent albuminuria, the maximum is between noon and five o'clock. The cases with a morning disappearance of albumin, are the ones influenced by alimentation, while the others are not; the latter do well with arsenic, the former with alkalis. In cases of intermittent albuminuria, the quantities of uric acid, of total acids, and of albumin are usually proportional, sometimes inversely proportional. Patients of this class may gain in weight, even if the percentage of albumin increases.

Proceedings of Societies.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

Sixteenth Annual Meeting, Held in Atlantic City, on April 29 and 30, 1902.

The President, DR. WILLIAM T. BELFIELD, of Chicago, in the Chair.

The Technics of Prostatectomy.—Dr. JOHN P. BRYSON, of St. Louis, described the technics as follows: After the usual preliminary preparations, a broad, grooved staff was introduced and a free perineal incision made, opening the urethra just in front of the apex of the prostate. The knife, after entering the groove of the staff, was pushed far enough back to incise the ring at the apex of the prostate. The forefinger followed well into the prostatic urethra, and the staff was withdrawn. The finger quickly exposed the prostatic urethra and ascertained whether the vesical outlet could be reached; after this the forefinger of the right hand in the rectum permitted of a bimanual examination of the prostate within reach. Guided by the finger, a blunt instrument was now passed into the urethra and made to puncture from the urethral side the most prominent part of the mass, and then the instrument was pushed well into the swelling. On its withdrawal, the finger tore its way into the centre of the mass, which, even in fibrous prostates, was comparatively friable. The mass was now opened through to its capsule, and the finger swept round its periphery without tearing the prostatic capsule or the fibrous sheath of the gland. The floor was felt to tear longitudinally. After the lobe had been loosened all around, there remained the attachment to the urethra, in detaching which care must be taken not to remove too much of the sides or any of the roof of the urethra. The hypertrophied lateral lobe was then removed, to do which one had often to go well up behind and beside the neck of the bladder; yet it was possible to do this and keep within the capsule. Very little bleeding followed. The detached mass might be withdrawn with an ordinary lithotomy forceps, or might be broken up with the finger or divided with the scissors. This process was repeated on the opposite side, after which a median posterior segment remained to be dealt with, which could usually be done by sweeping the finger from side to side, pushing it backward in such a way as to detach the mass well up behind the bladder and roll it downward. One might often be surprised to find that he could get behind and excochleate what he had just felt as a pedunculated intravesicular projection or a growth *en collarette*, bringing it well down by use of the forceps, apparently without disturbing the fibrous ring at the vesical outlet. The more the detached mass was rolled downward by pulling upon its upper surface the less mucous membrane was removed. Usually now the finger could be passed through the ring into the bladder, which could be explored thoroughly. The bladder was now irrigated with hot saline solution until the oozing ceased. If the finger was now introduced, the floor and the sides of the urethra would be found intact, the latter often hanging loosely against the outer

wall or sides of the cavity from which the growths had been removed. A large cavity was made out, between the lower part of which and the rectum there was felt a thin wall. Into the lower part of this, hinged posteriorly about the ring at the vesical neck, was an irregular flap of mucous membrane, which could be pushed back and often made to occlude the vesical outlet. Care must be taken not to double backward and push this flap into the bladder when the large drainage tube was introduced.

The Surgical Treatment of Prostatic Hypertrophy.—Dr. CHARLES H. CHETWOOD, of New York, read this paper. (See Vol. LXXV., p. 925.)

Dr. HENRY H. MORTON, of Brooklyn, reported a case in which the Bottini operation had been performed on a patient seventy-eight years of age, who for a year prior to the operation had been complaining of tenesmus and frequent and painful urination. At the time of his admission to the hospital there was complete retention, an examination revealing twenty-four ounces of residual urine. At this time the prostate was an inch and a half in diameter and cystoscopic examination showed an enlarged middle lobe and a trabeculated bladder. The urine was acid, cloudy, with a specific gravity of 1.016, and showed a slight sediment which contained pus cells but no casts. Bottini's operation was performed, three incisions being made, the anterior one being 2 cm., the posterior 3 cm., and the left lateral 2 cm. in length. For three days after the operation catheterism was necessary, at which time the patient began to urinate spontaneously. Eleven days after the operation micturition occurred every hour during the day and five times at night, catheterism being performed daily with a withdrawal of from three to four ounces of residual urine. One month after the operation the patient urinated six times daily and four times during the night, the stream, although slow in starting, being ejected with good force. Up to this time the patient continued to be in good general condition and cystoscopic examination showed the posterior lobe of the prostate with a cleft in the middle made by the Bottini incision. Subsequently his appetite and general vitality began to decrease, and death ensued fifty-four days after the operation.

A complete autopsy was not permitted, but an examination of the bladder showed it to be contracted and to contain a small quantity of thick and foul pus. Many small necrotic areas were scattered about the surface, and a number of small sacculi, one containing a little calculus, were observed. Traces of the posterior incision were very distinct. The interureteric fold of the mucous membrane had been divided, and the middle lobe of the prostate cleft in halves, necrotic areas being visible at the apex of each half. The left lateral incision had not split the prostate, but merely separated the mucous membrane from the superior surface of the gland, and no traces of the anterior incision were visible. The kidneys were not examined, but, as previous urinalyses had revealed the absence of casts, the cause of death was probably cystitis, which had been greatly aggravated by the operation. The middle lobe of the prostate was completely divided into two halves.

The reduction in size of the prostate following Bottini's operation probably resulted from the sloughing subsequent to the burning. The difficulties of placing the instrument in a correct position

were shown by the fact that in the case related the left lateral incision did not divide the left lobe of the prostate, as intended, but only lifted up the mucous membrane covering it, while the anterior incision was found not to have been made at all. The obstruction to urination was relieved by a single incision through the posterior median lobe of the prostate, and death did not occur until seven weeks after the operation, at which time the relief was complete. The patient required bladder washing and had no home, and for these reasons was kept in the hospital until his death, but, had he left the hospital as soon as he was able to go after the operation, his case might have been reported as one of complete retention of urine in a man seventy-eight years of age entirely cured by Bottini's operation.

Prostatectomy.—The same author reported a prostatectomy performed on a patient, aged sixty-two years, who entered the hospital suffering from retention of the urine due to prostatic enlargement. Previous to his admission, attempts by the attending physicians to introduce a catheter had resulted in a false passage into the prostate. At the time of his admission no instrument could be passed into the bladder, and so external urethrotomy without a guide was performed. For three weeks subsequent to this the bladder was drained through a No. 30 catheter, at which time it was removed, but owing to the fact that the patient could not urinate, it was reintroduced and allowed to remain two weeks longer, when prostatectomy was performed. Suprapubic cystotomy was done to depress and hold the prostate, and the perineal wound was used for shelling the prostate out from the capsule. Three tumors, from half an inch to an inch and a half in diameter were enucleated without difficulty, and there was no hæmorrhage following the operation. Drainage was established through perineal and suprapubic tubes. The patient did well for three days and the drainage was perfect, but later sepsis developed and ten days after the operation death ensued. The autopsy showed the suprapubic wound to be intensely infected; the cavity from which the prostatic tumors had been removed was healthy in appearance and indicated that it would have healed entirely by granulation. The obstruction to urination had been entirely relieved by the enucleation of the prostatic tumors.

Removal in Toto of All Three Lobes of the Prostate by Suprapubic Cystotomy.—Dr. CHARLES L. GIBSON, of New York, presented a specimen. The patient was sixty-two years old, and gave a history of increasing obstruction of urine during the preceding six years. Frequently the urine dribbled away. Examination per rectum revealed a considerable enlargement of both lateral lobes. On several occasions fifteen ounces of residual urine were obtained. There was moderate cystitis but no evident kidney lesion. The operation of prostatectomy was considered according to Dr. Alexander's technics. The first step, however, revealed the bulging of the prostate into the lumen of the bladder so distinctly that the author determined to remove the enlarged portions by this direct approach. The vesical mucous membrane was incised over the urethral orifice, and he then found that his finger could sweep all around the prostate, and so in a few seconds he brought out the whole prostate *en masse*. Of course, the urethral

outlet must have been torn away, but of this he was not aware as the prostate shelled out without any force and without much bleeding. He completed the operation by adding a perineal opening for drainage. A favorable result was promised, as there was no reaction. On the fourth day the dressings were changed, the bladder was washed out, and the patient's condition was all that could be wished for, with normal temperature and a free secretion of urine. Yet he died six hours later without any particular manifestations. There was no autopsy.

The author presented the case, not to recommend that the prostate should be removed *in toto*, with the necessary drawback of destroying the urethral orifice, but for the purpose of emphasizing how easily the prostate, or portions of it, could be removed without destruction of tissue or hæmorrhage, provided one only entered the essential line of cleavage.

The Use of the Cautery on the Prostate Through a Perineal Opening.—This paper, by Dr. WILLIAM N. WISHARD, of Indianapolis, was read by Dr. BRANSFORD LEWIS, of St. Louis.

Dr. EUGENE FULLER, of New York, had performed twelve perineal prostatectomies during the past year and a half, with but one death, which resulted from delirium tremens. The oldest patient was eighty-one years old and his condition was complicated by the presence of a mulberry calculus which he had to remove by the suprapubic route. Another of his patients had tuberculosis of one lung, and spinal anæsthesia was employed successfully. The patient died seven or eight months after the operation, from general tuberculosis.

Dr. FRANCIS S. WATSON, of Boston, said that in two thirds of all cases, a prostatic enlargement would be found within reach of the finger after a perineal incision through the urethra. An elaborate armamentarium he did not believe to be necessary, and he laid particular emphasis upon the use of the finger in removing this gland.

Dr. GEORGE CHISMORE, of San Francisco, had had an opportunity of observing the work of Dr. Goodfellow, of San Francisco, whose method he described. Special importance was attributed to placing the patient in a position with the thighs strongly flexed upon the trunk. He reported eight cases, all bad ones, occurring in old men, two of them being over eighty years of age. Of this number, two had died. In one of these there was an encysted stone, and a suprapubic opening was necessary to remove it, although it was not larger than the end of one's thumb. The second patient died as the result partly of an opening made into the rectum during the operation.

The Operative Treatment of Hypertrophied Prostate.—Dr. BRANSFORD LEWIS, of St. Louis, said that while claiming for prostatic surgery the merit of wonderful progress in the last fifteen years, he thought that the profession was not above criticism in certain respects; that operators were much inclined to follow beaten tracks and routine procedure rather than base their operative treatment on the special conditions found in each individual case. He mentioned some points in the histories of some of his cases which had a bearing on the subject. The proper selection of the operative procedure was of the greatest importance in attaining successful re-

sults. This was satisfactorily explained by the dozen or more pathological specimens and models of hypertrophied prostates exhibited by the author. In these the various forms of prostatic enlargement and obstruction were clearly illustrated—the prostatic bar, the bilateral hypertrophy, intravesical tumors and projections, sessile and pedunculated, the nodular valves, and the median outgrowths, adenomata, etc. From all these cases it was perfectly evident that no one operative procedure could possibly fit all cases, and that the operation should be selected according to the cases at hand, rather than the personal inclination of the operator. The conditions favorable for the several operations in vogue were summed up as follows:

Favorable for the Suprapubic Route: 1. General enlargement of the prostate, with extreme intravesical projection of the median or lateral lobes, diminishing their accessibility from the perineum. 2. Marked pedunculation of the intravesical tumors, with absence of obstruction from other sources.

Favorable for the Perineal Route: 1. General hypertrophy, involving the lateral lobes, without extreme intravesical projection. 2. A large or very thick bar formation. 3. Severe compression of the urethra between massive lateral lobes. 4. Excessive development of the prostate in the direction of the rectum. 5. Most cases in which the patient was in good general condition and was not too aged, and there was not a special indication favoring one of the other procedures.

Favorable for the Bottini Operation: 1. Cases of excessive debility or of extreme age, the patient being unable to stand one of the severer operations. 2. Cases of bar or median sessile obstruction, of not too great dimensions. 3. Complete collar formations. 4. Horwitz said it should be employed as a prophylactic against further obstructive tendency, at the beginning of catheter life.

Dr. F. R. STURGIS, of New York, said that the removal of the prostate and ejaculatory ducts prevented the flow of the prostatic secretion which was so essential to the vitality of the spermatozooids, and therefore tended to render the male sterile. On this account he believed that some partial operation, like the Bottini, was preferable.

Dr. EUGENE FULLER, of New York, said that if one had to deal with one hundred cases of prostatic enlargement, seventy-five of them would offer something new. In cases where there were troublesome hernias, if the bladder was opened and drainage instituted, the tenesmus and straining ceased and often the hernia disappeared.

Dr. F. TILDEN BROWN, of New York, said the use of the cystoscope was unsatisfactory in determining just what we had to deal with. If there was any excuse for making a suprapubic opening, he believed such an opening should be made use of for the introduction of the cystoscope, with which we could look directly down upon the trouble and learn its real nature. Recently he had had an opportunity to examine two cases through a suprapubic opening, and he had learned a great deal that he never would have learned if the cystoscope had been introduced through the urethra.

Dr. H. H. YOUNG, of Baltimore, considered the Bottini operation one of great value. He had had

nineteen cases in men over seventy years old and three in men over eighty years old, without a single death following the Bottini operation, and in all but two, good results had followed. Thirteen of these patients used the catheter and all but two were able to discard it.

The PRESIDENT said that nothing was known regarding the etiology of this condition. Some of the most violent cases of prostatism occurred in those who had no prostates at all. He thought we were overestimating the importance of enlargement of the prostate as a cause of the trouble.

A Note Upon the Detection of Stone in the Kidney by Skiagraph, with Specimen.—Dr. JAMES BELL, of Montreal, showed photographs of a case in which the skiagraph had demonstrated a stone with perfect satisfaction. At the time of operation it was shown to be in the same situation, and to be of the same size, as shown in the skiagraph.

Renal Tuberculosis.—Dr. F. TILDEN BROWN, of New York, said that at the Presbyterian Hospital, during the past ten years, there had been 1,427 necropsies, of which number 258 (18 per cent.) showed tuberculous lesions somewhere in the body, and 48 of them (18.5 per cent.) showed renal tuberculosis. Of this 48, 32 occurred in males and 16 in females; 39 had tuberculous lesions in both kidneys, while but 9 had it in one kidney, 5 of these involving the right and 4 the left kidney. Of the 258 tuberculous bodies, it was shown that the kidneys were more commonly involved than the spleen, liver, or adrenals. During the same time there were in the hospital 78 cases diagnosed as renal tuberculosis, of which number 13 (16 per cent.) had nephrectomy performed, with but one death, occurring two months after the operation; at the autopsy the other kidney was found to be involved. The vast majority of cases that came to autopsy which showed tuberculous lesions in the kidney were of the disseminated miliary type, and with such a class of patient, of course, surgeons had not to deal. At necropsies as high as three or four per cent. of healed cases of pulmonary tuberculosis have been found; whereas it was of the rarest occurrence to find at autopsy any evidence of Nature's efforts to attempt to cure renal tuberculosis. From a surgical standpoint he did not believe any surgeon would hesitate to perform an immediate nephrectomy if he was sure that one kidney contained the only appreciable focus of the tuberculosis.

Through the courtesy of his colleague, Dr. Tuttle, he was able to show a picture of a case of pseudo-tuberculosis of the kidney, a very rare thing, first described in 1891.

Tuberculosis of the Seminal Tract.—Dr. HUGH H. YOUNG, of Baltimore, presented an exhaustive résumé of the literature bearing upon the question of pathology and treatment, and his conclusions were as follows:

Pathology.—The disease may begin primarily anywhere in the tract, but usually it starts in the epididymis. The bacilli, which are being constantly carried up with the testicular secretion along the vas deferens, very soon localize in the ampulla of the vas, the ejaculatory duct, the seminal vesicle, and the adjacent portion of the prostate. The testicle is very seldom the point of primary origin, and it becomes involved secondarily generally much later than the

seminal vesicles, though it seems not to be so immune as formerly supposed. Tuberculosis frequently travels from the kidney to the prostate, and from there involves the testicle, but it is hardly ever primary in the bladder.

Treatment.—There are to be found in literature 35 cases in which the seminal vesicles have been removed for tuberculosis; of these, 14 will not be considered, because the operator failed to state ultimate results. Of the 21 which were followed, 6 ended fatally, in 5 there were recurrences, and in 10 the patients were classed as well. Only 8 cases were followed over a year and, in these, 2 patients died, 2 had perineal fistulas, and 4 were classed as cured. In only one of the six fatal cases was pulmonary involvement present before the operation. Considering, then, that both seminal vesicles were involved in but 12 cases, the infrequency of lung and bladder tuberculosis, these 35 cases were not the most intense, and with cures alleged in less than 50 per cent. and with only eight followed more than one year, the results obtained by operative removal of the tuberculous seminal vesicles were indeed unsatisfactory, and apparently not nearly so good as where a partial operation upon the external disease in the testicle alone was attempted.

Tuberculosis of the Testicle.—Dr. PAUL THORNDIKE, of Boston, presented a short paper on this topic, based upon 75 cases of the disease collected from the wards of the Boston City Hospital. Sixty-seven per cent. of these cases occurred between the ages of twenty and forty years. Sixty per cent. involved the left testicle. Eighteen per cent. involved both testes. Thirty-six per cent. involved the right testis. Gonorrhœa had preceded the development of the disease in thirty per cent. of the cases, and trauma in twelve per cent. The epididymis alone was involved in forty-two cases. The epididymis and testis were involved in thirty-two cases. The vas deferens was palpably involved in twelve cases, the seminal vesicles in sixteen; the prostate in thirteen cases. His paper discussed two points; first, the feasibility of removing the epididymis and leaving the testis behind, in proper cases; second, the benefit to the patient of operations which removed only a part of the disease in cases in which total eradication of the tuberculous process was impossible.

Genitourinary Tuberculosis.—Dr. THORNDIKE presented two cases. In the first the deposit in the prostate was shown not alone to be the only manifestation of tuberculosis in the urogenital system, but also the only one in the body. In the second case, in a patient with Addison's disease, it was clearly shown that the ureter on the same side as the diseased adrenal had been infected through its mucous lining by the tubercle bacillus, carried there presumably by the urine secreted by the kidney the adrenal of which was tuberculous.

An Analysis of Ninety-six Operations for the Relief of Tuberculosis of the Testicle.—Dr. ORVILLE HORWITZ, of Philadelphia, presented the following conclusions to his paper: 1. A primary tuberculous infection of either the epididymis or testicle may occur, the former being by far the more common. 2. A primary infection of the epididymis, secondarily that of the testicle, is more common than the descending one. 3. Primary involvement of

either the epididymis or testicle usually takes place through the circulation, the soil being predisposed to the location of the tubercle bacillus, either by a slight traumatism or by some infecting condition which has given rise to inflammation of the organ, most commonly an attack of gonorrhœa. 4. Secondary tuberculous involvement of the epididymis or testicle sometimes follows a primary focus of the disease in other portions of the body, more commonly in those organs that are in direct anatomical connection with the sexual glands, such as the seminal vesicles, the prostate, urethra, bladder, ureter, or kidney. 5. The invasion of the testicle may be rapid, associated with acute inflammatory symptoms, an abscess soon developing; or the onset may be slow, the symptoms simulating those of either chronic syphilitic orchitis or malignant disease of the organ. 6. The tuberculin test should always be employed in doubtful cases where only one focus of the disease is known to exist. 7. In doubtful cases associated with hydrocele, the fluid should be examined for the tubercle bacilli and inoculating experiments made. 8. Injections of either emulsions of iodoform or sulphate of zinc into the diseased part are not to be recommended. 9. In all cases of encapsulated caseous nodules quiescent in the epididymis, epididymectomy should be performed. 10. Epididymectomy, together with resection of the vas deferens, is not attended by either atrophy of the testicle or sexual weakness. 11. The drainage of tuberculous abscesses, followed by the use of the curette, is only to be employed where radical treatment is not permissible, as it is attended with more or less danger and is generally unsatisfactory in its results. 12. In instances where the epididymis alone is involved, a resection of the diseased structure is all that is required; whether a partial or complete resection of the vas deferens is to be undertaken is still undecided. 13. Double orchectomy should be performed when both glands are diseased, provided there is not extensive coexisting tuberculous infection of other organs. 14. Whether infected seminal vesicles should always be removed at the time that the epididymis or testicle is resected is a question open for discussion. From the fact that in a large majority of cases the removal of the primary seat of the disease is followed by a subsidence of the tuberculous involvement of the vesicles, it is deemed wiser as a rule to wait and remove the vesicles later if necessary. 15. Hygienic and climatic influences play as important parts after an operation in fortifying the constitution against further invasion as they do in other tuberculous conditions. 16. The antituberculous remedies are of great value in controlling the disease and should be employed in conjunction with whatever surgical procedure may be deemed necessary.

Teratoma of the Testicle.—Dr. JAMES R. HAYDEN, of New York, reported the case of a patient who, seven years previous, had had epididymitis complicating a second attack of gonorrhœa; since then the right testicle had remained a little larger. Two months and a half before his admission to hospital it began to increase in size, became firm and hard, and, during the past few weeks, had become quite painful, with a feeling of weakness when standing, but which disappeared when walking. Examination showed the right half of the scrotum occupied by a smooth, painless, heavy, elastic tumor, the circum-

ference of which was eleven inches and three quarters. *The scrotum was normal in appearance and non-adherent. The tumor was removed, and the pathologist reported that sections of it showed that it was mostly composed of sarcomatous and carcinomatous elements, and undoubtedly belonged to the class of teratomata. The sarcomatous tissue was both small round-celled and small spindle-celled, with a few giant cells. The cancer was adenocarcinoma and practically replaced all the glandular elements. A considerable cartilaginous element was present, of the hyaline variety, with here and there a beginning ossification. The tumor, taken as a whole, on account of its composition and the large proportion of cells over basement and intercellular substance, should be regarded as decidedly malignant.

Gangrene of the Penis.—Dr. HAYDEN reported the case of a patient, fifty-seven years of age, a printer, who was admitted to Bellevue Hospital on January 15, 1902. His family history was negative. He denied having had any form of venereal disease, local traumatism, or cauterization. He was a paranoiac, having various delusions regarding the cause and nature of his trouble, a brief history of which was as follows: About two weeks prior to his admission, he noticed a small black spot on the end of the glans penis, which increased in size and gradually spread over the rest of the organ, giving rise to an offensive and penetrating odor. Upon his admission, aside from his deranged mental condition, he appeared to be healthy in all respects. The entire penis, from the meatus to within an inch of the abdominal wall, was greenish-black in color, dry, hard, and gangrenous, with an offensive and penetrating odor. The line of demarcation was well marked. The urine passed from the lower surface at about the middle of the penis. The inguinal glands were not involved. The parts were frequently irrigated and dressed with hot bichloride solution, which was followed by the removal of the slough in a few days, leaving a raw and bleeding stump about an inch and a half in length, from the end and lower border of which the urine was passed in a good stream. Healthy granulations were established and the entire stump was then covered with small skin grafts, the favorable outcome of which was admirably shown in a photograph exhibited, showing the corpora cavernosa entirely covered with sound integument. The patient left the hospital six weeks after his admission.

Officers for the Ensuing Year were elected as follows: President, Dr. Paul Thorndike, of Boston; vice-president, Dr. Edwin C. Burnett, of St. Louis; secretary, Dr. John Van der Poel, of New York; members of the council, Dr. William T. Belfield, of Chicago, and Dr. James R. Hayden, of New York. Next place of meeting, Washington, D. C.

Early Nephrotomy in Pyelonephritis.—Le Nouène (*Revue médicale du Normandie*, August 10th) reports two cases which with other considerations drawn from the writings of Le Dentu, Armandale, Mayo Robson, Tiffany and others, bear out his conclusions as follows: (1) In pyelonephritis without pus, nephrotomy effects a cure by relieving congestion and draining the kidney. (2) The incision should be made early that the operation may be easy of execution and effective.

Letters to the Editor.

DIEULAFOY'S VIEWS ON APPENDICULAR INFLAMMATION.

NEW YORK, August 25, 1902.

To the Editor of the *New York Medical Journal*:

SIR: To those of us who have hoped that soon there would be a healthy reaction against too frequent operations for appendicitis the immediate prospects are anything but encouraging. In this connection, I would refer particularly to the views of Professor Dieulafoy as reported in your issue for August 23rd. I disagree with Professor Dieulafoy in his statement that because he found on one occasion that matter from the interior of the appendix, when inoculated into rabbits, showed virulent consequences, therefore we are never wholly guarded as regards the outcome of a case of appendicitis. The virulence in one or more instances would not prove to my mind that all cases should be operated on, nor that all cases are virulent.

In cases of appendicitis, as in all acute diseases, the soil has much to do with the resulting product. While, therefore, in a certain proportion of cases appendicitis tends naturally or inevitably toward ulceration, perforation, and resulting peritonitis, in many instances which come under observation the march and outcome of the disease are wholly different. In point of fact, as we know, numerous cases of appendicitis recover thoroughly without recourse to operation, and to say the least, if an operation were performed in such examples, it would be unnecessary and injurious. The only excuse or apology offered for such injudicious operatory work is the bald statement that without exploratory incision we cannot as yet tell which the relatively innocent cases are, and therefore the only way surely to protect the whole number of patients affected with appendicitis from a certain proportion of deaths is to operate—and operate very soon. Against this statement should be made the other, that frequently when the abdomen has been opened no evidences of appendicitis have been discovered. Indeed, it is not unusual to find some wholly distinct disease of another organ. Or, again, the condition of the appendix, although somewhat swollen and inflamed, or perhaps attached in an abnormal situation, does not show any signs of ulceration, or immediate, or later perforation. Would such cases get well under judicious medical treatment? Undoubtedly many would and many have, no doubt, in times past. Some perhaps would get worse, and if so, the operatory conditions would then be worse. Or if a cure took place under medical treatment, it would not be permanent. Sooner or later there would be recurrence. And with the recurrence there might be more dangerous symptoms necessitating operation. Why not operate, therefore, before such recurrence occurs? Simply because return of the disease is not by any means assured. Nor is the second attack if it does occur necessarily graver than the first. Moreover, after one or even two attacks of appendicitis months and years may elapse before another occurs. Or, and we must admit the fact, appendicitis may never recur. Ah! but the surgeons say finally, the death rate from appendix operations properly performed is very small—not more than two per

cent. And the death rate from cases without operation is far greater. Therefore operate upon all. Physicians who believe as I do, advise operation when clear indications arise for it in the real gravity of the combined symptoms, but do not predispose all cases in this wise and thus cause increasing and constant terror to a watchful and ever anxious community.

In the matter of surgical operations, it always seems to me that in great and reasonable doubt it is wiser to abstain, simply because an unnecessary operation is to some degree risky and harmful at the time, and subsequently is followed by evils which, although not always very evident, are none the less real. Anyone who is fairly alive to the broad aspects of general medicine knows very well also that efficient causes of one acute disease are efficient causes of another, and our higher rôle is surely to ward off the approach of disease and not simply attack it in a violent way so soon as it is present. The fact that we are as yet uncertain as to the precise causes of appendicitis does not convince me that it is increasingly frequent, and I confess I deplore the state of medical mind which feels obliged to abandon every organ to the surgeon's knife, if for no other reason than because it makes our efforts more lukewarm daily in the direction of true preventive medicine. A final word at this time is assuredly important, and it is to the effect that while "all good men and true" want skilled surgery when it is required, they do not wish their organs got rid of without sufficient cause.

BEVERLEY ROBINSON, M. D.

Book Notices.

Studies of the Psychology of Sex. Sexual Inversion. By HAVELock ELLIS. Philadelphia: F. A. Davis Company, 1901. Pp. xi-272. Price, (\$3.)

The subject of sexual inversion is one which offers a limited legitimate field for study. The present work, like that of von Krafft-Ebing, is a perfectly legitimate and scientific investigation into a very unpleasant field of knowledge, and is treated by its author seriously and scientifically. The way in which it will be treated by the reader will depend upon the reader. It is four years now since the first edition of this work made its appearance. To those who are legitimately studying the subject it will prove of great interest and value. In our profession and in those of law and divinity, a knowledge of all human nature, depraved as well as noble, perverted as well as normal, is to be sought, if not by all, at least by some, whether it be of a nature immediately susceptible of useful application or not. While it is true that the author's experience leads him to the conclusion that "we can seldom, therefore, safely congratulate ourselves on the success of any 'cure of inversion,'" that is no justification for ceasing to accumulate a knowledge of even mere facts. Who can tell how soon a light may strike upon the dark mass and the clearer vision of some pioneer spirit point a way out? We do not cease the investigation of cancer because no "cure" has hitherto been found; even now we stand on the threshold of the recently impossible "curability of tuberculosis." The time may yet come when through the researches of such men as v. Krafft-Ebing and Havelock Ellis, the latter's dictum may have to be reversed, and many an invert may rejoice in the removal of an abnormality which, it is

clear, so many feel to be a burden. Certain it is that we shall learn to cure or prevent nothing by obstinately refusing to study it. And since sexual perversions must be studied, it is well that they should be investigated by so careful, so competent, and so sincere a worker as Havelock Ellis.

Water Supply. Considered principally from a Sanitary Standpoint. By WILLIAM P. MASON, Professor of Chemistry, Rensselaer Polytechnic Institute, etc. Third Edition, Rewritten. New York: John Wiley & Sons, 1902. Pp. vii-448. (Price, \$4.)

Much of this work has been rewritten since the appearance of the second edition. The author has embodied the chapters upon the Chemical and Bacteriological Examination of Water in a separate book, and has therefore seen fit to omit these topics from the present volume.

The high standard which the author set in the earlier editions of this work is continued in the present one, as is the admirable quality of quoting the original sources of information in foot note citations. Statistical tables are brought up to date, and as a whole the book represents a modern treatise upon the subject. The press work is admirable and good half tone illustrations enhance the value of the work.

Miscellany.

Salicylic Acid to Induce Toleration of Milk.—Dr. P. Schmidt (*Journal des praticiens; Arte medica*, August 31st) says that the addition of a small quantity of salicylic acid causes milk to be tolerated by patients who cannot otherwise take it. From 25 to 50 centigrammes (about 3 to 7 grains) of salicylic acid are put in a small quantity of cold milk and well stirred. The mixture is then put into the vessel containing the quantity of milk to be taken in the twenty-four hours, that is to say, from a quart and a half to three quarts. This is again agitated and raised to the boiling point. Milk thus treated does not coagulate; coagulation only takes place when the proportion of salicylic acid exceeds 25 centigrammes to the quart. Schmidt has used this process also in the alimentation of infants, reducing the salicylic acid to one grain and a half to the quart.

The Therapeutic Uses of the Pineapple.—According to the *Therapeutic Gazette* for September 15th) pineapple, in virtue of its active principle, brometin, has considerable virtues as a proteid digestive. The texture of the fruit, however, is such that its undigestibility more than offsets this virtue. Dr. Wyatt Wingrave, however, finds that the expressed juice has a powerfully solvent action upon plastic exudate, such as diphtheria membrane. This can be demonstrated *in vitro*, and though, owing to the shortness of contact, its solvent action on membrane on the throat is necessarily slight, he finds that it exerts a decidedly softening effect on the stringy exudation, so as to admit of its easy detachment. He has also used with success a thin slice of pineapple, applied for eight hours, as a means of softening the horny epidermis of corns, ready for removal. Within his own special province he has employed the juice usefully for softening the horny papillæ in keratosis of the tonsil.

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Original Communications.

SHOE DEFORMITIES.*

By E. H. BRADFORD M. D.,
BOSTON, MASS.

The deformities of the human foot are either congenital like club foot, those resulting from disease (viz., the distortion following paralysis or osteitis), those following injury, or those caused by foot wear. The latter class has not always been clearly understood, as some of the distortions so caused are frequently considered the result of disease or heredity. Hallux valgus, or out-toe, and the irritation exostoses of the head of the first metatarsal are often considered to be rheumatic, while the crumpled, or hammer-toe, is frequently regarded an inheritance.

A better understanding of the deformities due to shoes can be had after a comparison of the normal shapes and flexibility of the feet as seen in the feet of babies and of shoeless races with the conditions universally seen with shoe wearing people and by an examination of the construction of boots and shoes as usually worn.

To meet fully the demands on the foot incident to human activity, in walking, running, jumping, climbing, freedom of action is needed not only in the larger joints of the lower extremity, but also in the small articulations of the foot itself, the importance of which is frequently overlooked.

In the normal untrammelled foot there is a pliability comparable with that seen in the hand, viz., a free flexion and extension of toes, a spreading of the front of the foot (especially of the first metatarsal at the metatarsocuneiform articulation as weight falls upon the front of the foot, and a side motion or rotation at the midtarsal articulation needed in walking or running upon an uneven surface.

This freedom of action and pliability in the foot are interfered with by the stiffness of heavy shoes and the pressure of foot wear not made to fit the varying size and shape of the foot, but to the conventional shape of a last.

An examination of an adult, where shoes have been worn since infancy, shows usually many variations from the normal standard. There is almost invariably an impairment in the motion of the metatarsophalangeal joints, especially the first. There is

usually also a loss or impairment of movement in the first metatarsocuneiform articulation, or a limitation of the power of voluntary spread and arching of the foot. In addition to this there is a relative muscular weakness of the muscles of the sole of the foot, including those attached to the first metatarsal (correspondingly to the volar muscles of the thumb), and in consequence of this often the development of a weak and flat foot and the lack of strength in the movement of the toes.

Misplaced position of the heads of the metatarsals in relation to the transverse axis of the front of the foot often result from boots that are thin in the waist and narrow in the shank.

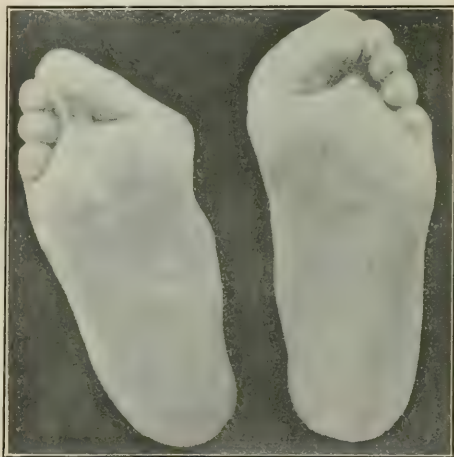


FIG. 1. Hallux valgus, or out toe

A distorted position of the smaller toes either confined to one toe or affecting many similarly, is not uncommon on the wearing of shoes which check the natural spread of the front of the foot. The first phalanx is flexed dorsally upon the metatarsus, while the second and third are contracted in a position of plantar flexion.

A loss or impairment of mobility in the metatarsophalangeal articulation is caused by a stiffness of the sole of the boot which prevents the plantar flexion of the toes bound down to the stiff soles by a strong and closely fitting upper, and by the upward rock of the front of the sole pressing the toes up-

* Read before the American Orthopaedic Association at its sixteenth annual meeting, held in Philadelphia, June 5, 6 and 7, 1902.

ward, holding them firmly in a position of slight dorsal flexion. This immobility of the toes causes in time a loss of muscular strength in the flexor muscles of the phalanges, and under certain circumstances a loss of elasticity of the capsular ligaments of the toe joints, so that instead of a flexibility which should be

The plantar flexion of the toes is an action needed in the backward push of the front of the foot, at the end of the stride. The strength of this effort depends on the muscular strength of the muscles governing this motion as well as the freedom of this motion.

Where, as is usually the case among shoe-wearing people, this action is not so strong as among the barefooted, a greater amount of work in the backward push of the foot comes at the ankle joint, the calf muscles become developed, and the muscles in the sole of the feet are small. It is commonly seen among barefooted peoples not subjected to great demands in the way of climbing or hill work that their feet muscles are large and their calf muscles small, the reverse being true of shoe-wearing people. The normal condition is well seen in the Japanese jinriksha runners, who have well muscled legs and feet.

This disability, due to an impairment of the strength and freedom of motion of the metatarsophalangeal articulation, is increased if the great toe is distorted from its normal position in the line of the axis of the foot and is turned outward, present-



FIG. II.—X-ray of hallux valgus, showing how the shoe causes a deformity.

as great as that of the fingers, the arc of the motion at the metatarsophalangeal joints is limited to a few degrees.

The amount of the damage to the strength and ease in walking inflicted in this way is greater than is supposed, and can only be estimated by a comparison of the walking efficiency of shoeless and shoe-wearing races.

The most conspicuous illustration of the superiority of the barefoot races in this respect was afforded in the campaign in Abyssinia. The marked superiority in agility and fleetness of the barefooted Abyssinian was evident. This has also been seen wherever the shoeless are matched in marching against shoe wearing people. Many of the United States officers have found moccasins and the training necessary to wear moccasins with comfort a help in the pursuit of hill Indians.¹



FIG. III.—Crowding of the little toe, caused by shoe or sandal strap.

ing the common deformity known as out-toe. Boots and shoes are usually made with their narrowest

sides the Abyssinian. The Batwa pigmies of South Africa (*Atlantic Monthly*, August, 1902) frequently journey fifty miles a day. The jinriksha men in Japan are said to be able to travel ten hours a day at the rate of five miles an hour. The best record in forced marching was made by Peruvians, presumably barefooted or sandal-wearing.

¹ The superiority of the barefooted over the shoe-wearing races in strength and fleetness of foot has been shown in other races be-

part at the toes, while the foot is broadest at the toes. The spreading strain of the boot is greater at the middle than at the toe end of the boot, and it becomes looser there. The result follows that the great toe is subjected, as it is pushed forward in the boot at each step, to a certain amount of lateral pressure at the toes, crowding the end of the great and little toes toward the middle line of the foot. Where this pressure is great or the resisting power of the articulative ligaments small, a disabling deformity of considerable importance results. In a slight degree the deformity is so common among people wearing ordinary and not ploughman's shoes that the deformity is almost universal, so that in anatomical works and in modern art it is frequently presented as representing the normal shape.

No less common than this deformity is the loss or limitation of the power of side motion at the meta-



FIG. V.—Shoe causing dorsal pressure, by reason of the inelasticity of the upper.



FIG. IV.—Shoes causing hallux valgus, crowded little toes, and weakened toes.

tarsocuneiform articulation. If the skeleton of a foot is examined, it will be seen that considerable side movement is provided for in the metatarsocuneiform articulation of the 1st metatarsal with the metatarsocuboid articulation. Muscles of consider-

able strength are furnished for the first of these movements, which is comparable, though in a limited degree, to the movements of the thumb. Mobility in the articulation exists in infants and in all bare-footed people, and is developed by training to

be of practical use to those born without arms and in persons with occupations requiring the free use of the foot. In all persons this motion is of value in giving firmness of foot and in enabling people to stand with greater stability on one foot. In all adults wearing modern shoes voluntary movement of this articulation is either wanting or rudimentary, diminishing considerably the strength of foot and making possible the common accident familiarly known as "turning the ankle." The ankle is more liable to strains, the less there remains of the power of spread and grasp in the front of the foot.

How boots and shoes injure the power of motion in this part of the foot can be readily seen. In the ordinary vocations of civilized life there is little need of spreading of the front of the foot beyond the slight amount possible in ordinary boots and shoes. Boots and shoes providing for an unusual spread of the foot, such as would be necessary in climbing and tramping, would not be marketable. Individuals who rarely walk on anything but a smoothly paved sidewalk can wear without discomfort a snugly fitting boot which would be extremely uncomfortable in a rough cross country tramp. The snugly fitting boot, comfortably fitted to the foot in its least spread shape, would exert a distorting pressure whenever the foot was spread by any occasional unusual step, besides exerting a cramping and atrophying influence on the muscles of the foot.

An evening glove, comfortable or even loose in ordinary wear, will be found too small if worn when driving a hard bitted horse, in bicycling or golfing, and if worn would weaken the grasp of the hand.

When the front of the boot fits very closely, plantar flexion of the toes is impossible, and if the sole is stiff and rolled slightly upward at the front, the

toes are held in a slightly raised position. If the boot is also closely fitted at the sides, the first metatarsal is crowded toward the centre of the foot, and not only is inward motion at the metatarsophalangeal articulation impossible, but any up and down play at the joint is checked. Weight at the end of



FIG. VI. Drawing up of the toes, caused by pressure of the shoe on the dorsum of the foot.

the step cannot fall freely on the head of the first metatarsal, as it should normally, but comes chiefly on the head of second, third, and fourth metatarsals. What is termed flattening of the transverse arch results. This can be easily recognized by the callosities on the sole of the foot which are under the middle of the fore front of the foot instead of under the head of the first metatarsal. Where high heels are worn on pointed, snugly fitting shoes, this distortion is inevitable, if the individual is active as a walker.

The disadvantages of the flattening of the transverse arch have been already well described and are well known, both in the neuralgic form of pinched nerves and in the milder form of strained and aching ligaments. The impairment in walking ability is evident; the great toe is put out of commission almost as much as in hallux valgus. The finish of the step comes upon the foot, and not upon the toe, as it normally should.

Where the shoe is not pointed, but broad at the toes, if the upper is cut so as to give but little room over the heads of the metatarsals or the toes, and is inelastic, with but little flexibility of the sole, flexing of the toes is interfered with and the power of strong plantar flexion is lost from weakness of muscles.

There is inevitably a slipping of the foot forward in the shoe in walking or running. As shoes are ordinarily constructed, the toe portion is the narrowest part, while, as the undistorted foot is made, the line across the toe is the broadest of the lines across

the foot. More or less crumpling of the toes results. The amount of this depends upon the resistance offered by the muscles and ligaments of the foot and the degree of the distorting character of the shoe. The form of the distortion varies with the degree. The toes either remain permanently flexed or, having been crowded, one lying over or under the other, remain permanently so. The inward crowding of the little toe and the crumpling of it are almost universal ever among sandal-wearing or slipper-wearing people, provided the sandal is furnished with a cross toe strap, as is the case with the Greek and some of the Oriental sandals.

The amount of disability caused by these shoe deformities varies necessarily with the deformity, its extent, and the weight of the individual, as well as the use the foot is given.

In the attempt to support the weakened arch of the foot, shoes are usually made arching up under the cuneiform and metatarsals, rather than the head of the astragalus and scaphoid, which especially need support in weak feet. This supposed arch support becomes in reality a binding of the waist of the foot which atrophies the muscles of the sole, and as these muscles are plantar flexors of the toes, the power of flexion of the toes and the downward push needed in walking are lessened. The individuals become heel walkers or use the ball of the foot more than the toes for the final propelling force. This weakening of the muscles of the sole of the foot is aided in deforming the foot by the pressure of the upper of a thin waisted shoe upon the dorsum. This, by its irritation, especially by the cross seam on the upper, causes



FIG. VII.—A shoe arranged so as not to cause as much pressure on the dorsum, and preventing the distortion.

a contraction, drawing up the toes, which, if extensive, makes the toes comparatively useless as a factor in gait. This is helped by the shape of the shoe rocking up to the front, which checks the normal plantar flexion of the toes.

That there is an earnest effort among shoe dealers to check the deformity of the feet by shoes is evident in the shapes of shoes, especially for men, offered for

sale. It is evident, however, that the purchasing public requires to be thoroughly informed of the needs in shoe wear, and that the necessity of improvement is urgent is shown in the great prevalence of foot deformity. Even gymnasium workers cramp the feet in a way which prevents the development of the most used muscles of the body.

A boot is not made in the shape of the foot, but on

chair, and therefore unsalable to those whose time is passed chiefly in muscular ease. The compromise is a conventional type. The boot maker and the boot buyer often overlook the fact that there is need of avoiding pressure of certain parts of the boot, not because this causes pain to the foot, as the front of the foot can be compressed without discomfort, but because distortions are favored by pressure on cer-



FIG. VIII.—Fashionable shoes for women which interfere with the circulation and weaken the muscles from constriction.

a last. The last maker caricatures the normal shape of the foot as the fashion plate artist caricatures the figure. This is to an extent necessary in the art of boot making, for as the foot varies in size and compressibility according to the strain put upon it, the last represents the compromise. A boot which would be comfortable to an individual climbing a mountain would be loose for the same individual in his arm

chair. These distortions develop gradually, and in old age, where all possible suppleness is to be preserved, deformities are caused.

Boots and shoes made ready for sale are fashioned according to shapes which are in popular demand. The statement of a shoe dealer expresses the fact. "A shoe is sold almost entirely on style."

Style being a varying quantity, the shape of the

shoes varies, often with exaggeration, as seen in the absurdly square-toed shoes of the period of the thirty years' war and the "tooth-pick" shoes of a decade ago. The exaggeration gives the advertising note, the *cri d'affiche*, which attracts the buyer. This may be harmless, like the exaggerated curve on the outer



FIG. IX.—Deformity caused by the constriction and confinement of the foot.

side of the boot or the unnecessary projection of the sole beyond the borders of the foot. But the tendency of fashion will always be toward shoes of the leisurely rather than the working people. The boot for the ploughman will not be popular among patrons of the Pullman car. A boot fitting the natural shape of an infant's foot and broadest at the toes will never be generally used, and shoe constriction of the foot will be common, in the desire to avoid the appearance of a clodhopper. But it is desirable that this constriction shall be as small as is practicable. The fitting of a new shoe on a weak-ankled child, with the necessary poundings on the sole and pullings on the upper, illustrates an amount of injurious and unnecessary compression of some portion of a boot which is to be avoided in a child.

In protecting his feet a man of fashion need not avoid fashionable boots. If he becomes a man of activity, he needs boots which suit his occupation and are not suited to a ball room, just as he would not drive a four-in-hand with evening gloves.

A lady of leisure, if as leisurely as an odalisque can wear such foot wear as she wishes, but if she plays golf or tennis or walks actively in shopping, she should wear shoes which will not bind her feet, or she will suffer by deforming or weakening the feet.

A growing child is necessarily active and needs shoes which never constrict, and every intelligent effort should be directed to supplying children with

shoes which are nearer to the moccasin or sandal than to the fashionable boot of adults, and which not only fit the natural shape of the foot, but spread to the utmost extent. The mistake of tightly binding a child's ankles has been well spoken of by the president of our association, Dr. H. A. Wilson: "The natural human foot best performs its functions when it has been free from restraint. The natural foot can be quickly crippled into inefficiency by high counters, corset shoes, arch raisers, wedges, and elastic anklets. The natural foot, when burdened by misapplied mechanics, is rendered weak, and therefore susceptible of sustaining injury, such as sprains and the formation of bunions, flat foot, wobble joints, etc." Low shoes are naturally preferable for children, as they avoid the constriction of the ankle which weakens. A boy training as a baseball pitcher does not bind his forearm, a girl pianist does not lace her wrist, and in the same way binding the ankle, perhaps necessary in rough walking, is injurious if constant.

For active exercise the front of the foot should not be compressed. Boots and shoes should be straight on the inner edge, should be sufficiently long, should not rock up at the top, and should give sufficient play to the toes. Boots should not bind the lower instep (that is in front of the mediotarsal articulation), but should allow a certain amount of spread to the front of the foot as the weight falls upon it.

Children need shoes which slip on easily, but which are as unrestricting as the boot of a plough boy, if their parents wish them to avoid the weakening of the muscles of the foot which furnishes a condition in which distortions may develop. Chil-



FIG. X.—Photograph of a shoe-wearing white man and a barefooted native taken in the Solomon Islands, showing the sole muscles of the white man and the strong sole muscles of the native, the free action of the toes, and the arch of the foot.

dren should not be robbed of their birthright of strength.

Shoe deformities furnish a subject of practical importance to the surgeon of to-day. It is to be hoped, however, that, as in savage communities they are

unknown, the surgical writer in the next generation will refer to them as curiosities, the unnecessary disabilities of an unthinking period.

Shoe deformities will be prevented when the shoe wearing public has been taught that the boot should suit the use of the foot. In leisure an adult can wear as fashionable shoes as he wishes, but no one should walk actively in dress boots or boots shaped like them. If he does, his foot suffers. He should wear boots allowing a free spread to the front of the foot.

A normal young child is always active in its waking hours and should never wear shoes cramping the feet, which should be as free as those of an Indian tracking game.

THE TREATMENT OF PROLAPSE OF THE RECTUM.

By JOSEPH M. MATHEWS, M.D., LL.D.,
LOUISVILLE, KY.

No pathological condition which affects the rectum gives so much concern to the surgeon as a serious prolapse. Of course, reference is made to this condition as found in the *adult*. Prolapse in children is much oftener seen and is easily cured by the strapping of the buttocks together for a few consecutive days, and the careful watching of the little patient



FIG. 1.

thereafter, especially during the act of defecation. In March of this year I reported a case of an immense prolapse of the rectum cured by a *colopexy*. The case was of thirty-five years' standing; the prolapse as large as a No. 7 Derby hat; and contained the bladder, all coats of the rectum, and peritonæum. The abdomen was opened, the gut drawn taut, and secured to the abdominal (muscular) wall, by the

uninterrupted catgut suture six inches in extent. A cut is shown representing the condition of the patient just before the operation was done.

I am satisfied that for all cases of large prolapse of the rectum in the adult, this operation should be given preference.

The object of this paper, however, is to describe

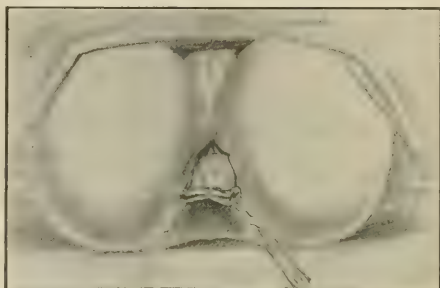


FIG. 2.

another operation for prolapse, which is comparatively free from danger, and radical in its results. It was devised and practised by the writer more than a year ago. The result was a perfect cure of a long-standing prolapse. The following is the plan of operation: The rectum is irrigated several times before the operation, with a hot solution of boric acid, one ounce of the powder dissolved in a gallon of distilled water. After the patient is anaesthetized, the rectum is drawn out to the full extent of the prolapse. It is then held firmly by forceps, and an incision is made at the *anal* portion of the prolapse, completely around the gut. A careful dissection is now made of the mucous membrane and submucous tissue, extending to the *terminal* end of the prolapse,



FIG. 3.

when with a stout pair of scissors it is cut off, removing a cuff. The two edges are then pulled together and sutured with catgut, as shown in the sketch. There is very little blood lost during the operation, and all hæmorrhage can be checked by the application of hot sponges. The result has been so satisfactory after this operation that the writer begs to recommend it to those looking after this kind of work.

THE EVOLUTION OF UROLOGY.

AN OPENING ADDRESS DELIVERED AT THE
ANNUAL MEETING OF THE AMERICAN
UROLOGICAL ASSOCIATION, HELD AT
SARATOGA, N. Y., JUNE 13, 1902.

By RAMON GUITERAS, M. D.,
NEW YORK,
PRESIDENT OF THE ASSOCIATION.

(Concluded from page 622.)

6. Radiography has proved itself a valuable adjuvant in the diagnosis of surgical affections of the kidney, and should now always be employed in cases where a renal stone is suspected. The x ray was discovered in 1895 by Conrad Röntgen, and was first thought to be of value only for recognizing fractures and displacements of bones and the presence of foreign bodies in tissues. It was thought that it would not prove of value in determining the presence of renal calculi, but it has been employed in the diagnosis of calculi with a fair measure of success. Although Morris thinks that "hitherto they have afforded but little reliable help in this direction." Guyon (*Comptes rendus de l'Académie des sciences*, April 21, 1896), in communicating the experiments of Chappin and Chaumont to the Academy of Sciences in Paris, showed that uric acid was traversed by x rays, but that in spite of this uric acid calculi might be radiographed in the kidney. MacIntyre, of Glasgow (*Lancet*, July 11, 1896), Morton (*Lancet*, June 4, 1898), and Swain (*Bristol Med.-Chir. Soc.*, 1897) succeeded in determining the presence of renal stones in living bodies, while Sabrazen, Riviere, and Garraud (*Soc. anat. et physiol. de Bordeaux*, Dec. 13, 1897), and Laurie and Leon (*Lancet*, 1897, i, p. 169) made satisfactory observations upon cadavers. On the other hand, Guyon and Albarrañ failed to get radiographs of uric acid calculi in living bodies. Lester Leonard (*Phila. Med. Jour.*, 1898, p. 388) diagnosed the presence of uric acid calculi in three cases by the use of specially constructed tubes. Leonard's radiographs are of the highest grade, and in his hands the x ray has proved of the greatest value in the diagnosis of nephrolithiasis.

7. Antisepsis and asepsis have also done much to perfect the technique of examination and operative work in the urinary tract. The work of Lister, based upon the researches of Tyndall, Pasteur, and Koch, and calculated to combat and destroy the germs, was a long stride to the fore in this as in all the branches of surgery; but the advent of asepsis in the past ten years has been of much greater value, not only in performing clean operations, but also in preventing the introduction of germ infection by means of instruments while examining or treating the patient.

8. Great advances have been made in the thera-

peutics of urology and in the formulation of operative procedures and improved operative technique. When we look back over our own days in the field of urology, we remember in our internal treatment that cubebs, copaiba, and sandal wood oil were supposed to be the remedies *par excellence* in the treatment of inflammatory conditions of the urethra and bladder, on account of being thrown off in the urine and thus converting it into a curative solution. Salts of lithium and potassium were also used as diluents and neutralizers, as it was thought that the acidity of the urine irritated the inflamed surfaces and that the diluents and neutralizers would produce less irritation, and therefore hasten recovery.

The irritability and tenesmus associated, especially, with diseases of the bladder and posterior urethra were treated by antispasmodics, such as opium, belladonna, hyoscyamus, etc., while corn silk, buchu, san palmetto, and uva ursi were spoken of as having a specific action in these cases. The introduction of internal urinary antiseptics has, however, been the greatest stride in the internal medication of urinary disorders, since it has been ascertained that the active cause is germ infection.

Of these remedies the benzoates were first used, benzoic acid and benzoate of sodium; they were known to have a curative effect, but were not then spoken of as antiseptics. Then came the salicylates, salicylic acid, salicylate of sodium, and salol. They were probably introduced, originally, not as antiseptics, but were discovered to be in that class later on. Urotropin has, however, comparatively recently been put upon the field as a urinary antiseptic, a remedy which acts to prevent the decomposition of urine in the bladder and the renal pelvis, and while many newer remedies have since that time been placed on the market, it is probable that to-day urotropin, salol, oil of wintergreen, sodium benzoate, and benzoic acid are the most useful ones of this class.

The local treatment of inflammations of the urinary canal has gone through even greater changes, and yet to-day we scarcely know what is the best remedy for this purpose or what will be the outcome of our local treatment. We feel, however, that we must look to advances along this line of therapeutics for the best results in the future of inflammatory conditions of the lower urinary tract. The reason for this is that the most common disease of urology to-day is an inflammation of the male urethral canal, blennorrhagia. For years urethral hand injections of mild solutions of mineral astringents, such as zinc, lead, copper, and alum, have been used; also vegetable astringents, such as tannic acid, catechu, rhatany, hydrastis, etc., and antiseptics, such as carbolic acid, bichloride of mercury, and permanganate of potassium. The utmost importance was attached to these remedies and they were changed from time

to time, after deep thought and speculation on the part of the practitioner.

These injections certainly did good work in the anterior urethra, but, as most inflammations travel backward to the posterior portion, from which point they give rise to various complications, the idea was finally conceived that in order to cure the deep-seated trouble, it was useless to rely wholly upon anterior treatment, with perhaps the doubtful addition of blennorrhagics internally. Therefore Ultzmann devised his deep syringe for passing into the posterior urethra and applying the curative solution to deeper parts. He found that solutions of nitrate of silver were here most efficacious. At that time it was not generally thought that nearly every case of urethritis went to the posterior urethra, and posterior urethritis was spoken of rather as a complication. Ultzmann, however, himself preached that it was an extension of the disease which occurred in all cases, and that it required ten days for it to reach the neck of the bladder. The reason the bulk of practitioners did not look upon it in this way was because at that time they had not accepted the theories then current, and considered a urethral inflammation cured when there was no longer any discharge from the external urinary meatus.

The next step in the treatment of urethral inflammation was the irrigation of the anterior urethra by means of antiseptic solutions (bichloride of mercury, boric acid, etc.) through a catheter passed down to the urethral bulb or directly from a fountain syringe into the anterior urethra. It had been thought that severe complications were caused by the entrance of urethral injections into the deepest portions of the canal, and it was customary for practitioners to instruct their patients to press upon the urethra in the perinæum while they were taking anterior injections. The advocates of the anterior irrigations argued that the cut-off muscle prevented the entrance into the posterior urethra of either hand injections or fluid introduced by irrigation, and therefore caused no disagreeable complications.

Jules Janet, of Paris, put an end to all these arguments by showing that it was well enough to irrigate the anterior urethra when the disease existed there alone, as it might in the first few days, but for the general attack it was necessary to irrigate the entire canal, and that the cut-off muscle could easily be passed by hydrostatic pressure, thus allowing the fluid to enter and come into contact with the inflamed posterior urethra as well. He used permanganate of potassium solutions of various strengths in his treatment. It was thought that this procedure had the effect of killing the gonococci, but the real benefit was due to dilating the canal and producing a submucous œdema, which was an unfavorable culture ground for the development of the

gonococcus. This method has since then been generally used, and I think that the complications have been fewer than when care was taken not to allow the injection fluids to come in contact with the posterior part of the inflamed field. In chronic cases the irrigations with solutions of nitrate of silver are generally more valuable. These irrigations in cases of cystitis without obstruction are of the greatest value, as there is little danger of wounding the posterior urethra in this way, and the patient can freely empty his bladder afterward.

If, however, there is obstruction, lavage should be performed, as usual, through the catheter. In cases of pyelitis the pelvis is sometimes treated locally through the ureteral catheter passed up to this point. This is, of course, a difficult procedure, and it is doubtful whether it will ever become popular.

9. Strictures. It is, however, in the instrumental and operative treatment of these conditions that the greatest advances have been made in urology. The treatment of strictures by the urethral sounds, used from the time of the *Āyurveda*, has given place in a great measure of late to dilatation by means of the dilators of Oberländer and Kollmann. These are more easily passed through strictures of large calibre, and their blades can then be opened gently, so as to stretch the stricture to a size equivalent to that of the largest sounds that are made, the various degrees of dilatation being registered on a dial on the handle of the instrument.

In the operative treatment of anterior stricture the once popular urethrotome of Civiale has been superseded by those of Maisonneuve and Otis. Deep strictures that cannot be dilated are still cut by an external urethrotomy on guides of various descriptions, the tunneled sounds of Gouley being the most practical for narrowings of all sizes.

10. Prostatic Operations. Next to urethral strictures as the cause for obstruction giving rise to urinary symptoms, comes prostatic hypertrophy. The operative treatment of this condition has been one of the most difficult problems in urinary surgery, and has been a most interesting topic for discussion among surgeons for the last few years.

The operations of prostatectomy employed of late have been modifications of the McGill and Nicoll methods, that is to say, removal either through the bladder suprapubically or through the perineal incision. When but two years ago the mortality following operations in these cases was great, and when a well devised operation seemed almost hopeless, the author, in closing his address before the Thirteenth International Medical Congress, in Paris, said: "The operation of prostatectomy is still in its infancy, in the same position as hysterectomy was some years ago, but I have no doubt that it will some day be simplified, and it behooves all surgeons interested in:

this line of work to try to improve the methods and technics of the procedure."

This has been done; a number of general and genitourinary surgeons have worked up this problem and have devised operations of their own. Personally I have devised three prostatectomy operations, each one of which I have considered at one time better than the others, but I now feel that prostates that can be removed easily through the perinæum should be treated in that way, and others, especially those complicated by vesical calculus, may be removed through the bladder suprapubically. Senile hypertrophy, where the prostate is not much enlarged, but gives rise to urinary obstruction, should be treated by operation with the Bottini incisor.

II. Stone in the Bladder. In the bladder the principal operative procedure is still that for vesical calculus. We have shown that the ancients removed stones by lithotomy long before the Christian Era, but it was not until the ninth century that an attempt was made at crushing, by a monk named Theophanus, and then it was unsuccessful.

The first successful instrument was devised by Civiale in 1817, and a demonstration of its working power was given. The instrument consisted of three blades, and was supplanted a few years later by one with two jaws made by Weiss, of London. Screw power to break the stone was then added by Hodgson, of Birmingham, in 1825, the rack and pinion by Fergusson in 1831, the cylindrical handle by Thompson, and the sliding button regulating the screw by Weiss later on. To-day the lithotrites of Thompson and of Bigelow are the standards, although there are many modifications.

Experience with lithotritry soon showed that the great defect of this operation was the difficulty of removing the last fragments of the stone, and the fact that a fragment is often left behind leaves an opportunity for recurrence. In order to obviate this difficulty the operation of litholapaxy was devised, and we owe it to Henry J. Bigelow, of Boston, who in December, 1877, made the first announcement of his success with this operation. In the older operations for lithotritry a great deal of time and trouble was consumed in crushing the stone and removing the fragments by one or another method, and, as anæsthesia had not been invented, the early lithotritist was reduced to the necessity of repeated short sittings until all the fragments were supposedly removed. Sir Philip Crampton, of Dublin, had devised (*Dublin Quart. Jour. of Med. Sci.*, Vol. i, 1846, p. 1) an evacuating bottle which was meant to draw off the urine from a bladder after lithotritry by means of suction. Other evacuating bottles or bulbs were devised by Clover, Mercier, Cornay, and others. The historic operation of lithotritry per-

formed by Sir Henry Thompson upon Napoleon III, which terminated fatally at the second sitting, was performed under chloroform and with the aid of Clover's evacuating suction apparatus. Bigelow's operation, litholapaxy, introduced a new principle, that of repeated washing of the bladder through a specially devised evacuator bottle. His first evacuator had the disadvantage of admitting air, which interfered considerably with the workings of the apparatus. Subsequently, however, he modified this device in such a manner as to exclude air, and the apparatus is too familiar to all of us to need description here.

Thus Bigelow, by combining lithotritry with a procedure involving the introduction of an evacuating tube into the bladder and washing out the fragments by alternate introduction of fluid and evacuation by suction produced by the compression of a bulb connected with a glass reservoir, gave to surgery an entirely new operation, which now stands as the procedure of choice, as it is far less dangerous than either perineal or suprapubic lithotomy.

A reaction against lithotritry and its congener litholapaxy, has, however, taken place in this country during the past few years, and now suprapubic lithotomy is much more frequently performed than litholapaxy. The reason of this, probably, lies in improved sepsis and antiseptics; for certain it is that the mortality of suprapubic lithotomy is now very small. Besides this, we are not able to perform lithotomy as often as we formerly were, as there are more operators, and vesical calculi are few in both general and hospital practice. Personally, I have never lost but one patient in operating for vesical calculus, and that was one on whom I had performed litholapaxy.

12. Operations on the Kidneys. The history of modern renal surgery may be said to have begun with the publication of Rayer's classic monograph on the kidney in the early part of the nineteenth century (Rayer, *Traité des maladies des reins*, Paris, 1841). Simon, of Heidelberg (*Chirurgie der Nieren*, 1876), was the first to classify the surgical diseases of the kidneys and formally to recognize them as a part of general surgery. The first nephrectomy on record was performed accidentally by Peaslee, in 1868, in a case in which the diagnosis of solid ovarian tumor had been made. An important deduction from a study of this case was made by Peaslee, namely, that an adequate amount of urine was excreted by the remaining kidney after the nephrectomy. The patient died of peritonitis on the third day (Peaslee, quoted by Pilcher, *Annals of Surgery*, Jan., 1900). About the same time Spencer Wells removed a kidney which was inseparably adherent to an ovarian cyst which he intended to remove. This patient also died on the

third day, but had had no deficiency of elimination of urine. The first nephrectomy which was performed purposely was in a case reported by Simon, professor of surgery in Heidelberg, in July, 1869 (Pilcher, *loc. cit.*), in a woman who had been suffering from a ureteral fistula which opened on the anterior wall of the abdomen in a scar resulting from an ovariectomy combined with a hysterectomy, in which the left ureter had been injured. Before attempting this nephrectomy Simon experimented upon thirty dogs. The operation was successful, the woman completely regaining her health.

The next case on record was that operated upon by von Bruns in March, 1871. This was a case of left lumbar urinary fistula with pyonephrosis and calculi. Death followed in a few hours, but multiple abscesses were found in the remaining kidney on autopsy. The first nephrectomy for calculus pure and simple was performed by Simon five months later in the same year. Unfortunately, the woman died from sepsis due to the introduction of an unsterilized finger into the wound. Only fifteen cases of nephrectomy were recorded, according to Pilcher, up to 1879, and in more than half these cases the operator had not known that it was the kidney which he was removing. Gross, six years later (*Amer. Journ. of the Med. Sciences*, July, 1885), collected 233 cases of nephrectomy. Since then the operation has become one of the more common ones in renal surgery. Of late there has come a marked reaction against the performance of nephrectomy in cases where the kidney seems to be the seat of extensive lesions. The conservative spirit which pervades all branches of surgery dictates in many instances the preservation of as much healthy renal tissue as possible, and partial nephrectomy and nephrotomy have taken the place of nephrectomy as a consequence in a number of cases.

Since the publication of Rayer's classic monograph, already mentioned, and that of Bayle which appeared at about the same time, a number of works on the surgical diseases of the kidneys and ureters have appeared. Examples of these are the books of Morris (*Surgical Disease of the Kidneys*, 1885, of which the latest edition appeared in 1901), Bruce Clark (*Diseases of the Kidney Amenable to Direct Surgical Interference*, 1886), Newman (*Diseases of the Kidney Amenable to Surgical Treatment*, 1888), Tuffier (*Études expérimentales sur la chirurgie du rein*, 1889), Thornton (*Surgery of the Kidneys*, 1890), Küster (*Die chirurgische Krankheiten d. Nieren*, 1902) and Albarran (*Maladies du rein et de l'urètre*, in Le Dentu et Delbet's *Traité de chirurgie*, May, 1899).

The first nephrolithotomy was performed by Morris, of London, in 1880 (Morris, *British Med. Jour.*, Feb., 1880). The first nephrectomy for mov-

able kidney was performed by Martin, of Berlin, in 1878, and the first nephropexy by Hahn, of Berlin, in 1881. The first nephrotomy for tuberculosis of the kidney was performed by Bryant in 1870, and the first nephrectomy for the same condition by Clement Lucas in 1880.

The last decades of the nineteenth century have brought an advance in the treatment of certain classes of cases of nephralgia and hæmaturia that were formerly thought to be idiopathic, and to merit only medical attention. Israel (*Die chirurgische Klinik der Nierenkrankheiten*, Berlin, 1901, Chap. VIII, pp. 403-440), of Berlin, found that these cases were amenable to surgical treatment by splitting the parenchyma of the kidney at fault, and, what is still more important, discovered that the hæmaturia and nephralgia in these cases very often were the expression of a chronic nephritis which improved after nephrotomy.

The surgical treatment of Bright's disease constitutes the latest advances in urology. In 1896 Harrison, of London (*Lancet*, Jan. 4, 1896; also *British Med. Jour.*, Oct. 19, ii, 1125-1129), had operated in three cases of subacute nephritis following infectious diseases, and had found that incisions into the kidney capsule and cortex gave rise to disappearance of the albuminuria in all three cases. In 1899 Edebohls, of New York (*Med. News*, April 22, 1899), published his results with the surgical treatment of Bright's disease by decapsulation of both kidneys and anchoring them in the loin, and in 1901 the same author published two cases in which he treated chronic nephritis simply by decapsulating the kidneys without anchoring them (*Med. Record*, Dec. 21, 1901).

The results of Edebohls's work were such that they justified the hope that something might be done in the future toward the cure of a previously intractable disease, chronic nephritis; and since the publication of his results some of the other surgeons in this country have performed the operation. I was requested by the president of the American Genito-urinary Association to read a paper on the subject of the operative treatment of chronic nephritis at its meeting last month in Atlantic City. The conclusions of this study of the subject were: 1. That nephropexy is always a beneficial procedure in a movable kidney in a patient suffering from chronic nephritis. 2. That nephrotomy has proved a valuable operation in unilateral chronic nephritis associated with hæmaturia and nephralgia. 3. That the value of a complete decapsulation of the kidney as a therapeutic measure in chronic Bright's disease has as yet not been determined, as the procedure has not been employed extensively enough to warrant positive conclusions. At this time, with the exception of Edebohls's two cases reported in 1901,

and the one case of mine, no reported instance of decapsulation, pure and simple, for chronic Bright's disease had come to my attention. Since that time I have had the opportunity of operating in three cases of chronic Bright's disease which I shall report later in a clinical paper.

I have endeavored in this sketchy way to present the steps of the evolution of urology from the earliest times to the present, so as to show how this branch of medical science evolved from the beginning of medicine, and how, gradually growing more specialized and becoming more highly differentiated, it has reached the stage which is represented by the programme of this first meeting of the American Urological Association.

Let us hope that this association will remain the centre of the growth and development of American urology, that within its membership will always be found the exponents of conscientious work in the advancement of this branch of medical science, and that it may grow in influence and prosperity from year to year.

75 WEST FIFTY-FIFTH STREET.

THE CLINICAL VALUE AND TREATMENT OF ATONIC DILATATION OF THE STOMACH.

By B. C. LOVELAND, M. D.,
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In the discussion of this subject these remarks will be confined to personal experience and observation, although they may differ considerably from much that is written on the subject.

Atonic dilatation of the stomach may be defined as a distention of that organ from lack of elasticity or muscular tone, and should be distinguished from acute dilatation, on the one hand, and dilatation from pyloric obstruction, on the other. Much help in the diagnosis of this condition may be derived from a careful study of the case history, in addition to the physical methods used. Both of the latter varieties of dilatation are more serious, may be very extensive, producing more displacement of the greater curve, and are most unyielding to treatment. Not every slight distention with gas should be dignified by the title of dilatation of the stomach, but that title should be applied to such enlargement of the gastric area as would make the line of the greater curve as low as or lower than a point about three inches above the umbilicus; the variations above that point may be considered normal.

Atonic dilatation, or *myasthenia gastrica*, is usually met with as a sign or symptom of nervous exhaustion or nervous dyspepsia. It may be or may not be attended with serious disturbance of the gas-

tric secretion, for in many cases practically normal secretion is found, and in such cases the main distress seems caused by the slow or imperfect emptying of the viscus, with the nervous disturbances due to the general sagging of internal organs, of which the stomach is an important member.

It is a single item in a symptom-complex which often, I may say usually, includes a general enteropostosis. It is much more frequent in women than men, and is often associated with prolapse of the uterus and movable kidney.

Hence it is difficult to say which, if any, of the different organs relaxed and displaced, is most to blame for the nervous symptoms and distresses of the patient, or whether the nervous and muscular weakness present in this class of cases is not primary and really responsible for the stomach symptoms.

Certain it is that no one of the conditions recovers alone, and the surgical replacement of kidneys and even stomach has been recommended, but surgery cannot cure or remove the cause or restore tone to the supporting structures. I am of the opinion that excessive mental occupation, including mental anxiety and worry, with deficient physical exercise and the wearing of garments which do not allow free play of the trunk muscles, are in a majority of cases the fundamental errors which underlie the condition.

In this connection, also, rapid and injudicious eating and engorging the stomach should not be lost sight of as possible causes. This latter cause will be found to account for a dilatation frequently met with in bottle-fed infants and young children, but here the condition, unless extreme, seldom attracts attention, and usually rights itself when the child grows older and learns to masticate its food.

Imperfect recovery of tone after confinement may be mentioned as among the causes, yet the condition is quite common in men and in unmarried women, especially stenographers, bookkeepers, and others whose indoor and sedentary occupations may be partly at fault.

If, then, as has been stated, atonic dilatation of the stomach is a symptom, and that one of many, why devote so much time and attention to it?

I do not think we should, except as a *symptom*, and yet with a little pains to make occasional outlines it will serve as an index of the patient's progress toward recovery, and the knowledge that the stomach has receded two or three inches toward the normal dimensions may be most encouraging and inspiring to the patient, a boon to be desired, as the associated conditions are frequently very depressing.

In regard to treatment, I fear that the dilated stomach, when found, often fills the eye and mind of the physician to the practical exclusion of the other and equally important conditions, and even of the underlying causes, and the dilatation is treated as if

it were the disorder instead of one of the symptoms; while, on the contrary, many dilated stomachs, with all the accompanying displacement and distress, are overlooked for lack of investigation, the patient being turned off with a tonic or some pepsin and a few vague directions as to diet.

The treatment should be based on a knowledge of the cause or causes of the condition, and aimed at their removal or correction; and any amount of tonics or digestives will only palliate, perhaps not even that, if the causes are overlooked.

A general inventory of the patient's physical capital should be taken, and it will frequently be found about as follows: A feeling of weight or fullness in the region of the stomach, gas, distress, not to say pain, appetite variable and irregular, often great fear of taking even wholesome food on account of expected distress; a muddy complexion, tongue more or less coated, often flabby and indented with the teeth, possibly surmounted by inflamed or congested papillae; constipation, and frequently associated intestinal indigestion, a tendency to scantiness and high color of the urine; restlessness at night, especially toward the early morning hours.

Examination of the general nervous and muscular conditions will show reflexes normal, but a flabbiness of texture in the muscles and skin, especially over the abdomen, and there may or may not be a fat and pendulous abdomen.

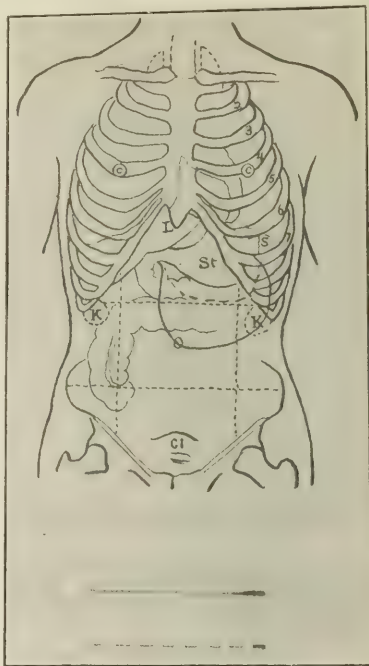
Careful examination will show, not only an enlarged gastric area, but often a loose kidney, displaced transverse colon, and, in women, frequently a prolapsed uterus. Analysis of stomach contents is not necessary or expedient in most of these cases if other methods of investigation are used carefully, but, when resorted to, the gastric secretions will usually be found normal.

Having taken such an account of the physical conditions, certain indications for treatment are plain. The treatment may be divided into hygienic and medicinal. Under the head of *hygienic* would come the correction of the patient's habits of dress, so as to give the abdominal muscles a chance to do the work they were intended to do, viz., to support the abdominal viscera; the institution of such habits of outdoor exercise as would give the patient, if possible, not less than two hours in the open air each day; a cool or cold morning sponge bath, usually general, at all events local over the abdomen, followed by a prescribed amount and variety of calisthenics, suited to the patient's need and strength, and calculated especially to strengthen the abdominal walls; faradaic electricity over the stomach and abdomen when the symptoms are principally local, to which may be added spinal galvanization if general neurasthenic symptoms are at all prominent.

Much difference of opinion exists regarding diet,

some stomach specialists prescribing a very concentrated, often a meat, diet, and little water or other fluid, with the idea that if the stomach is not filled its walls will contract to fit its contents.

Others, and with better logic, feed the patient with reference to what the body requires, believing such a course should be good for a stomach not organically diseased. Hence, I prescribe such a diet as the patient can digest, including the free use of water and milk if the patient requires more flesh, and frequent feeding, every two hours or two hours and a half, if it seems best in any individual case. Occupation for the stomach increases its strength, just as it does for one's arms; and sometimes it seems that, like the proverb about Satan finding mischief for idle hands, the stomach often makes more trouble



Case I. A. April 5, 1900; B. May 10, 1900.

from gas, etc., when empty or nearly so. The diet may be changed as digestive strength increases.

The medicines useful in this class of cases are such as are of benefit to the general nervous condition; and first among them is *nux vomica*, or *strychnine*, to which may be added *rhubarb* if a constipated tendency exists; β *naphthol* and *bismuth subgallate*, if gas or intestinal fermentation is a prominent symptom; and, in lithæmic subjects, *sodium salicylate*, given in a copious draught of water between meals, will often be of great advantage.

However, it is method, not medicine, which should be relied upon in these cases, and one other point should not be forgotten; that is, that rigid obedience to the physician's directions is indispensable to the best success, and can only be obtained by such thorough work, and perhaps argument, as to secure and hold the patient's confidence.

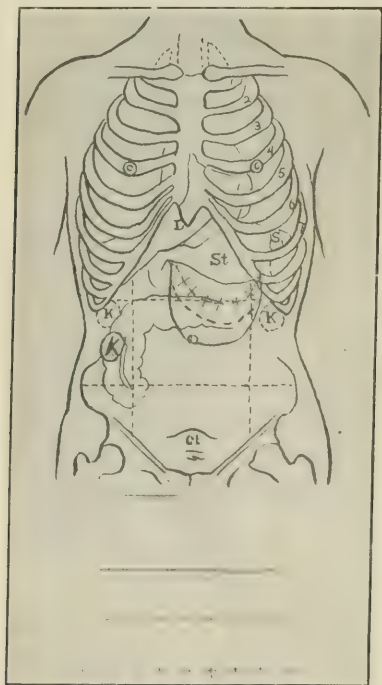
A few diagrams representing some current work of the sort are presented as illustrative of the subject.

CASE I.—Mr. A. B., bank teller, fifty years old, seen first April 5, 1900, was a chronic nervous dyspeptic, who had followed a concentrated, mainly meat diet, for a year and a half before first diagram was made.

He kept on with his work while under treatment, and the second marking on the chart shows his improvement.

He has remained well to the present time.

CASE II.—Mrs. F. G., thirty-two years old, chronic neurasthenic, with nephroptosis, and prolapse of uterus.

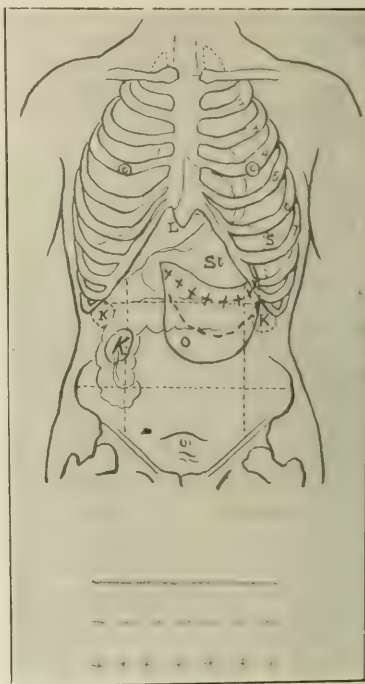


CASE II.—A, April 28, 1900; B, May 11, 1900; C, June 4, 1900.

Under treatment she gained flesh and strength, and the successive markings on the chart indicate the improved condition of her stomach, while there was a general improvement in the position of all her internal organs, and at the present time her health is much in advance of what was her habit before the chart was made.

CASE III.—Mrs. W. N., thirty-two years old, mother of one child, was a chronic neurasthenic. She also had a floating kidney and prolapsed uterus. The successive markings on the chart show her improvement so far as it is reflected by the condition of her stomach.

She has remained well to the present time.



CASE III.—A, November 30, 1900; B, December 18, 1900; C, March 2, 1901.

These cases are sufficient to illustrate the subject, and to show what may be done by systematic treatment, though many more could be added if space would permit.

Oregon State Medical Society.—New officers of this society were elected on September 11, 1902, as follows: President, Dr. Henry Waldo Coe, of Portland; first vice-president, Dr. F. W. Van Dyke, of Grant's Pass; second vice-president, Dr. I. A. Geisendorfer, of The Dalles; third vice-president, Dr. J. P. Tamiesie, of Hillsboro; secretary, Dr. A. D. Mackenzie, of Portland; treasurer, Dr. Mae Cardwell. Councillors—Dr. W. J. May, of Baker City; Dr. J. Fulton, of Astoria; Dr. Wm. Amos, of Portland; Dr. G. F. Wilson, of Portland; Dr. C. S. White, of Gervais; Dr. S. T. Linklater, of Hillsboro; Dr. W. T. Williamson, of Salem; Dr. Wm. House, of Pendleton; Dr. Ellis, of Portland; Dr. R. C. Coffey, of Portland.

OBSERVATIONS ON MUSCULAR
RELAXATION
IN ITS
RELATION TO WOMEN'S DISEASES.*

By D. ERNEST WALKER, M. D.

The relaxed muscular condition of many women who have fallen under my observation has caused me to devote considerable attention and thought to that condition; and while the results of this study may not add materially to the knowledge of the subject, I shall be satisfied if this short paper serves in a measure to direct general attention to it. While muscular relaxation may not always act as a cause of disorder or disease, in very many instances it lies at the bottom of numerous obscure symptoms whose cause is often sought in vain. To slightly paraphrase an author—relaxations of the abdominal walls and pelvic supports, together with displacements of the abdominal and pelvic contents, and dilatations of the stomach and large intestine, have no doubt done duty many times for organic pelvic disease.

In looking up the literature on muscular relaxation in women's diseases I have been struck with the sparseness of reference to the subject, especially in our text books. With the exception of relaxed vaginal outlet, very few of the books have more than a mere reference to it, and some not even that. Muscular weakness is given as one of the causes of prolapsus uteri. Kelly gives a very full description of relaxed vaginal outlet and its treatment. He says that it is always attended with laceration, which is often submucous and invisible. He gives very little space to any other phase of muscular relaxation. An exception is found in Herman's *Diseases of Women*, where considerable stress is laid on the subject, especially in discussing chronic abdominal and pelvic pain. Massey also devotes some attention to it in his work.

Experience has led me to believe that it is a subject which demands much more attention than it usually receives. Doubtless all will agree that pelvic troubles are far more prevalent among those who lead a sedentary indoor life, than among those who live an active one in the open air, and that general muscular relaxation is a frequent accompaniment of pelvic troubles, either as a causative factor or as an effect. The writer has come to the conclusion that it more frequently bears a causative relation.

In the relaxed vaginal outlet there is usually, if not always, general muscular relaxation. In many of these cases no laceration is visible, and it may or may not be true that there is in all of them a subcutaneous or submucous tear of muscular tissue. It

is alleged that those who assert the presence of such tears have never proved their assertions by dissection, and we have seen a few well marked cases recover without repair of the perineum. We are therefore led to the conclusion that such tears are not necessarily an accompaniment or cause of relaxed vaginal outlet. In these cases we generally find a definite causative factor in the subinvolutions following childbirth or miscarriage, either with or without lacerations of the pelvic floor or perineum. What shall we assign as a cause, however, for those cases in women with generally relaxed pelvic tissues and descensus of the pelvic contents who have neither borne children nor had miscarriages. Doubtless all of you recall rather anæmic, relaxed-looking patients who complained of some such symptoms as the following: The patient is nervous; generally depressed, unfit for exertion; is easily tired, a sort of half invalid. She has a dragging sensation of weight and pain in the pelvis, especially while on her feet. She flows too frequently, sometimes every two weeks, or the flow is too profuse and long continued, or followed by leucorrhœa. She has always previously been regular and well. She may give a history of removal from country to city, of change of climate and occupation, of being more than usual on her feet, of frequent running up and down stairs, of unusual exertion or long hours of work, of worry or trouble concerning private or family affairs.

On looking the patient over you find more or less anemia, a generally flabby muscular condition, more or less marked according to the duration of the trouble. You find no special relaxation of the abdominal walls and no evidence of ptosis of abdominal viscera. Examination shows lack of tone in the vaginal walls and a sagging down of the pelvic contents. With this you may or may not find retractions or enlargement of the uterus, prolapsed ovaries, or tubal and ovarian troubles. Such cases occur so frequently among women who have never been pregnant, and have never had previous menstrual trouble, that it behooves us carefully to consider the relation which the flabby muscular condition bears to pelvic troubles. It is often exceedingly difficult definitely to assign a place to certain symptoms and signs which fall under our observation, whether they are to be classed among causes or effects. In a case such as that mentioned above, where there is also a retroversion in a woman who has never been pregnant, and who, so far as sensation is concerned, never before knew that she had pelvic organs, is the muscular atony accompanying such a condition to be classed as a cause or an effect? If it is a cause, should not some such complaint always follow its presence? If an effect, should it not always occur with endometritis and similar troubles? Or what else may then be advanced as a plausible explanation?

*Read before The Society of the Alumni of the City Hospital, December 11, 1901.

tion of the relaxations, congestions, and displacements in young women who previously never suffered pelvic discomfort, and who cannot trace their trouble to any definite source?

In Allbutt's *System of Medicine* these remarks are made concerning the condition of enteroptosis, and I believe most men will agree with the author: "The disease depends in the main upon a relaxation of the abdominal walls and the supporting ligaments of the viscera, as a result of which the heavier organs drop to a lower level in the abdomen. The disease is usually met with in women, and mostly in young women who are thin and feeble. No definite causes have been assigned to it." Now, whatever may be the prime cause of the relaxation—whether general weakness, repeated pregnancies, prolonged lactation, overexertion, or injuries, as asserted by many—there can be little doubt that the ptosis of the viscera is an effect of the relaxation. So, also, muscular relaxation brings about flat-foot and spinal curvature.

In the cases of enteroptosis which have fallen under my notice there has also been a relaxation of uterine supports with general descent of the pelvic contents. There was also enlargement of the uterus with menorrhagia in two cases which are particularly recalled, in one of which there was also a relaxed vaginal outlet. If it is true, then, that ptosis of the abdominal viscera is an effect of muscular relaxation or atony, it can be no less true that the same thing may take place in the pelvic contents, since they occupy practically the same cavity and are subject to the same conditions. In answer to the question as to why pelvic troubles do not follow all cases of general or local muscular relaxations, it may be said that, if there is a normal position of the uterus, it certainly is not one of retroversion, and yet many women have retroversions who do not suffer discomfort therefrom. Many people have displaced kidney and do not know it or suffer from it. So, also, many women may have a relaxed condition of the pelvic organs and supports without suffering discomfort. This may be because they are not particularly sensitive, or because they have established a tolerance for the condition. A neurasthenic or neurotic patient will complain of discomfort and pain from a degree of relaxation which will not trouble a strong woman.

While attention has been directed more particularly to relaxations of a somewhat general character, it must not be forgotten that there are cases, also, of local atonic conditions, a familiar example of which is often found in those who are addicted to the very frequent use of the warm vaginal douche. In some of these there is so much relaxation of the vaginal walls and apparent redundancy of tissue that it is almost impossible to get a view of the os uteri with any speculum of ordinary size. These are fruitful

subjects of uterine prolapse and chronic uterine engorgement and endometritis.

It is the belief of the writer that muscular relaxation enters largely as a causative factor into those non-inflammatory pelvic troubles of women falling under the head of granular erosions, congestions, retropositions, prolapses, menorrhagias, metrorrhagias, dysmenorrhœa, and also of subacute endometritis. Bearing in mind the pelvic blood supply, one can readily see how relaxation of supports first brings about a sagging of the pelvic contents, then interference with the return flow of the blood, and a consequent congestion and increase in size and weight with displacements of uterus and ovaries and interference with the functions of menstruation and defecation. Then come menorrhagia, dysmenorrhœa, endometritis, and constipation, with any or all of their attendant ills. A common symptom in many of these cases, which I have not seen noted, is pain at the inguinal rings from traction on and tiring of the weakened round ligaments, nor is retroversion always present, as would be expected. I have observed the same symptom after recovery from Alexander's operation. Pelvic pain in many cases is due, says Herman, to "tired and stretched muscular and fibrous structures, from the fatigue of supporting the weight of the abdominal contents." To muscular relaxation are due the excessive amount, duration, and frequency of the menstrual flow with pelvic discomfort and pain so often seen in young women who have changed their occupations and mode of life. They are subjected to unusual, and often excessive, muscular exertion and become over-trained, so to speak, or they may have long hours on their feet or frequent trips up and down stairs. Frequent instances are found in nurses in training, shop girls, and housemaids. Many such cases occur in which there is no history or evidence of previous trouble, and in which, when taken early, the only treatment needed is a good general tonic and proper attention to recreation and the amount of exercise.

So I might adduce numerous individual cases showing the causative relation of muscular relaxation to women's diseases, but the limits of this short paper forbid. Suffice it to say, I firmly believe that he who looks upon it as an inconsiderable factor is likely often to fall far short of expected results in treatment.

While treatment does not lie directly within the scope of this paper, a few hints in a general way may not be amiss in closing.

Mechanical uterine supports should be used as crutches—merely as temporary expedients to bolster up weakened tissues until they can gain some strength. Their prolonged use defeats the object desired, since unused muscular tissue will atrophy. The teachings of modern treatment emphasize the

value of both active and passive exercise in prevention as well as cure, and the main object of treatment should be rather to strengthen than to support. Just here massage, electricity, and exercise find their field both in a local and general way. Local massage is open to objections which do not so much apply to electricity, and should be used with great care if used at all. Lacerations of supporting structures must be repaired, and in many other cases suitable operations must be done for accompanying troubles. For many cases pregnancy is the most certain cure if properly managed. Unfortunately, it cannot always be properly prescribed, and it is a treatment which is not always willingly taken. The main point in its management is to see that nothing prevents involution from being properly effected, lending your assistance to the efforts of Nature in that direction.

Finally, all local treatment of whatever nature should be aided by the use of general tonics and close attention to sleep, rest, diet, fresh air, exercise, digestion, and excretion.

254 WEST FORTY-FIFTH STREET.

STUDIES IN STETHOPHONOMETRY.

By ALBERT ABRAMS, A. M., M. D.,
SAN FRANCISCO.

The writer has, in previous communications¹, referred to the great clinical value to be attached to stethophonometry as a means of registering the intensity of the cardiorespiratory sounds. By means of this aid, we are in a position to gauge the progress of cardiac lesions, valvular and myocardial, and to determine the efficiency and action of cardiac tonics. The stethophonometer heretofore devised and employed by the writer did not fulfill all the requirements of a perfect instrument. It did not permit of a sufficient range of motion, nor did it allow of accurate adjustment. The instrument in its perfected state enables coarse and fine adjustment to be made, and permits of a sufficient range of action. Previously it was constructed on the disc valve principle, whereas now a composition material is used which offers a gradually increasing resistance to the sound. The scale on the stethophonometer for reading the degrees of resistance is conspicuously placed before the observer, and it is so made that it can readily be attached to almost any kind of stethoscope. My investigations with the stethophonometer convince me that the intensity of the heart tones is no accurate gauge of cardiac strength. One may hear very loud heart sounds in anæmic and emaciated persons, and yet the cardiac strength be far below the average; and, conversely, the sounds may be muffled, even though the organ is

vigorous. The real reason for this apparent contradiction of statement lies in the fact that in auscultation of the heart sounds we are dealing with two factors which contribute to their genesis, viz., muscle and valves. Heretofore we have been unable to distinguish between a muscular and a valvular sound. The former is a dull and prolonged sound, the latter is short and sharp.

While it is true that the intensity of sound varies inversely as the square of the distance from the sounding body, this law is not strictly applicable to the heart tones. Here factors prevail which interfere with propitious conductivity. The writer believes that by the aid of the stethophonometer one is able to distinguish between the muscular and valvular elements of the heart sound. To properly appreciate this matter, the writer is constrained to review certain pertinent facts relative to the heart tones. The ventricular systole is made up of two periods, the closure and the expulsion periods. The former embraces the time consumed from the beginning of the ventricular contraction to the opening of the pulmonary and aortic semilunar valves. The latter remain closed during diastole of the ventricles, for during this period the intraventricular pressure is negative, and it is only when the latter exceeds the pressure of the aorta and pulmonary artery that the semilunar valves open. The energy which propels the blood from the ventricles is furnished by its musculature, which does not attain its maximum force at once, but gradually. It is therefore evident that the blood from the ventricles is not expelled into the arteries immediately, but, on the contrary, a little time must elapse, which Landois and others have estimated to be .07 of a second. The revolutio cordis is made up of a first sound, which marks the beginning of the ventricular systole, then follows a brief silence, and after this, the second sound. The latter coincides with the end of the ventricular systole. After the second sound occurs the second, or long, interval of silence. It is generally conceded that two elements make up the first sound, viz., a valvular and a muscular element. The former is a short and sharp sound due to the closure of the mitral and tricuspid valves. The muscular element is a muffled sound and is dependent on contraction of the muscular fibres. If the tones of the heart are auscultated at the apex with the conventional stethoscope, it is practically impossible to distinguish between the muscular and valvular components of the first sound. If, however, the stethophonometer is employed and increased resistance is gradually interposed, one is at first able to observe the accentuation of the first tone. Soon, however, as the interposed resistance is augmented, the accentuation is no longer on the systolic, but on the diastolic tone.

¹ *Medical News*, July 8, 1899; *New York Medical Journal*, February 16, 1901.

The latter observation establishes the fact that in the earlier auscultatory period the accentuated first tone was dependent on the combined valvular and muscular components, and, if one of these elements is excluded from the first tone, the latter becomes less loud than the second tone.

The next question is, Which element is excluded by the resistance furnished by the stethophonometer? The element eliminated is unquestionably the muscular component. The chief reason for this contention is that when the first becomes less loud than the second tone, it is of a short, flapping quality suggesting a valvular and not a muscular sound. Then, again, in conditions such as hypertrophy, when the acoustic character of the muscular component of the first sound is easily recognized, it is no longer apparent when sufficient resistance is interposed by means of the stethoscope; and conversely, in dilatation and weakness of the heart chambers, when accentuation of the first tone disappears, its character is maintained unaltered with the stethophonometer. The practical value of the latter instrument is illustrated in this connection in distinguishing a systolic murmur at the apex. In general, such a murmur may be of muscular or valvular genesis. Murmurs dependent on the former are not infrequently dependent on myocarditis or a rapidly acting heart. I have autopsied evidence in two instances in which a systolic murmur at the apex was declared to be dependent on mitral insufficiency, yet the necropsy showed the mitral orifice and valve to be intact in both individuals and the lesion to be a myocardial one. The distinction in the two individuals in question was possible during life by means of the stethophonometer. Another important aid furnished by the latter instrument is in distinguishing organic from inorganic cardiac murmurs and autochthonous from transmitted murmurs. Elsewhere² I have referred to inhibition of the heart as an aid in diagnosis. This manœuvre took into consideration the fact that the intensity of a cardiac murmur was dependent on the vigor of the heart. Loud murmurs often become weak or disappear in the course of febrile affections and in the moribund state, owing to the slow and feeble action of the heart. The expedient in question seeks to slow the action of the heart, and in its execution we are constrained to rely on the efforts of the patient. This is not necessary if the stethophonometer is employed. By interposing increased resistance to transmission, inorganic and transmitted murmurs may be made to disappear, to be replaced by tones. Let one suppose that at the apex, in aortic incompetency, a diastolic murmur is audible. If, now, we introduce a certain amount of resistance, such as is furnished

by the stethophonometer, the murmur will disappear and be replaced by a diastolic tone. The murmur in question is therefore a transmitted one. Or, again, systolic murmurs are heard over all the ostia. They are not transmitted away from the heart and are soft and blowing in character. Blood evidence of oligocythemia and hemoglobinemia exists. The systolic murmurs over all the ostia disappear by the aid of the stethophonometer and are replaced by tones, warranting the justifiable diagnosis of anemic murmurs. In such instances as the foregoing, we are guided by the rule that murmurs are more easily suppressed than tones by the interposition of resistance to transmission. Whereas in a general way, one is justified in saying that the intensity of cardiac tones, unless we are able to distinguish their muscular character, is no index to the vigor of heart strength, yet the individual, taken alone, can furnish many important object lessons. One is able to gauge the intensity of his heart tones from day to day and make a graphic record of the same, and in this way control the action of cardiac medication. By means of the stethophonometer, the writer has been able to confirm³ the important work done by Dr. S. R. Creighton⁴, who first demonstrated that the relative intensity of the pulmonic second sound, when compared with the aortic second sound, varied a great deal at different periods of life. These observations serve to correct the popular error current in text books, viz., that the aortic second sound in health is always louder than the pulmonic second sound.

There is another popular error which the stethophonometer has taught the writer, and that is that the unreserved reliance placed on the tonometer as an instrument of precision in gauging blood pressure in arteriosclerosis is unwarranted by clinical evidence. It is usually taught that, when the tonometric figure is low with clinical evidence of arteriosclerosis, it is a sign of failing heart power. The tonometer and other like apparatus are constructed on the general principle that, after the blood supply to a part is inhibited by compression, the gradual removal of the latter will relieve the obstruction and, when the point is attained at which the intraarterial is greater than the extraarterial, or capillary, pressure, it is indicated by a gauge which registers the blood pressure. Now, in arteriosclerosis, even the smallest blood vessels (arterio-capillary fibrosis), are firm and unyielding, hence the compression of such vessels for gauging blood pressure conduces to erroneous results. I have frequently noted by the aid of the tonometer an apparent increase of blood pressure, notwithstanding the fact

² *New York Medical Journal*, February 18, 1901.

⁴ *Physical Diagnosis*, Cabot

³ *Philadelphia Medical Journal*, Sept. 20, 1900.

that cardiac auscultation negated the existence of the same. Three factors make up the normal blood pressure, viz., force of the ventricle, frictional resistance of the capillaries, and arterial elasticity. If the heart is weak, as is manifested by an enfeebled second aortic tone, increased blood pressure cannot exist. I am therefore constrained to conclude that in gauging blood pressure reliance should only be placed on cardiac auscultation.

The stethophonometer is also of service in distinguishing the overaction of hypertrophy from the delirious action of disturbed compensation. In the former condition the muscular component of the tones can be eliminated, whereas in the latter condition the valvular quality of the tones is easily identified. It is, furthermore, evident that in nervous overaction of the heart the intensity of the tones over the pulmonic and aortic ostia is not increased in the same ratio as the tones over the mitral and tricuspid orifices. The real object of auscultation in cardiac disease is best attained by means of the stethophonometer. It is not so much the valvular lesion as it is the condition of the myocardium which the physician must regard. Given a muscle which is in a state of perfect compensation, it is of little prognostic importance to know the character of the valvular lesion. In studying the action of amyl nitrite inhalations on the intensity of the heart tones as gauged by the stethophonometer, the writer has been impressed by one important fact which he has observed, and that was that after inhalations of this drug the muscular component of the heart tones was measurably increased and the steadying effect on the heart was perceptible. The salutary influence thus brought to bear on the heart was undoubtedly brought about through the improved nutrition of the myocardium by means of the coronary arteries. The writer has since then observed among his cardiopaths that nitroglycerin as well as amyl nitrite inhalations are of great therapeutic value in certain forms of cardiac disease when digitalis and other cardiac tonics have failed in their action.

The stethophonometer has been of much service to me in studying the acoustic phenomena associated with the lungs. Reference to this fact will only be made in a general way, for it suffices to exemplify the manifold uses to which the instrument may be put. Let us suppose that in auscultating the pulmonary apices it is difficult to determine over which apex the vesicular murmur is louder. By gauging the instrument so that the vesicular murmur is no longer heard over the one apex, whereas it is still heard over the other apex, we are in a position to conclude definitely that the murmur is exaggerated on the one side. The trained ear can never replace a carefully gauged instrument for determining and

registering the intensity of respiratory or cardiac sounds.

The stethophonometer has also been of great practical aid to me in determining the value of the different forms of respiratory exercises. The writer has found that many exercises lauded as serviceable for developing the lungs are practically useless. The object of such calisthenics is to admit air into the remote lung vesicles, and the amount of air entering the latter can be accurately gauged by the stethophonometer. The writer has further corroborated such investigations by the aid of the Röntgen rays, which enable one to ascertain, by the resistance which the lungs offer to the traversing rays, the degree of pulmonary insufflation. The use of the stethophonometer postulates greater skill than is demanded by conventional stethoscopic examination, and the writer wishes particularly to emphasize the fact that some disappointment will attend its primary use, and it is only after considerable experience that the practitioner will be able to concede its clinical importance.

A CASE OF ACUTE DIABETES IN A CHILD THREE YEARS OF AGE.

BY FRANK B. SWARTZLANDER, M. D.,
BOYLESTOWN, PA.

On October 2, 1902, I was called to attend Mary H., æt. thirty-eight months, suffering with diabetes. The disease was far advanced, and on the morning of the 5th she died in coma.

The history of the case is as follows: The father, a healthy working man, thirty-eight years of age, has always been in exceptionally good health. The paternal grandfather died of consumption, aged fifty years; the grandmother is over seventy and well. The father's brothers and sisters are all living and show no sign of disease which would throw any light on the case.

On the maternal side, the mother, twenty-six years of age, her brothers and sisters, and mother are all living and well. The maternal grandfather was a confirmed drunkard, and died of nephritis contracted from exposure while intoxicated.

After very careful questioning, no history of gout, insanity, or any nervous or specific disease could be elicited. There were but two children in the family, the elder five years old, and with the exception of colds and an attack or so of indigestion, the family has been very free from illness. Of the two children, the younger has been the more robust.

About the end of last August, the child had an attack of indigestion, but, under dieting and home remedies, had recovered, as the mother supposed. Soon after this she noticed that the child had to be taken up oftener at night to urinate, and that during the day she was constantly at the hydrant "getting a drink." This condition grew worse until the demand for a drink of water or milk became incessant. She would not eat, and grew pale and weak. The mother did not seem to appreciate the change at the

time, but recalls clearly how the child became listless and peevish, and cried more and more for water, and when refused sobbed and pleaded until she got it.

The urine voided gradually increased in amount until a week ago a full-sized chamber would not hold the quantity passed during the night. This, with anæmia and increasing weakness and loss of appetite, alarmed the mother.

When I first saw the child, four days before her death, she was extremely pale and so weak that she could not stand alone, and staggered when she attempted to walk. There was little emaciation. The skin was almost transparent, the nails had a bluish tinge, and the hands and feet were much cooler than the rest of the body. The eyes were dull and listless, the tongue was pale and slightly swollen, and the lips were almost colorless.

Examination of the lungs was negative; the heart was weak, about 120 pulsations to the minute, with a slight anæmic mitral murmur. The abdomen was not sensitive or enlarged. The reflexes seemed normal.

Examination of the urine was as follows: Specific gravity, 1.048. Reaction, acid. Color, white, slightly opaque. Albumin, negative. Sugar, 3.2 per cent. by Roberts's method; the Fehling test gave a slightly increased amount. Diacetic acid, von Jaksch's method showed a considerable quantity. The urine voided in twenty-four hours amounted to 3 litres, 400 c. c.

On the second and third days the condition remained about the same, but the amount of urine passed was less, 2 litres, 100 c. c., and on the third day the amount of sugar was reduced to 1.4 per cent., with a marked increase of diacetic acid.

Early in the morning of the fourth day (about 2 a. m.) she became comatose. The extremities were cyanotic and cold; reflexes nearly absent; pupils dilated, failing to react to light; breathing was labored and stertorous; and the pulse so weak it could not be counted. The acetone odor was very evident. This condition lasted five hours, and she died, the respirations growing gradually more shallow until they ceased.

The negative family history, the good health of the child previous to the last month of its life, the apparent absence of cause, and the rapid course of the disease make this case one that is rather out of the ordinary. No treatment was attempted, owing to the advanced stage of the disease, and, unfortunately, permission to make an autopsy was refused.

Therapeutical Notes.

Treatment of Inoperable Cancer with Methyl-blue.—According to the *American Journal of the Medical Sciences* for September, Cucca and Ungaro (*Rassegna d'ostetricia e ginecologia; Centralblatt für Gynäkologie*, No. 22, 1902) use the following solution: Methyl blue, 90 grains; ninety-per-cent. alcohol and glycerin, aa 3 drachms; water, 7 ounces. This is applied to the diseased cervix on tampons after previous curetting. A weaker solution is used for vaginal and intrauterine irrigation. The results have been quite satisfactory, patients

being kept comfortable and free from hæmorrhage and discharge for months, or even years. Pain was relieved so that morphine could be dispensed with, and the progress of the disease was evidently retarded. No unpleasant effects were noted after long use of the remedy.

Hubbard's Abortive Treatment for Typhoid.—The *Arte medica* for August 31st, quoting the *Revue de thérapeutique* for August 1st, gives the following as Hubbard's abortive treatment of typhoid, with which he has obtained excellent results:

Every two hours the patient takes a powder containing

℞ Well washed calomel... 0.03 grammes ($\frac{1}{2}$ grain);
Guaiacal carbonate 0.10 grammes (1½ grain);
Podophyllin 0.015 grammes ($\frac{1}{4}$ grain).
M. ft. pulv.

This treatment is continued for from twelve to twenty-four hours, and then an equal amount of menthol replaces the calomel. If the omission of the calomel induces intestinal atony, every morning a laxative dose of some aperient water is given. If after three or four days the temperature goes up again, the use of calomel for twenty-four hours is to be resumed, the dose varying according to the gravity of the case.

Hubbard reports thirty-four cases successfully treated in this way, the temperature becoming normal about the fourteenth day. The only complications were slight intestinal hæmorrhage in two cases. The complications in cases presenting them at the institution of this treatment have yielded rapidly to it.

A Rubefacient Cataplasma.—*Province médicale* for September 13th gives the following:

℞ Barley (or oats) slightly heated
and pulverized.....120 grammes (3 ounces);
Vinegar..... 30 grammes (7 drachms);
White of eggs.....No. 3;
Water.....q. s.;
Mix cold and make a kind of paste to be spread on cloth and dusted with
Powdered pepper..... 30 grammes (7 drachms).

Posture as an Aid to Digestion.—Ogarkow (*Archiv für klinische Medizin*, 1901, Bd. lxxi; *Medicine*, September) has determined experimentally that the stomach empties itself most rapidly when the individual is lying upon the right side, and also when he is walking rapidly. When standing, sitting, lying on the left side, or walking slowly, the conditions are less favorable for the rapid emptying of the organ. When lying upon the back or face, the conditions are less favorable than when upon the right side, but somewhat more so than in a standing position. Link (*Therapie der Gegenwart*, May), also, is of the opinion that it is important in certain pathological changes in the stomach to have the patient keep a position upon the right side for a considerable time after taking food. It is stated that this simple procedure is of considerable therapeutic value.

According to a French writer, recently cited by *Medicine*, the post prandial position on the right side has proved of great service in cases of acute indigestion, and also in passive stasis of the stomach contents.

For Lingual Psoriasis.—*Nouveaux remèdes* for September 8th gives the following:

- R Cocaine hydrochloride.....0.05 gramme ($\frac{3}{4}$ grain);
 Balsam of Peru.....
 Boric acid.....) of each 1 gramme (15 grains);
 Petrolatum.....40 grammes (10 drachms).
 M. To be applied twice daily.

For Scabies.—Balzer (*Médecine moderne*, No. 27, 1902; *Gazzetta degli ospedali e delle cliniche*, July 31st) gives the following directions for the rapid cure of scabies:

1. Friction with soft potash soap containing a certain quantity of chalk or of the finest sand. This friction should be general and vigorous, and should last twenty minutes.

2. A bath for one hour, during which the frictions are continued.

3. Friction with Helmerich's ointment:

- R Sulphur 2 parts;
 Potassium subcarbonate..... 1 part;
 Lard12 parts.
 M. (The lard may be replaced by water or glycerin).

This friction should be prolonged for from a quarter of an hour to twenty minutes, and the patient remains smeared with the ointment until the next day. Then he takes a tepid bath to remove the ointment and the treatment is finished, and in most cases the patient is completely cured. In hospital the clothes are disinfected. It is occasionally but rarely necessary to repeat the treatment two or three times.

When there is no means of sterilizing the clothes, it is sufficient to lay them aside for two or three weeks, having them well brushed and freely exposed to the sun, for the acari thus die out in eight or ten days, and their eggs become sterile. By this means, the heating of the clothes, which spoils them, is avoided.

When scabies is accompanied by pustular or other exudative lesions, the crusts must first be loosened and the secretions checked. For this baths and moist applications are used. When it is complicated by eczema, starch cataplasms (*cataplasmi di fecola*), silver nitrate, and zinc paste to which has been added liquid storax or Peruvian balsam may be used. The following ointment allays irritation:

- R Petrolatum.....
 Lard.....) of each 20 parts;
 Lanolin.....
 Zinc oxide.....15 parts;
 Balsam of Peru.....1 part;
 Menthol..... $\frac{1}{4}$ part.
 M.

Or this:

- R Starch.....
 Zinc oxide.....) of each 25 parts;
 Yellow petrolatum.....50 parts;
 Storax.....5 parts.
 M.

These ointments are well tolerated, and bring about a certain improvement in the lesions due to scabies also. More energetic ointments may next be employed, to destroy the parasite.

The following preparation has been highly praised

by Kaposi as a substitute for sulphur preparations:

- R β . Naphthol..... 5 parts;
 Petrolatum100 parts;
 Green soap50 parts;
 White fat10 parts.
 M.

This preparation is as efficacious as the sulphur ointment, and is better tolerated by the skin; it is specially useful in children.

Balsams, as liquid storax and Peruvian balsams, have been largely used of late years, and are very energetic and efficacious; but cases of poisoning have been noted when they have been used too strong, and they should always be diluted with a considerable quantity of petrolatum or oil; as thus:

- R Liquid storax..... 30 parts;
 Petrolatum100 parts;
 Olive oil100 parts.

M.

Or

- R Peruvian balsam..... of each 10 parts;
 Precipitated sulphur.....
 Petrolatum.....100 parts.

M.

The form of an ointment is not obligatory; Peruvian balsam may be dissolved in alcohol:

- R Peruvian balsam..... 10 parts;
 Alcohol190 parts.

M.

A Diuretic Powder.—M. Gacon, a French pharmacist (*Nouveaux remèdes*, September 8th) recommends the following diuretic powder as portable, soluble, and agreeable to take:

- R Sodium bicarbonate.....4 grammes (60 grains);
 Potassium nitrate.....1 gramme (15 grains);
 Ammonium glycyrrhizate.....0.50 gramme ($7\frac{1}{2}$ grains).

M.

This amount is to be added to a quart of water.

Iodine and Arsenic in the Asthma of Children.—

According to the *Journal des praticiens* for September 20th Lemonnier, following Comby, recommends as a prophylactic treatment between the crises potassium iodide and arsenic in alternation:

- R Potassium iodide..... 5 grammes (75 grains);
 Distilled water.....100 grammes ($3\frac{1}{2}$ ounces).

M. A teaspoonful morning and evening in a little water.

When this mixture is finished, it is to be followed by:

- R Sodium arsenate..... 0.02 gramme ($\frac{1}{4}$ grain);
 Distilled water.....100 grammes ($3\frac{1}{2}$ ounces).

M. A teaspoonful morning and evening. After this a suspension for ten days is recommended, and then the treatment is to be renewed.

For treatment during the crises, besides the usual drugs, a careful use of morphine, fumigations of belladonna, hyoscyamus, stramonium, internal use of lobelia inflata or grindelia robusta, the author finds inhalations of pyridin (a handkerchief, upon which a few drops have been poured, suspended from the child's throat) of great use. Powdered ipecac in a nauseating dose may abort the attack and arrest the spasm.

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THE PROPOSED TWO YEARS' ACADEMIC
' COURSE AT COLUMBIA.

The new president of Columbia University has proposed for consideration the plan of establishing two different courses for Columbia College (the university's school of arts), one of two years' and the other of four years' duration, the shorter to be included in the longer one, the two years' course to lead to the degree of bachelor of arts and the four years' course to that of master of arts. Some of those who have publicly discussed the proposition appear to see in it only a proposal to curtail the teaching of "the humanities," and they deprecate the curtailment. So should we if we viewed the plan in that light, but evidently it was not Dr. Butler's intention to propose such a measure, for he distinctly says that the four years' course should still be preserved for such students as intend to follow a scholastic career or, being bent on commercial pursuits, can be induced to devote four years to academic study before engaging in business; in other words, he would leave the course as it is now, with all the improvements that the future is sure to bring, for those who are willing and able to take it, but establish the shorter course for the benefit of those who cannot or will not devote the longer period to the course in the arts.

There is some indication that there are among us certain bachelors of arts who are small-minded enough to oppose the proposition out of jealousy, feeling that a degree which it took them four years to acquire ought not to be given at the end of two years' study. But what is the practical value of the A. B. degree in this country, and how many among those of its possessors who have reached middle age ever care to append the letters to their names? Moreover, in the case of the Columbia degrees, would there not under the new plan be a far more

substantial distinction between the significance of A. B. and that of A. M. than there is now or ever has been? We all know that when under the present system the A. B. becomes an A. M. he does so by virtue solely of the lapse of time and the payment of a small fee, and not at all as the result of his having further prosecuted his studies or, indeed, remembered what he learned in his college course. The objection is frivolous.

But it is not from the point of view of education in general that the medical profession is chiefly interested in Dr. Butler's proposal. If it is adopted and carried into execution, it will shorten by two years the length of time that a person intending to study medicine to the best advantage now has to devote to his education—time that grievously handicaps many a promising young man. To be sure, as things are now, the student can leave the school of arts at the termination of his sophomore year and enter at once upon his technical course, but that policy is hardly to be recommended, for he would be leaving with his status not definitely established and with the lurking dread always clinging to him that he might be assumed to have been "rusticated." Under the new plan the A. B. degree would secure to him without doubt or question whatever prestige might properly attach to two years of satisfactory academic study. Dr. Butler's proposition, as we understand it, provides that no student can enter any of the university's technical schools unless he possesses this degree or can give satisfactory proof of acquirements equivalent to those needed to obtain it. Consequently, to have earned the Columbia degree in medicine, law, or engineering would in itself proclaim the holder of the degree as equally proficient in "the humanities" with one who, no longer ago than in 1860, could get the university's degree of A. M. Moreover, we think that the definite equipment in preliminary education implied in the possession of the degree of A. B. after a two years' course in the arts would more and more attract to Columbia young men having the medical course remotely in view, with the result that Columbia graduates in medicine would very largely be men who had spent six consecutive years in the same university atmosphere, the influence of which could not but tend to rivet the bonds of their fellowship, to create among them an *esprit de corps* even more pronounced than that which now exists.

PROFESSOR LORENZ'S VISIT TO CHICAGO.

As we remarked last week, it is not a very uncommon occurrence for a member of our profession to be called to a patient living in a far distant country. If he happens to be a noted surgeon, and particularly if he has been called for the purpose of performing an operation devised by himself or one in the performance of which he is known to be specially skilled, it is usual for him to accede to invitations to demonstrate his procedure in the hospitals of the country that he is visiting. This is what Professor Lorenz, of Vienna, has graciously done in connection with his recent call to Chicago to treat a case of congenital dislocation of the head of the femur. The reports are to the effect that the clinical demonstrations given by Professor Lorenz in Chicago were attended by very large assemblages of spectators. While it is exceedingly doubtful if more than a very small fraction of those who were present could obtain such a view of the procedures as to add to what knowledge concerning them they could readily obtain, and in most instances doubtless had already obtained, from recent text books, from current literature, and from witnessing the same manipulations executed by other surgeons, we can well understand that a few of them were able to get from the demonstrations a clearer grasp of certain features of them than had resulted from their previous training, and certainly a clearer one than they could have gathered from printed descriptions, and Lorenz's operation has been minutely described over and over again. These few, together with those of our countrymen who have had the privilege of witnessing Lorenz's work in Vienna, will be quick to diffuse their special information among their professional brethren, and thus much good is sure to result from Professor Lorenz's visit, no matter what may be the outcome in the case of the particular patient to whom he was called.

But such kindly demonstrations do not necessarily centre about a professional call; surgeons of great note or known to be exceptionally skilled in certain operations are not uncommonly invited, even when they are simply sojourning in foreign countries, to exemplify their special procedures, and for that purpose the hospital facilities of the larger towns are placed entirely at their disposal for the time being. Many of us remember, for example, the operations performed in some of our American hospitals by the late Mr. Lawson Tait a few years ago, at a time when

salpingectomy was hardly out of its infancy, and how they fanned the nascent flame of our appreciation of the pathological importance of diseased conditions of the Falloppian tubes. Others of us, casting the retrospective view a little further back, will call to mind the operations performed in various European cities by our own Sims and Bozeman. The oftener such things occur, the better for the entire medical world, and we heartily welcome Professor Lorenz to our shores. We feel sure that this feeling on the part of the profession will not be impaired by the announcement that Professor Lorenz has taken out a license to practise in Illinois, for it may be taken for granted that he will act only as a consultant during the remainder of his stay.

SOME CONSIDERATIONS ON MEDICAL
NOMENCLATURE.

The *Pacific Medical Journal* for September contains an adverse editorial comment on certain of the questions recently submitted at the California State medical examination. These questions were not, as we understand it, asked of students, who, coming fresh from the schools, might reasonably be expected to be up in all the most recent work and literature. They were propounded to applicants for a State license to practise, many of them, doubtless, practitioners of long standing.

One of these questions called for a definition of cryoscopy, and among those who failed to answer it were four graduates from a school of such high repute as Johns Hopkins. Now, as we have assured ourselves, many of the most recent medical dictionaries make no reference to this word, and it is not to be found, either, in many representative text books bearing date so late as 1900-1902. Exception to this question, therefore, would seem to be well taken. Again, the demand for a definition of pollakiuria is another question which is open to the same criticism. To be sure, a knowledge of Greek would at once suggest its meaning. The fecundity of the age in the invention of new, and often superfluous, Greek terms for conditions already well known by other names thus lends point to our regret at the gradual suppression of Greek from the scheme of general education. But the fact remains that many excellently qualified practitioners have either never had any useful knowledge of Greek or have long since forgotten what little

they ever knew. To submit such to rejection, therefore, because they failed to recognize under a new Greek name such a well known condition as frequent urination seems to us neither sensible nor just.

Another question to which exception may be fairly taken is the demand for a description of Hanot's disease. This habit of giving to diseases, treatments, "symptom complexes," etc., the name of some scientist is a growing one, and in our judgment a very regrettable one. It may, of course, be argued that it is better to give a mere designation which shall denote a condition without connoting views on pathology, ætiology, etc., which future observation may show to be incorrect. But this argument seems to us of little weight. Suppose that a name is given, which is in some sort descriptive of the disease, so far as understood at the time when it first begins to find its way into the literature, and that, subsequently, it is found that the name is by no means fairly descriptive of its actual pathology; even then, we are this much better off than with a mere eponym, that at the beginning the name does suggest something of what is then known about the condition and is on that account easier to grasp; while, by the time that the inappropriateness of the term is realized, and it has sunk to a mere arbitrary designation, the profession has become thoroughly familiarized with the condition itself, and no more practical difficulty can ensue from the use of such "proper name" than occurs in the case of a pronounced brunette named *Blanche* or of a six-foot person with a patronymic of *Little*.

But if we must have these man-named diseases, it certainly seems unfair that, in such an examination as that in question, one should be chosen that is not to be found in quite a large number of recent text books and dictionaries. On such a basis it would be quite possible so to frame examination papers as to exclude the majority of well qualified practitioners. To this we would ask *cui bono*?

Another suggestion we would make in reference to medical nomenclature relates to the choice of terms in articles for the medical press. It is that physicians should remember, when writing valuable communications for the journals, that their matter is likely to be of interest to many *confrères* of other nationalities besides that in whose tongue the original communication is couched. For that reason it seems highly desirable that all technical terms should be expressed, either in actual Latin or Greek, or at least in the do-

mestic derivatives from those languages, where such derivatives exist. Any English-speaking physician, for instance, with only a schoolboy's knowledge of French, Spanish, Italian, or German, in digging out the substance of an article in any one of those languages would at once grasp the signification of the French, *luxation* or *dislocation*; the Italian, *lussazione*; the Spanish, *luxación* or *dislocación*, or the German, *luxation*. But the French, *déboîtement*, the German, *Verrenkung* or *Ausrenkung*, and the Italian, *slogatura* would probably necessitate an extra recourse to the dictionary, which could have been obviated by the general use in the respective languages of those terms which are derived from the classical stock. In like manner, for the benefit of the French, German, Italian, or Spanish physician only slightly conversant with English, cephalalgia is preferable to headache, verruca to wart, variola to small-pox, parturition to childbirth, and so on. And as an article on any subject in medical science naturally contains a very large proportion of technical terms, it follows that an adherence to this plan would make a very material reduction in the actual labor of wading through an article in a tongue with which the reader was only indifferently acquainted.

In default of any possible agreement on the subject of an international language of science, let us at least make use of terms, where we have them, derived from a source familiar to scientifically educated men of all nationalities, in preference to such as suggest of themselves nothing to one who is only imperfectly acquainted with the tongue in which we write. The universal adoption, in communications to scientific periodicals, of these classical forms of all technical terms in preference to the vernacular form, by reducing the labor to a minimum, would encourage the effort to read valuable papers in the original, and would thus give a stimulus to linguistic studies that in these days of international congresses would result in inestimable services to science at large.

A CASE OF CONGENITAL ALOPECIA.

Abnormalities of the hair are perhaps connected with heredity more commonly than is generally supposed. At a recent meeting of the Société de dermatologie et de syphiligraphie (*Annales de dermatologie et de syphiligraphie*, July), M. Baudoin presented a boy four years of age, who had almost complete alopecia. At birth the child's head was covered with a fine down, which, however, speedily fell. The hairs

did not begin to appear till the end of the second year. They were so few in number that they could be counted, and were scattered over the scalp. On the other hand, the cheeks were covered with an abnormal and exaggerated growth of hair, almost amounting to actual whiskers. The intracranial venous system had attained an enormous arborescent development similar to that described by the Fourmiers as common in certain hereditary syphilis. The most minute examination, however, failed to discover any specific taint, either in the child or in its parents. The father's hair, however, had not begun to show itself until he was a year and a half old, thus suggesting an hereditary peculiarity of which the child's condition was simply a development.

VACCINATION AND PAROCHIAL SCHOOLS.

It appears from the Chicago Health Department's *Bulletin* for the week ending October 11th that thirteen children with smallpox were sent to the isolation hospital during the week. None of them had ever been vaccinated, and some of them had attended a parochial school. The board is inclined to think that parochial authorities are not generally aware that the vaccination law applies to their schools as well as to the public schools, in none of which latter, it says could such an outbreak have occurred, for the pupils are all protected, the certificate being required in all instances, whereas the parochial school officers, while they attend to the vaccination of their pupils some time in each year, do not in every case require the pupils to have been vaccinated before they are admitted.

THE DECLINE OF TYPHOID FEVER IN CHICAGO.

We are glad to learn from the Health Department's *Bulletin* for the week ending October 11th that, although the number of deaths from typhoid fever was the same, twenty-two, as for the preceding week, the duration of the disease in the fatal cases is held to show that the epidemic is virtually at an end, and that the continuous pollution of the water supply has been offset by the precautions taken in its use. The death rate from all causes, too, was noticeably low, only 11.53 to the thousand of population.

A MEDICAL CANDIDATE FOR THE MAYORALTY OF DETROIT.

We have frequently urged upon our readers that they should not shut themselves up in medicine to the exclusion of their duties as citizens; in fact, that they should play a more prominent part in politics. We are glad to learn, therefore, that so well known a member of our profession as Dr. J. H. Carstens has accepted a nomination for the office of mayor of Detroit. We care not which party supports him; we hope he will be elected.

THE CHICAGO HOSPITAL SCHOOL FOR NERVOUS AND DELICATE CHILDREN.

We are informed that hereafter this institution, one well equipped for good work, we judge, will devote special attention to children with defective speech, either from illness in infancy or from any other cause. We learn that Dr. Nicholas Senn has recently furnished a pathological laboratory for the institution and that a food laboratory will probably be established in the course of a few months. The hospital school is affiliated with the Rush Medical College and with the University of Chicago.

THE CHOLERA EPIDEMIC IN THE PHILIPPINES.

Under date of September 3d our Manila correspondent writes that after almost six months the epidemic is more firmly rooted than ever before, appearing in practically every town and pueblo from the northern extremity of Luzon to the island of Mindanao, with a virulence previously unknown. The rainy season, he says, has utterly failed to influence the course of the scourge, and "we are now looking to the colder weather of November and December for relief, in the mean time continuing such quarantine measures as will lead to the protection of home ports." In Manila, he adds, about two per cent. of all American civilians have been attacked, and fifty-five per cent. of those affected have died. This is in addition to the number of soldiers stricken. The following are the statistics furnished by the commissioner of public health up to the date of our correspondent's communication:

For Manila.			
Filipinos	3,350 cases	2,654 deaths.	
Chinese	292 "	140 "	
Americans	117 "	64 "	
Europeans	53 "	31 "	
Others	29 "	14 "	
<hr/>			
Total	3,841 "	2,903 "	
Provinces	29,613 "	20,140 "	
<hr/>			
Grand total	33,454 "	23,043 "	
The total mortality has been sixty-nine per cent.			

TRANSCENDENTAL BACTERIOLOGY.

An advertising pamphlet relating to a certain trade preparation in the shape of a germicide oil, warranted to kill disease germs of all sorts, gives an illustration showing "how the different bacilli would appear if magnified 18,000 diameters." The illustration presents pictures of the hypothetical appearance of a consumption germ, in which it is made to resemble a centipede; of a grippé germ, resembling an enlarged spermatozoid; and of a pneumonia germ

which appears to be evolved from a composite photograph of a snail, a scorpion, and the triple-leg insignia of the Isle of Man. An unlimited supply of such weird and purely imaginary creatures could doubtless be provided as the result of an unlimited consumption of whiskey.

SMALLPOX AND "HERPES."

The secretary of the North Carolina Board of Health, Dr. Richard H. Lewis, of Raleigh, in the September number of the board's *Bulletin*, leads up to some exceedingly practical hints as to the diagnosis of smallpox by a well founded complaint regarding false diagnosis made with intent that must be set down as often nothing else than fraudulent. It seems that just as the board was getting freed from such returns as impetigo contagiosa, "Cuban itch," "elephant itch," and "Georgia bumps," and chicken pox was on the wane, "herpes" became prevalent. But the diagnosticator of "herpes" seems to have been honest at least, for he himself contracted the disease (which was smallpox, it is hardly necessary to say). Nearly a hundred cases occurred in his community, and no precautions to prevent the spread of the trouble had been taken up to the time of the inspector's visit. Certainly there are drawbacks to the mildness of an epidemic of smallpox.

INFLUENZA AND SUICIDE.

The Chicago Health Department calls attention to the great increase of suicide in various large American cities during the last ten years. It appears that this year, thus far, there have been 321 suicides in Chicago, indicating an annual rate of 22.6 to each 100,000 of population, whereas for 1890 the rate was 12. The department announces that it is "confirmed by its researches in the belief that this increase of self-murder, like the corresponding increase of pneumonia during the period, is due to influenza, and again urges upon physicians the prompt diagnosis of this diabolical disease and its radical treatment." But what is the radical treatment?

Obituary.

WILLIAM RIDDICK WHITEHEAD, M. D.,
DENVER.

DR. WHITEHEAD received his medical degree from the University of Pennsylvania, Philadelphia, in 1853. He then pursued the further study of medicine in Paris. On his return he settled in New York, where he practised for several years and achieved considerable reputation as a surgeon. He subsequently went to Denver, and there continued the practice of surgery, giving special attention to orthopædics. At the time of his death he had retired from practice. In former years Dr. Whitehead was a moderately frequent contributor to the medical journals, and his writings were all of distinct value.

News Items.

Society Meetings for the Coming Week:

MONDAY, October 20th.—New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society.

TUESDAY, October 21st.—New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdenburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Kings, N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, October 22d.—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society.

THURSDAY, October 23rd.—New York Academy of Medicine (Section in Obstetrics and Gynecology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Mass., Society for Medical Improvement (Private); Pathological Society of Philadelphia.

FRIDAY, October 24th.—New York Clinical Society (Private); New York Society of German Physicians; Yorkville Medical Association, New York (Private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, October 25th.—New York Medical and Surgical Society (Private).

Changes of Address.—Dr. S. Goldstein to No. 1,355 Madison Avenue, New York; Dr. Graeme M. Hammond, to No. 60 West Fifty-fifth Street, New York; Dr. Thomas H. Morgan to No. 349 West Fifty-first Street, New York; Dr. William A. Payne to No. 216 Lenox Avenue, New York.

A Physician Shot.—Dr. A. H. Cayley, of Butte, Mont., was shot recently by a newspaper editor of that place.

Dr. W. W. Van Valzah, after a protracted illness, has resumed professional work.

The St. Louis Medical Society of Missouri.—At the meeting held on Saturday, October 11th, Dr. Given Campbell read a paper on the Treatment of the Pains in Locomotor Ataxia.

A Medical Candidate for the Mayoralty of Detroit.—According to press despatches, Dr. J. H. Carstens is a nominee for the office of mayor of that city.

Homage to Liébeault.—A tablet has been placed in the birthplace in Favières, France, to Dr. Liébeault, the creator of the Nancy school of hypnotic therapeutics.

Osteopaths and Death Certificates.—City Councillor Bates, of St. Louis, has given an opinion there that osteopaths are not physicians, and that consequently burial certificates signed by them have no validity.

Death of a Distinguished Dutch Physician.—Dr. Barend Joseph Stokois, of Amsterdam, professor first of pathology, and later of pharmacology in the University of Amsterdam took place recently. He was born in 1834, and studied medicine under Professor Donders and Professor van der Kolk. He was a frequent writer on medical subjects.

The Alumni Association of the Internes of Christ Hospital, Jersey City, will hold its semi-annual dinner at the Union League Club in that city, on Monday, October 20th.

A German University Chair of Homœopathy.—According to the *Gazette médicale de Paris* for September 27th the two Bavarian Chambers have agreed to the creation of a chair of homœopathy at the University of Würzburg.

Rush Medical College.—The graduating exercises of the summer class were held on Thursday, October 2nd, on which occasion twenty students were graduated. The doctorate address was delivered by Professor Norman Bridge, of Los Angeles, California.

Trachoma Prevalent in New York Schools.—Dr. Lederle, president of the board of health, in his explaining the provisional estimates for his department to the Board of Estimate on October 15th, stated that eighteen per cent. of the pupils in the public schools were suffering from trachoma.

The Shiawassee, Michigan, County Medical Society was organized at Owosso on September 30th, with a membership of forty physicians, and the following officers were elected: President, Dr. R. H. Scott, of Lansingburgh; secretary and treasurer, Dr. Charles Shickler, of Owosso.

A Minister fined for Unlicensed Practice.—A clergyman was on October 10th fined seventy-five dollars at the Court of Special Sessions, in New York, for practising medicine without a license. The minister referred to is secretary of the "Interdenominational Committee for the Suppression of the Drug Habit.

A New Hospital for Sick Deaf Mutes.—Plans have been filed with the Building Bureau for a new three-story hospital, to be built on the grounds of the New York Institution for the Instruction of the Deaf and Dumb, at Lafayette Boulevard and One Hundred and Sixty-fifth Street. The hospital is to be of brick and steel, and will cost \$100,000.

A New Hospital for Jamaica, L. I.—At a recent meeting the State Board of Charities approved the incorporation of the Mary Immaculate Hospital Association, to be located at Jamaica. The purposes of the proposed institution are to maintain a hospital, infirmary, and dispensary under the management of the Sisters of the Order of St. Dominic.

The Medico-Legal Society.—The opening meeting of the autumn season was held on Wednesday, October 15th, when the following papers were read: The Treatment of Tuberculosis by Neubilization, by Dr. J. A. Donovan, of Butte, Montana; Anarchism and Atavism, by Paul Tyner, Esq.; The Value of the Turkish Bath in Cases of Tuberculosis, by Dr. Charles H. Shepherd, of Brooklyn; The Judicial History of New York as a Colony, by Clark Bell, Esq. Action was taken on the death of Professor Virchow, Dr. S. H. Talcott, and Dr. Wyatt Johnson.

The Wayne, Michigan, County Medical Society.—At the annual meeting held on Thursday, October 2nd, the following officers were elected: Pres-

ident, Dr. Frank B. Tibbals; vice-president, Dr. Hugh Mulherson; secretary and treasurer, Dr. Charles G. Jennings; board of directors, Dr. Arthur D. Holmes, Dr. Samuel G. Miner, Dr. H. O. Walker, Dr. Samuel Bell, and Dr. J. E. Clark.

The Worst of All.—It is related of the late Dr. Gurdon Buck, whose penchant for liberal incisions into inflamed parts was well known, that on one occasion he opened an abscess that had formed in his own person. In telling of the matter, he remarked: "It makes all the difference in the world which end of the knife you're at, and it's the worst of all when you're at both ends."

The North Western University has acquired the Tremont House hotel, an old landmark in Chicago, which it will convert into buildings for its schools of law, dentistry, and pharmacy. This is the fourth building that under the name of the Tremont House has occupied that site. The three preceding ones were all destroyed by fire, in 1839, 1849, and 1871 respectively.

The License Fee for Chicago Hospitals.—It is said that a recommendation has been made to increase the license fee of hospitals in Chicago from \$10 to \$250 a year, and to make the issuance depend on obtaining the consent of two-thirds of the property owners, according to frontage. It is also suggested that power be given to the board of health, composed of the mayor, health commissioner, and chief of police, to remit all or part of license fees in the case of charitable institutions.

The New York State Medical Association's New Directory of New York, New Jersey, and Connecticut for 1892-'93 has recently reached us. It is a volume of 958 pages of text arranged on the familiar lines of preceding volumes of the series, with the distinct improvement involved in a freer use than heretofore of paper of different colors, whereby ready reference is greatly facilitated. It is a most excellent directory.

The Associated Physicians of Long Island will hold their fourteenth annual meeting at Riverhead on Saturday, October 18th, when the following papers will be read: Shall Marriage Be Medically Controlled? by Dr. William B. Savage, of East Islip; Points of Similarity and Difference in the Outset of Typhoid Fever and Appendicitis, by Dr. William F. Campbell, of Brooklyn; The Relation of Obstetrics to Surgery, by Dr. Ralph H. Pomeroy, of Brooklyn; Acute Contagious Diseases of the Eye, by Dr. James W. Ingalls, of Brooklyn.

The Egyptian Medical Congress.—Major William C. Gorgas, surgeon in the United States Army has been designated by the Surgeon-General to represent this country at the congress, which is to be held at Cairo on December 16, 1902. The purpose of the congress is to collect data in regard to tropical diseases and discuss means for eradicating them. Major Gorgas is an expert on tropical diseases, having been stationed at Havana during the greater part of the American occupation of Cuba, and made a special study of yellow fever. It was through his

efforts that the disease was practically eradicated in Cuba. The great cholera epidemic in Egypt this summer was the main reason for the calling of the congress. The plague is now well under control. The acting Consul-General of the United States at Cairo has telegraphed the State Department that since October 4 there had been in all Egypt 971 new cases of cholera and that 916 persons had died of the disease.

Medical Men in Egypt.—According to the *Lancet* for September 27th there are 1,211 medical men of all nationalities in Egypt, of whom 604 are Europeans, 85 hold a Persian or Turkish diploma from Teheran or Constantinople, 45 are natives with a European diploma, and the remaining 477 are natives educated at Cairo in the one Egyptian Medical School. The number of Greek physicians shows a steady increase.

Virchow's Successor.—The following have been named as likely candidates in succession to Virchow: For the chair of pathology, Professor Orth, of Göttingen, Professor Marchand, of Marburg, and Professor Ziegler, of Freiburg; for the chair of pathological anatomy, Professor Oscar Israel, first assistant of Professor Virchow. According to the *British Medical Journal*, Professor Johannes Orth, of Göttingen has been invited to succeed the late Professor Virchow in the Chair of Pathology at Berlin. Professor Orth was born at Walmerod, in Nassau, in 1847, and studied pathology under Rindfleisch at Bonn, and afterwards at Berlin under Virchow, whose assistant he became. He took his degree at Bonn in 1870. In 1878 he was appointed Ordinary Professor of Pathology at Göttingen. He is the author of a *Compendium der pathologisch-anatom. Diagnostik*; a *Cursus der normalen Histologie*; and a *Lehrbuch der speciellen pathologischen Anatomie*.

Boston Dispensary.—The annual meeting of the corporation of the Boston Dispensary was held on October 10th. The institution was incorporated in 1801 and is a private institution, dependent altogether on private contributions for its support. The dispensary is one of the oldest of its kind in the country and has come to be regarded by many as a part and parcel of the city's medical department. It was announced that the corporation was badly in need of funds for the extension of its charitable work. Although the quarters were doubled about three years ago, the growth of the work has been such that the institution finds itself cramped for room to meet the demands upon it, and an extension of the plant as well as of the medical staff is recommended.

Since October, 1796, no less than 1,585,879 patients have been relieved, and during the year just finished the number of patients was 89,207, an average daily attendance of 293. This is a gain over last year, when the figures were 81,719, making an average of 269 per day.

Dr. E. A. Burnham was appointed assistant in the department for diseases of the lungs, and Dr. W. W. Duckering assistant in the children's department.

To Study Epilepsy.—The National Association for the study of epilepsy and the care and treat-

ment of epileptics will begin the meetings of its annual session at the Academy of Medicine in this city, 17 and 19 West Forty-third Street, at 2:30 o'clock P. M., Wednesday, November 5th next. The programme contains many papers of great practical value and interest, among the contributors being the following: Dr. Abram Jacobi, Dr. Frederick Peterson, Dr. Adolph Meyer, Dr. Roswell Park, Dr. William Osler, Dr. H. N. Moyer, Dr. L. P. Clark, Dr. Thomas Prout, Dr. W. P. Spratling, and Dr. W. N. Bullard. Physicians and charity workers generally are invited to attend the meetings. The association was founded for these objects: To promote the general welfare of sufferers from epilepsy; to stimulate the study of the causes and methods of cure of this disease; to advocate the care of epileptics in institutions where they may be educated, acquire trades, and be treated by the best medical skill for their malady, and to assist the various states in making proper provisions for this class. The association has no membership dues and applications to join it should be made to Dr. W. N. Bullard, chairman of the Executive Committee, 89 Marlboro Street, Boston, or to Dr. W. P. Spratling, the secretary, at Sonyea, N. Y.

The Medical Society of the County of Orange, N. Y., held its ninety-seventh semi-annual meeting at Newburgh, on Tuesday, October 7th, under the presidency of Dr. D. B. Hardenbergh, of Middletown. The following programme was presented: X-Ray Treatment of Malignant Growths, by Dr. William B. Coley, of New York City; Clinical Examination of Blood, by Dr. W. J. Carr; Floating Kidney, by Dr. W. L. Dunning; Report of case of Hysterical Pyrexia following Wiring of Fractured Patella, by Dr. J. T. Howell; Report of case of Multiple Gunshot Wounds of Intestines, by Dr. J. B. Hulett. Dr. Medrick and Dr. Mills also reported successful operations for gunshot wounds of intestines.

A Story of Virchow.—The *Gazette médicale de Paris* for September 27th tells a story of Virchow in his capacity of a "terror" for students under examination. On one occasion he showed a student an anatomical specimen, ten or twelve years old, which properly should have been blue, but in consequence of much handling displayed all the colors of the rainbow, and asked the student of what color it was. The latter hesitated and gave an evasive answer. Virchow (who, it is said, provided himself with a new suit about once every ten years), angrily pointed to the sleeve of his coat and asked "Can you tell me, then, what is the color of my coat?" The student looking at it with trepidation replied, "I should say, Professor, that your coat may have been blue—once." Virchow squirmed, and passed the candidate.

The New York Academy of Medicine.—At the last meeting of the Academy held on Thursday, October 16th, Dr. William H. Thomson read a paper on the Pathology and Treatment of Epilepsy. At the last meeting of the Section in Surgery held on Monday, October 13th, the following papers were read: "Pre-operative Preparation of the Surgeon

and his Assistants," by Dr. George R. Fowler; "Treatment of Diseased Joints by Plaster Strapping," by Dr. F. R. Cook.

At the last meeting of the Section in Genito-urinary Surgery held on Wednesday evening, October 15, the following papers were read: "The Repair of Complete Defects of the Male Urethra," by Dr. A. A. Berg; "A New Method of Finding the Urethra in External Urethrotomy," by Dr. Chas. S. Gibson.

The following papers were read at the last meeting of the Section in Orthopaedic Surgery, held on Friday evening, October 17th: "Derangement of the Elbow Joint," by Dr. Samuel Lloyd; "Acute Bone Atrophy from Injuries to the Extremities and Other Causes," Skiagraphic Demonstrations, by Dr. L. A. Weigel, of Rochester, N. Y.

At the next meeting of the Section in Laryngology and Rhinology, to be held on Wednesday evening, October 22nd, the following papers will be read: "Traumatism during Adenoid Operations," by Dr. W. F. Chappell; "The Pneumatic Sinuses and Cells of the Head with their intercommunications and outlets" (Illustrated by Stereopticon and Sections of Skulls), by Dr. M. H. Cryer, of Philadelphia, Pa.

The G. A. R. Hospital at Washington, D. C.—During the recent Grand Army Encampment at Washington, the war department generously and promptly responded to the suggestion that the splendid facilities of the army hospital service be utilized. All that is best in the army hospital service was placed at the disposal of the citizens' committee to meet the needs of the encampment. This was done almost without expense to the committee. The service provided by the army comprised about thirty-five tents, giving accommodation at one time to 108 patients. To care for these patients there were detailed for service 60 hospital attendants. The arrangement for this service was made by Surgeon-General O'Reilly, and it was placed under the charge of Major W. C. Borden. Other officers who were detailed to see that the service should be rendered in accordance with the methods of the army were Captain A. M. Smith, Captain Joseph T. Clark, Captain Frederick P. Reynolds, and Captain Robert Church. The following was the consulting staff: Dr. G. L. Magruder, dean; Dr. J. B. Magruder, of Chicago; Dr. Guy McCandless, of Pittsburg, Pa.; Dr. George M. Kober, Dr. G. W. Cook, Dr. H. L. E. Johnston, Dr. Robert Reyburn, Dr. S. M. Burnett, Dr. C. W. Richardson, General P. M. Rixey, General Wm. H. Forwood, Dr. D. K. Shute, Dr. Archibald Church, of Chicago, Ill.; Dr. John W. Bucklev, Dr. John V. Shoemaker, of Philadelphia, Pa.; Dr. E. LaPlace, of Philadelphia, Pa.; Dr. S. S. Adams, Dr. J. Taber Johnson, Dr. Z. T. Sowers, Dr. George N. Acker, Dr. J. Ford Thompson, Dr. George Henderson, General G. M. Sternberg, General O'Reilly, Dr. J. W. Bovee, Dr. J. W. Bayne, Dr. Frank Baker, and Dr. W. C. Woodward. Visiting staff: Dr. W. B. French, chairman; Dr. J. Dudley Morgan, Dr. B. L. Hardin, Dr. Arthur Snyder, Dr. Robert H. Graham, Dr. C. R. Dufour, Dr. W. P. Carr, Dr. J. F. Moran, Dr. E. L. Tompkins, Dr. W. P. C. Hazen, and Dr. E. W. Reisinger. Resident physicians: Dr. R. A. Warner, and Dr. Douglass McIntire; Miss S. C. Francis, superintendent of nursing. Dispensary service: Dr. C. A. Weaver, chairman; Dr. E. A. Balloch, Dr. P. C.

Hunt, Dr. F. P. Morgan, Dr. Elmer Sotheron, Dr. Clifton Mayfield, Dr. Wade Atkinson, Dr. H. S. Dye, Dr. D'Arcey Magee, Dr. R. A. Pyles, Dr. F. T. Chamberlin, Dr. Ernest F. King, Dr. Benjamin Pool, Dr. W. H. Merrill, and Dr. Johnson Elliott. Committee on donations and subscriptions: Dr. F. V. Brooks, chairman; Dr. Benjamin G. Pool, and Dr. Ernest F. King. Much excellent work was done by the hospital.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending October 11, 1902:

DISEASES.	Week end'g Oct. 4.		Week end'g Oct. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	190	24	138	29
Scarlet fever.....	100	8	85	7
Cerebro-spinal meningitis.....	0	0	0	4
Measles.....	47	1	45	0
Diphtheria and Croup.....	239	26	252	25
Small-pox.....	1	0	1	1
Tuberculosis.....	195	113	210	149

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending October 11, 1902:

Smallpox—United States.

Colorado.....	Denver.....	S. pt. 20-27.....	3 cases.	
Illinois.....	Chicago.....	Sept. 27-Oct. 4.....	3 cases.	
Kentucky.....	Covington.....	Sept. 20-Oct. 4.....	11 cases.	
Maryland.....	Baltimore.....	Sept. 27-Oct. 4.....	1 case.	1 death.
Massachusetts.....	Boston.....	Sept. 27-Oct. 4.....	10 cases.	3 deaths.
"	Fall River.....	Sept. 27-Oct. 4.....	2 cases.	
Michigan.....	Detroit.....	Sept. 27-Oct. 4.....	18 cases.	
Nebraska.....	Omaha.....	Sept. 27-Oct. 4.....	1 case.	
N. Hampshire.....	Manchester.....	Sept. 27-Oct. 4.....	2 cases.	
"	Nashua.....	Sept. 27-Oct. 4.....	21 cases.	
New Jersey.....	Hudson County.....	Sept. 28-Oct. 5.....	1 case.	
"	Newark.....	Sept. 27-Oct. 4.....	7 cases.	2 deaths.
New York.....	New York.....	Sept. 27-Oct. 4.....	1 case.	
Ohio.....	Ashtabula.....	Sept. 27-Oct. 4.....	1 case.	
"	Cleveland.....	Sept. 27-Oct. 4.....	50 cases.	19 deaths.
"	Dayton.....	Sept. 27-Oct. 4.....	1 case.	
"	Hamilton.....	Sept. 27-Oct. 4.....	3 cases.	
"	Toledo.....	Sept. 13-27.....	15 cases.	3 deaths.
Pennsylvania.....	Altoona.....	Sept. 27-Oct. 4.....	2 cases.	
"	Erie.....	Sept. 27-Oct. 4.....	1 case.	
"	Johnstown.....	Sept. 27-Oct. 4.....	33 cases.	4 deaths.
"	McKeesport.....	Sept. 27-Oct. 4.....	5 cases.	1 death.
"	Philadelphia.....	Sept. 27-Oct. 4.....	3 cases.	
"	Pittsburgh.....	Sept. 27-Oct. 4.....	24 cases.	6 deaths.
"	Reading.....	Sept. 22-20.....	2 cases.	
S. Carolina.....	Charleston.....	Sept. 27-Oct. 4.....	2 cases.	
Tennessee.....	Memphis.....	Sept. 27-Oct. 4.....	2 cases.	
Wisconsin.....	Green Bay.....	Sept. 21-28.....	1 case.	
"	Milwaukee.....	Sept. 27-Oct. 4.....	8 cases.	

Smallpox—Foreign.

Austria.....	Prague.....	Aug. 30-Sept. 20.....	5 cases.	
Bahamas.....	Nassau.....	Sept. 27-Oct. 4.....	266 cases.	11 deaths.
Canada.....	Amherstburg.....	Sept. 27-Oct. 4.....	1 case.	
Ecuador.....	Guayaquil.....	Sept. 6-13.....	4 cases.	4 deaths.
Gt. Britain.....	London.....	Sept. 13-20.....	4 cases.	3 deaths.
"	Newcastle.....	Sept. 13-20.....	2 cases.	
"	Sunderland.....	Sept. 13-20.....	1 case.	
India.....	Bombay.....	Sept. 20.....	3 cases.	2 deaths.
"	Madras.....	Sept. 20-27.....	2 cases.	
Italy.....	Palermo.....	Sept. 13-20.....	5 cases.	1 death.
Russia.....	Moscow.....	Aug. 31-Sept. 6.....	1 case.	
"	Odessa.....	Sept. 6-20.....	3 cases.	1 death.
"	Warsaw.....	Sept. 6-20.....	5 cases.	5 deaths.
Spain.....	Barcelona.....	Sept. 1-15.....	1 case.	2 deaths.
Straits Settlements.....	Singapore.....	Aug. 16-23.....	3 cases.	3 deaths.
Switzerland.....	Geneva.....	Sept. 6-13.....	1 case.	

Yellow Fever.

Colombia.....	Panama.....	Sept. 22-29.....	4 cases.	2 deaths.
Mexico.....	Cotacacalco.....	Sept. 20-27.....	4 cases.	
	Vera Cruz.....	Sept. 20-Oct. 4.....	25 cases.	14 deaths.

Cholera—Foreign.

Egypt.....	Alexandria.....	Aug. 31-Sept. 20.....	612 cases.	469 deaths.
India.....	Bombay.....	Sept. 2-9.....	1 death.	
	Calcutta.....	Aug. 31-Sept. 6.....	15 deaths.	
	Madras.....	Aug. 30-Sept. 5.....	1 death.	
Japan.....	Nagasaki.....	Aug. 31-Sept. 10.....	46 cases.	32 deaths.

Plague—United States.

California.....	San Francisco.....	Sept. 23.....	2 cases.	2 deaths.
			One case from Oak land.	
"	"	Sept. 26.....	2 cases.	2 deaths.

Plague—Foreign.

Egypt.....	Alexandria.....	Aug. 31-Sept. 20.....	6 cases.	2 deaths.
India.....	Bombay.....	Sept. 2-9.....	41 deaths.	
	Calcutta.....	Aug. 31-Sept. 6.....	16 deaths.	
	Karachi.....	Aug. 24-Sept. 10.....	10 cases.	8 deaths.
Turkey.....	Smirna.....	Oct. 4.....	Present.	

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two weeks ending October 11, 1902:

SINKS, EDWARD D., Captain and Assistant Surgeon, now in San Francisco, will proceed to Fort Bayard, New Mexico, for treatment.

SOUTHALL, EDWARD A., Captain and Assistant Surgeon, is granted leave for one month, on surgeon's certificate, with permission to apply for an extension of one month.

TORNEY, GEORGE H., Major and Surgeon, is granted leave for one month, to take effect upon his being relieved from duty at the Army and Navy General Hospital, Hot Springs, Arkansas.

WELLS, GEORGE M., Captain and Assistant Surgeon, is granted leave for three months, to take effect upon the arrival at Fort Wadsworth, N. Y., of MARLBOROUGH C. WYETH, Major and Surgeon.

Change in Stations.

The following changes in stations and duties of officers are ordered: STONEY, RANDALL C., Contract Surgeon, now at Pinopolis, South Carolina, is relieved from further duty in the Division of the Philippines, and will proceed to Fort Screven, Georgia, to relieve KIEFFER, CHARLES F., Captain and Assistant Surgeon, who will proceed to Philadelphia, Pa., and assume the duties of attending surgeon and examiner of recruits in that city.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy, for the week ending October 11, 1902:

BAGG, C. P., Passed Assistant Surgeon. Ordered to the Naval Hospital, Mare Island, Cal.

BROWN, E. M., Assistant Surgeon. Detached from the Naval Hospital, Mare Island, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

BLAKEMAN, R. S., Passed Assistant Surgeon. Having been found incapacitated for active service on account of disability incident thereto, is placed on the Retired List of the Navy.

CORDEIRO, F. J. B., Surgeon. Detached from the *Constellation*, and ordered to the Naval Training Station, Newport, R. I.

CRAWFORD, M. H., Surgeon. Detached from the *Chicago*, and ordered home, when his resignation will be accepted, voluntarily tendered.

BUCHER, M. H., Passed Assistant Surgeon. Detached from the *Panther* and ordered to the *Machias*.

BELL, W. H., Passed Assistant Surgeon. Ordered to the *Yankton*.

CARPENTER, D. N., Passed Assistant Surgeon. | Detached from the *Illinois* and ordered to the *Chicago*.

LIPPITT, T. M., Assistant Surgeon. Ordered to the Naval Hospital, New York

TRAYNOR, J. P., Assistant Surgeon. Detached from the Naval Hospital, New York, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

STUART, A., Assistant Surgeon. Detached from the *Yankton*, and ordered home to wait orders.

BOGAN, F. M., Assistant Surgeon. Detached from the *Machias*, and ordered to the Naval Hospital, Washington, D. C., October 30th.

MUNSON, F. M., Assistant Surgeon. Detached from the Naval Hospital, Washington, D. C., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

BAKER, M. W., Assistant Surgeon. Detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

STRINE, H. F., Assistant Surgeon. Detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

MARCOUR, R. O., Assistant Surgeon. Ordered to the *Franklin*.

ODELL, H. E., Assistant Surgeon. Ordered to the Naval Hospital, Norfolk, Va.

LEDBETTER, R. E. Assistant Surgeon. Detached from the *Chicago* and ordered to the *Illinois*.

Appointments.

Doctors B. F. JENNESS, H. SHAW and R. H. MICHELS appointed Acting Assistant Surgeons, with the rank of Lieutenant, from October 4th.

Doctor JOHN L. NEILSON, appointed an Assistant Surgeon, October 4th.

Births, Marriages, and Deaths.**Born.**

FISKE.—In Richmond Hill, N. Y., on Saturday, September 25th, to Dr. and Mrs. William C. Fiske, a daughter.

MUNSON.—In Brooklyn, on Wednesday, October 8th, to Dr. and Mrs. Forbes J. Munson, a son.

Married.

FLETCHER—POWELL.—In Towson, Maryland, on Wednesday, October 8th, Dr. Howard Fletcher and Miss Mattie Leigh Powell.

KANTZ—SPARKS.—In Camden, New Jersey, on Tuesday, October 7th, Dr. Charles E. Kantz, of Philadelphia, and Miss Lillian H. E. Sparks.

TOOLEY—McLAUGHLIN.—In New York, on Wednesday, October 8th, Dr. Francis Lawrence Tooley and Miss Winifred C. McLaughlin.

Died.

BROWN.—In Cincinnati, on Friday, October 3d, Dr. Aaron Mercer Brown.

HARLOW.—In Boston, on Monday, October 13th, Dr. Edwin A. W. Harlow, in the eighty-ninth year of his age.

JACKSON.—In Manila, on Tuesday, September 30th, Dr. Frederick C. Jackson, assistant surgeon in the United States Volunteers.

LYNCH.—In Jersey City, on Sunday, October 12th, Dr. Henry Horace Lynch.

RANIER.—In Oswego, N. Y., on Monday, October 13th, Dr. Elvira Ranier, aged fifty-four years.

SPENCER.—In Toronto, Canada, on Sunday, September 28th, Dr. Bertram Spencer, professor of medical jurisprudence in the University of Toronto.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Contrasts Between Certain Common Diseases in Children and Adults.—Dr. J. Walter Carr (*Edinburgh Medical Journal*, October) observes that, while everyone recognizes the extremely important part played by digestive disturbances in the diseases of infancy, and also the protean manifestations to which dyspepsia gives rise in adults, there is, between these two periods of life, one in which the prevalence of dyspepsia and the varied symptoms it causes have hardly been sufficiently insisted upon. Children are apt to be credited with almost unlimited powers of digestion, and if, by chance, the physiological limits are exceeded, a sharp, but short attack of unmistakable gastritis, or gastroenteritis, is often regarded as the only penalty. A marked distinction is that, whereas adults suffering from purely functional dyspepsia rarely get much thinner, children waste considerably, a natural result of the occurrence of prolonged anorexia during the period of rapid growth. When a child gets steadily thinner, has a good deal of cough, and some pyrexia every evening, the case is usually regarded as tuberculous, and any digestive disturbance looked upon as secondary rather than primary. The results of the physical examination in such a case are frequently equivocal, owing to the bronchial breathing and bronchophony often heard in a child in the upper interscapular region. In many such cases only time and the results of a carefully regulated dietary will clear up the diagnosis. What is needed is careful regulation of the diet, plenty of fresh air, a mixture containing sodium bicarbonate and tincture of nux vomica, with perhaps some tincture of rhubarb, and a dose of grey powder and rhubarb every second or third night, to regulate the bowels. One or two teaspoonfuls of malt extract may generally be given with advantage twice a day after food; and as the child improves, especially in cold weather, a combination of cod liver oil and malt may be substituted for the pure malt. On no account should any preparation containing syrup be given.

It is important to remember that nearly all the symptoms so commonly attributed to worms are mainly due to dyspepsia, for intestinal worms (excluding, perhaps, tapeworms) exist in the alimentary canal, because it is in an unhealthy condition—in a state usually of chronic catarrh; so that the best way of getting rid of the worms, and especially of preventing their recurrence, is to treat the abnormal condition of the intestine. It is well to bear in mind that chills, particularly from insufficient clothing, or more frequently from its improper distribution, are undoubtedly an important cause of dyspepsia in childhood; less commonly, perhaps, than in infancy, but certainly far more frequently than in adult life.

A New Method of Treating Epidemic Parotiditis.—Dr. E. Grande (*Gazzetta degli ospedali e delle cliniche*, August 10th) describes the following method of treating epidemic parotiditis: Observations among recruits that were the subjects of parotiditis, led him to believe that the disease was sometimes entirely a febrile, although it was undoubtedly infectious in character. Even in cases

in which the swelling of the parotids was very well marked, there was sometimes no fever whatever. In three cases he found numps accompanied by swelling of the spleen. Orchitis occurred in his cases, either simultaneously with the parotiditis or following the infection on microscopical examination the secretions of the tonsils showed the presence of a diplococcus resembling very closely that of Fraenkel, known as the pneumococcus. This germ has been described by some authors as the pathogenic cause of mumps. The examination of the blood was negative, and attempts at inoculating the same into guinea pigs and rabbits were unsuccessful. In twelve cases of parotiditis which he reports, the author used an ointment that contained five per cent. of guaiacol, rubbing it over the entire parotid region and wrapping the part in cotton. This application was renewed after twenty-four hours, and a third time if necessary. The effect of two or three applications at most was that the tumefaction in the gland disappeared, the pain was relieved, and the inability of swallowing and chewing removed. The author recommends the use of guaiacol ointments in the treatment of mumps, as the most efficient remedy that has come to his notice in the therapeutics of epidemic parotiditis.

Epilepsy in Malarial Patients.—Dr. Corsini (*Gazzetta degli ospedali e delle cliniche*, August 3rd) calls attention to the relationship of malaria to epilepsy. We must distinguish attacks of epilepsy that supervene merely in connection with a case of malaria, from those which occur with the malarial paroxysm, in other words are malarial epilepsies in the strict sense. Among the latter, there may be said to be two types, namely, the epileptic attacks occurring simultaneously with the febrile attack, and those occurring in the place of an attack. The author reports a case of a malarial patient, aged twenty-nine years, who contracted the fever when twenty-one years of age, and who was seized with attacks of epilepsy coincident with the malarial chills a month later. The attacks would begin with a chill; then followed loss of consciousness, convulsions, and then the fever and the perspiration. It seemed not only that the malarial infection was an exciting cause of the epilepsy, but that the chill was an essential cause of the paroxysm. The theory that the epileptic attacks in such cases are caused by the mechanical irritation of an accumulation of malarial parasites in the cerebral vessels, does not hold good, for such an accumulation, according to the Roman school, takes place only in cases of æstivoautumnal fever. The cause of the dependence of epileptic attacks upon malarial paroxysms in this case cannot be stated with certainty, but the fact of such dependence is to be noted in connection with the question as to the ætiology of epilepsy.

The Use of Pyridine in Pertussis.—Dr. M. V. Cacchiolo (*Gazzetta degli ospedali e delle cliniche*, August 10th) recommends the use of pyridine in the treatment of whooping cough. Pyridine is a colorless liquid which evaporates easily at ordinary temperatures, and is miscible with water in all proportions. In small doses it stimulates the heart, in large doses it depresses it, and the same action is noted upon the nervous system. In whooping cough it is used with a twofold object in view, namely, to decrease the number of paroxysms by acting as an antispasmodic,

and to reduce the number of bacteria in the air of the room. Experiments show that the vapors of pyridine inhibit the growth of germs. The remedy, when administered by inhalation, is innocuous and may be given thus to young children without any fear of bad after effects. Five grammes of pyridine were poured into a plate placed at the foot of the bed, and the same amount was renewed twice in twenty-four hours. With these inhalations the author gave the childer bromides of sodium potassium, ammonium, and strontium. The proper hygienic and dietetic measures were also enforced, and the children did very well under this treatment.

Myelopathic Albumosuria. By Dr. T. R. Bradshaw (*Lancet*, October 4th).—Myelopathic albumosuria is a disease characterized by affection of the bone marrow and the presence of albumose in the urine. Nothing is known of its predisposing causes, except that it occurs in the second half of life, and more often in men than in women. Of twenty cases collected by the author there was a history of syphilis in only two. The pathological tissue changes consist in an invasion of certain bones by a soft mass of new growth, the true bone being absorbed. The ribs, sternum, and vertebral bones are always affected, the pelvic bones and the skull less frequently so. The long bones are rarely affected. The growth is gelatinous and resembles red marrow. Microscopically, it is composed of round cells with but little intracellular substance. "Multiple myeloma" is the best term for this kind of growth. The condition of the urine is pathognomonic of the disease. It contains a proteid resembling albumin, but differing from it in the following particulars: (1) It coagulates at a very low temperature—58° C.; (2) the coagulum is to a great extent dissolved at the boiling point and reappears on cooling; (3) the coagulum with cold nitric acid also dissolves on boiling and returns on cooling; and (4) it is readily coagulated by hydrochloric acid.

The onset of the disease is insidious, the earliest symptoms being debility and pains in the back and sides, together with anæmia. The pains are severe, are accompanied by local tenderness, and vary in position and intensity from day to day. In some cases distinct tumors may be found in relation to the bones. The first thing noticed by the patient may be a milky state of the urine. The disease runs from bad to worse, patients rarely living a year after consulting the physician. Death may be due to exhaustion or to some intercurrent disorder. As regards the mode of formation of the albumose, the author holds that it is produced by some abnormal metabolism taking place in connection with the new growth in the bones, which may conceivably take place through the action of a ferment.

The Treatment and Diagnosis of Purulent Pericarditis.—Dr. D. I. Tatarinoff (*Chirurgia*, July) reports a case of purulent pericarditis which gave him occasion to study the subject of the diagnosis and surgical treatment of this affection. The patient was a student, aged twenty years, who entered the hospital with left pleuropneumonia, which was complicated afterwards by a purulent effusion in the pericardium. On puncture in the region of flatness over the pleura a small quantity of greenish pus was withdrawn, which, on cultures, showed the presence of

the pneumococcus of Fraenkel. The area of heart dulness was enlarged in all directions. Resection of one rib was performed, and the pleural cavity drained in the usual way. Then puncture of the pericardium was performed according to Delorme's method. A vertical incision was made from the upper margin of the fourth rib to the lower margin of the seventh rib, one centimetre away from the edge of the sternum on the left side. Transverse incisions, each about two centimetres in length were made at each end of this cut; the soft parts were reflected, and the ribs exposed. The fifth and sixth costal cartilages were cut through at their sternal ends and were removed with bone scissors to the extent of about four cm. each. The intercostal muscles were cut away and the finger was introduced into the anterior mediastinal cellular tissue. A very small portion of the pericardium was then seized with forceps and incised, but it was impossible to penetrate laterally between the walls of the sac on account of the dense adhesions that prevailed, and only a small amount of pus was removed (which afterwards showed the presence of pneumococci). On the following day, during a change in the dressing, the drainage tube that had been passed into the pleural cavity was introduced far into the opening, in order to determine the distance between the pleural abscess and the pericardium, and suddenly a stream of pus of considerable size issued from the tube, showing that the latter had entered the opening of communication between the pericardium and the pleura. The patient died on the sixteenth day after the operation, with all the signs of exhaustion. In the record of 12,228 autopsies performed at the University of Moscow in ten years, there were two cases of lobar pneumonia; and of these, six were complicated with fibrinopurulent pericarditis. The condition described is, therefore, not a common one. When the suspicion of pericarditis exists and yet there are no clear physical signs of pericardial effusion, recourse may be had to the x rays to clear up the diagnosis. The after treatment of pericardiotomy is chiefly concerned with the drainage of the sac, which must be a subject of solicitude especially in weak and exhausted subjects. In spite of all precautions, the drainage tube may lead to penetration through the cardiac muscle, which is so extensively degenerated in such cases. It must be remembered that the absence of an increased cardiac dulness and the presence of the apex beat are not signs that necessarily contradict the presence of a pericarditis with purulent effusion.

The Medical Treatment of Appendicitis with Notes of Three Illustrative Cases. By J. Burnet, M. B. (*Lancet*, October 4th).—The medical treatment of appendicitis resolves itself into a method of dealing with the case. First the probable predisposing cause must be considered; in passing, the author states his belief that gout and rheumatism are such causal conditions. The pain of appendicitis, no matter what its site or character may be, is best relieved by local applications. The author uses turpentine fomentations, kept constantly applied, a fresh one being substituted as soon as the former one cools. If applied at odd intervals they are worse than useless, as they increase discomfort instead of allaying it. The use of ice has certain disadvantages; it may entirely mask the pain by lowering the sensibility of

the part, and it also tends to decrease vitality. Blisters and poultices should not be used. The author disapproves of the use of morphine even in small doses; it deranges digestion and is apt to interfere with the pulse rate. Further, its effect on any given patient can never be absolutely foretold. Nausea and vomiting are troublesome symptoms, but they rarely persist beyond the first two days, except where peritonitis develops. They are best relieved by the use of ice in small quantities at frequent intervals, and by careful regulation of the diet. Vomiting may often be kept in check by giving fifteen-minim doses of fluid extract of cascara sagrada every six hours for three or four doses. Frequent micturition is a distressing symptom, often passed over in silence. It is relieved by tincture of hyoscyamus in thirty-minim doses, which not only controls the frequency of micturition but also lessens the actual momentary discomfort. Severe headache is not uncommon in appendicitis and is best relieved by the use of the ice bag. The feeding of the patient is of the greatest importance. A feeding cup should be used in every instance, as on no account must the patient be allowed to move from the recumbent posture. The author gives a teaspoonful of beef jelly every two hours, with milk and barley water in addition. In fact the less food given the better. A surgeon should only be called in when, in spite of careful treatment, the patient grows steadily worse. Many cases of appendicitis are operated on which would have made a good recovery under medical treatment. The author cites three cases of appendicitis, all of which made satisfactory recoveries under medical treatment. From them and other cases he draws the following conclusions: (1) Although, when first seen, a case of appendicitis may not seem very serious, the patient may with remarkable rapidity develop very grave symptoms. (2) The temperature is not nearly so important as the pulse and is likely to vary to a greater extent during the progress of the illness than does the pulse-rate. (3) A pulse-rate of 120, though necessarily giving rise to anxiety, need not indicate operative intervention. (4) We are not entitled to give up any case as hopeless, even though the patient seems in immediate danger and operation is refused. Some, at least, of such cases, do eventually recover.

SURGERY AND ANATOMY.

Obstruction of the Bowels from Meckel's Diverticulum.—Dr. James E. Moore (*Journal of the American Medical Association*, October 4th) says that the symptoms of obstruction from a diverticulum are those of obstruction from any cause, but occasionally they are of such a character as to make an accurate diagnosis possible. The suggestion that the possession of a harelip, clubfoot, or other congenital deformity, by a patient suffering from obstruction of the bowels, would point to a diverticulum as the probable cause of the obstruction is not, in the author's opinion, a practical one and might even be misleading. Localized meteorism in the right inguinal region in a young male patient is strong presumptive evidence of obstruction from a diverticulum. The treatment of intestinal obstruction from Meckel's diverticulum does not differ from that of obstruction from any cause, for only rational treatment in all cases is early operation, but a positive diagnosis would aid the surgeon in securing an

early operation and would help him to locate his incision properly. Fitz concludes that in operation for acute intestinal obstruction not due to intussusception and without local symptoms the incision should be made in the right lower quadrant. The main points in the operation are to remove the obstruction as early and as quickly as possible, and when the condition of the patient will permit, to remove the diverticulum. Under these conditions the prognosis is remarkably good, but when operation is delayed it is necessarily bad.

Experiences with the Roth-Dräger Oxygen Anesthesia Apparatus.—Dr. Fritz Engelmann (*Centralblatt für Chirurgie*, September 13th) sums up the advantages of the apparatus as follows: 1. The diminished danger, owing to the constant quantity of exactly estimated chloroform administered, and the impossibility of giving too much chloroform, as well as the simultaneous administration of oxygen and atmospheric air with the chloroform vapor; 2. the solid construction of the apparatus and the simplicity of the technics of its use. The anæsthetist has one hand free, which is not the case when the drop method is used. The mask can be sterilized, and the apparatus is so constructed that the depth and frequency of the respirations can be easily detected.

Notes of Three Cases of Inoperable Cancer of the Breast Treated by Removal of the Ovaries. By D'Arcy Power, F. R. C. S. (*Lancet*, October 4th).—The author reports three cases of inoperable cancer of the breast, in which the ovaries were removed in the hope of benefiting the patients.

Case 1.—A single woman, aged fifty-two years, suffering from ascites and a large fungating cancer of the right breast. The fungating breast was removed (without the glands), together with both ovaries. The patient made a good recovery and lived for six months. The removal of the ovaries had no effect on the cancer, but she was made more comfortable by the removal of her ascites.

Case 2.—A widow, aged forty-two years, suffering from a large cancer of the right breast with numerous secondary growths. The ovaries were removed; one month later the patient had gained seven pounds in weight and felt much better. The growth in the breast and the axillary glands were decidedly smaller. Two months later the condition of the patient was even better.

Case 3.—A very fat woman, aged fifty-five years, suffering from cancer of the left breast. This was inoperable on account of its size and extent. Both ovaries were removed, but without the slightest effect upon the disease of the breast.

Results of Operations on the Kidney for Tuberculosis.—Dr. Edgar Garceau (*Annals of Surgery*, October) records the statistics of two hundred and ninety-three cases from which he draws the following conclusions: (1) Tuberculosis is rarely, if ever, primary in the kidney, and the original focus is in some other organ in more direct contact with the external air in the majority of cases. (2) The presence of a primary focus of disease in the body, even if the disease has been thoroughly eradicated from the urinary tract, makes the ultimate prognosis in these cases, doubtful at least. (3) Such foci may remain permanently quiescent, but they may also be

excited to activity by a generally low condition of the system, or by causes unknown to us. (4) Patients should be told of the danger as regards the future for them, and they should lead lives of the greatest regularity, with strict attention to hygiene. A change of climate is very beneficial in these cases. (5) Reported cures of long duration occur, but they have been few. (6) Nephroureterectomy should be done in all cases in which the ureter is diseased and the patient's condition allows of it. The bladder should be subsequently treated if diseased. (7) An abandoned tuberculous ureter is an especial source of danger on account of the great liability of subsequent tuberculosis. (8) Nephrotomy alone should be rejected except as a preliminary to a later nephrectomy. (9) Resection is not justifiable, for we can never be sure that the portion removed is the only portion diseased.

The Modern Operation for Radical Cure of Umbilical Hernia.—Dr. W. H. Connant (*Boston Medical and Surgical Journal*, October 9th) points out that umbilical hernia in children, as a general rule, gets well with the use of a truss. Strangulated umbilical hernia should be operated on like any other hernia. Radical umbilical hernia should be operated on if the patient gives consent. Otherwise, a tight, well-fitting truss should be worn day and night. Irreducible hernia should be operated on unless there is some marked contraindication, such as a serious kidney lesion or heart lesion. The age or size of the tumor need be no bar to an operation. The preferred operation should combine rapidity with diminution of shock, both by diminishing the hæmorrhage and also the length of time that the patient has to be under an anæsthetic. Cocaine should be used where ether is contraindicated.

A Case of Tarantula Bite.—Dr. J. S. Boyers (*Fort Wayne Medical Journal-Magazine*, September) reports the case of a man, fifty-two years of age, of good physique and in good health, who was bitten by a tarantula in the right index between the first and second joints. He was seen within two minutes. The man seemed dazed and complained of intense, burning, sharp pain. Dr. Boyers cut off the circulation of blood in the finger with a narrow bandage. He then made a crucial incision to the bone over the site of infection and held the finger under the hydrant, rubbing it thoroughly in the running water about one minute, and applied a saturated solution of potassium permanganate, kneading it thoroughly into the wound. The patient then reclined on a couch, as he was scarcely able to sit up. His pulse was very weak and could scarcely be felt at the wrist. His heart beat very feebly, thirty-eight to forty beats per minute. One of the most alarming symptoms was a spasmodic difficulty of breathing in which the muscles of respiration seemed almost completely paralyzed, lasting for a period of one-half to one or two minutes, and returning every three to eight or ten minutes, at first, but gradually at longer intervals and disappearing entirely in four or five hours. His complexion was of an ashen hue. The extremities were cold and bathed in perspiration. The pupils were slightly dilated and when he was spoken to he opened his eyes and stared, not knowing the location of the speaker. His hearing was considerably impaired. He did not recover from the

effects of the poison sufficiently to know things clearly for eight or nine hours. The first symptoms after the bite were the burning, sharp pain at the site of injury, a very unusual full feeling of the head, and an unsteadiness of gait. The tarantula that bit him was found. It was five inches in length and of a brown color. It was a female with eggs and young and very vicious.

The constitutional treatment consisted first of 1-30 grain of strychnine with 1-100 grain of nitroglycerin hypodermically, and during the first hour and a half after the bite he was given in all, by mouth and hypodermically, in small doses frequently repeated, 1-15 grain of strychnine, 1-33 grain of nitroglycerin, 1-33 grain of atropine, $\frac{1}{8}$ grain of morphine, one ounce of aromatic spirits of ammonia, and six ounces of the best brandy, besides using artificial heat. The bowels, kidneys and skin were kept active. He made an uninterrupted recovery in four or five days.

The Treatment of Abdominal Wounds in War. By C. Roberts, M. B. (*British Medical Journal*, October 4th).—The author's conclusions are as follows: (1) That, as a rule, the conditions in a field hospital are not suitable for performing laparotomy. Moreover, many patients with penetrating abdominal wounds recover without operation, and, in the majority of those who die, the nature of the injury is such that death must result whatever be the conditions of operation, and an exploratory laparotomy may add a fresh danger to the patient.

(2) When occasions arise in which the conditions of operation approximate to those in civil practice laparotomy should be undertaken for increasing intraperitoneal hæmorrhage endangering life, and when there is evidence that perforation of the stomach or bowel exists, provided that the patient is seen early enough.

Cholecystectomy versus Removal of the Mucous Membrane of the Gall Bladder.—Dr. Emil Ries (*Annals of Surgery*, October) records a case of cholecystectomy, from which it is very evident that, in attempting to remove the mucous membrane of the gall bladder in question, an operator would undoubtedly have removed muscularis with mucosa, so that, in attempting the removal of the mucosa alone, he would have removed more than he intended to remove. If, instead of removing the whole gall bladder, Mayo's operation of removing the mucous membrane alone had been performed, glandular elements would have been left behind in the remaining wall of the gall bladder, and islands of mucous membrane not destroyed by the operation would have continued to secrete.

While no bad results have been reported in the operations performed by Dr. Mayo and others, it should be remembered that the time during which this operation has been done is short, and the number of cases is not large as yet. On the other hand, we have most excellent clinical and experimental evidence with which to support the contention that the danger from remaining glands is more than imaginary or theoretical.

The author concludes that the removal of the mucous membrane of the gall bladder is a step in the wrong direction, and ought to be abandoned in favor of the more radical, more reliable, and hardly more dangerous cholecystectomy.

Stereoscopic Skiagraphy.—Dr. Alexander B. Johnson (*Annals of Surgery*, April) and Dr. Preston M. Hickey (*Detroit Medical Journal*, August) write to enforce the great advantages accruing from the use of stereoscopy in X-ray work, as a means of localization. The aid afforded to our stereognostic sense by the superposition of images taken from two points of view in the same plane but two inches and a half away from one another in a lateral direction is very great, as is seen from the ordinary stereoscope. Such views give at once a perception of the relations of the object examined, a foreign body, the ends of a fractured bone, etc., to the tissues surrounding them, and consequently obviate the need of localizing methods, such as the ingenious apparatus of Mackenzie Davidson, or the taking of two plates at right angles, from which by mathematical computations, to determine the position of the object observed relatively to all its surroundings. For the stereoscopic method a fine quality of negatives is not essential, and pictures that singly are almost worthless will show up well under the stereoscope.

Johnson's apparatus is described as follows:

A heavy cylindrical bar of hardwood, two inches in diameter, is fixed vertically to one side of the table. This bar may be moved vertically a measured distance, or horizontally from one end of the table to the other, and may, moreover, be rotated on a vertical axis and fixed in any desired position by means of a friction clamp fastened to a travelling-block which slides in horizontal grooves along the side of the table. Two other sliding blocks, one on either side, serve as guides to any predetermined position of the first. From the upper end of this vertical arm there extends a horizontal arm of wood long enough to permit the x-ray tube to be suspended from it by means of a heavy wooden clamp over any point across the width of the table. This horizontal arm is scaled in inches, so that the clamp which carries the tube can be moved along it a measured distance. The clamp, also of wood, hangs vertically downward from the horizontal arm, and at its lower end bears a pair of grooved jaws padded with rubber so placed that when the horizontal arm is at right angles with the long axis of the table, the x-ray tube is very firmly held with the plane of the anticathode at an angle of forty-five degrees with the surface of the table, and with the long axis of the tube parallel with the long axis of the table. The construction of this gallows-frame, as it may be called, is of hard wood and very heavy for the sake of rigidity. Metal should be avoided as far as possible in its construction. The vertical arm is so graduated in inches that the observer may read at a glance the distance from the centre of the anticathode of the tube to the photographic plate beneath it on the table. The rotation of the whole gallows-frame upon a vertical axis is very convenient. By means of this device the tube may be accurately adjusted over any desired point of the table. The horizontal arm may then be rotated to a position which permits the patient to get upon the table without risk of injuring the apparatus. After the arrangement of the patient upon the table, the gallows may be rotated to its former position and the exposure made.

The author then describes the second device necessary, viz.: a means of removing the photographic plate from beneath the patient and the substitution

of a second plate without in the slightest degree altering the patient's position. This the author effects by means of a specially constructed table; but for those who do not possess a special table, the following device is inexpensive and fairly satisfactory. Upon a framework of planking, two feet long and as wide as the table which is to be used for taking skiagraphs, are nailed two little cleats or strips of wood, one-quarter of an inch high, running crosswise from one side of the planking to the other, separated by a distance a little greater than the width of the envelope which encloses that size of photographic plate which is to be used. Across the top, from one strip of wood to the other, is tacked a sheet of stiff fibre-paper, as it is called. A shallow wooden drawer or plate-carrier is made of such a size and depth that it slides easily in and out between the strips of wood and beneath the fibre cover.

The part to be skiagraphed is placed upon the fibre covering; the plate in its envelope is then put into the wooden drawer, which can be easily inserted beneath the fibre cover. A picture having been taken, the drawer is pulled out, the plate removed, a new plate inserted beneath the part to be pictured, and a second picture taken. It is sometimes necessary, and usually wise, to hold the part to be pictured absolutely quiet by strips of adhesive plaster stuck to the skin of the patient and to the table.

If the tube has been moved horizontally two and a half inches after taking the first picture, the two negatives, when developed, constitute stereoscopic pictures, and the negatives may be at once viewed in Wheatstone's Reflecting Stereoscope, or prints may be taken from the negatives and used in a simple stereoscope easily constructed as follows: Two pieces of plane glass mirror stuck together along one straight edge and placed upon a table at right angles to one another, with the apex of the angle directed towards the observer's eyes, answer as well as anything. The photographic prints are placed one on either side, supported by a grooved block of wood. Daylight furnishes a satisfactory illumination.

The Wheatstone Reflecting Stereoscope may be constructed in a simple form for less than five dollars. Two mirrors, six inches square, with their ends joined at a right angle, to face the observer may be set in grooves on a block of wood. Other grooved blocks of wood holding the plates backed by pieces of ground glass to diffuse the light are placed on each side of the angular mirror, equidistant from the angle. Two lamps or electric bulbs outside the negatives afford the necessary light. A third method is by reducing the negatives to ordinary stereoscope size, and viewing prints made therefrom in an ordinary stereoscope. Dr. Johnson says:

There is usually one relative position in which stereoscopic pictures show to the best advantage. They are, so to speak, rights and lefts. If the picture taken when the tube was farthest to the right is viewed with the right eye, and the other with the left eye, the stereoscopic image will appear with the dorsal or ventral surface of the limb towards the observer, according as the ventral or dorsal surface was next the photographic plate. If the position of the pictures is reversed, the limb will appear as though looked at from the opposite surface, and usually one of these arrangements is optically more satisfactory than the other. The apparent point of view may

also be changed by turning the separate pictures to face the other way without changing their relative positions; but once mounted together side by side in permanent relation, no amount of turning will change the apparent point of view; so that if it is desired to view the pictures from both directions, they must either be kept separate or else two pairs must be mounted, in different relative positions.

OBSTETRICS AND DISEASES OF WOMEN.

Sterility in the Female and Its Curability.—Dr. S. L. Kistler (*Medical News*, October 4th) believes that our most beneficial remedies are belladonna, the auric salts, and electricity, combined with such local treatment as is indicated. The nervous system and uterine mucosa should be toned up and frequent coitus prohibited. The surgeon's intervention is often indicated. The author's conclusions are: (1) The great majority of cases of sterility are dependent upon slight causes. (2) The greater number of cases are curable. (3) Many apparently hopeless cases are curable. (4) Length of time a case has persisted is no bar to treatment, provided such organic change has not obtained as precludes possibility of cure. (5) Treatment used must always depend upon the case in hand.

Hot Air Therapy in Gynecology.—Dr. O. Polano (*Centralblatt für Gynäkologie*, September 13th) reports his experiences for a year with Bier's method of using hot air. Polano does not begin with a temperature of 312° F. as originally advised, but starts with a temperature of 239° F., gradually increasing to 248° F. The special indications are old, dense pelvic exudates, as well as pelvic abscesses, and the after-treatment of incised exudates. Adhesive pelvic peritonitis, especially perimetritis posterior, infantile organs and amenorrhœa lend themselves well to the treatment. Endometritis does not yield to the hot air therapy. Fever is an absolute contraindication to its use. The author has had a good result in a case of actinomycosis of the abdominal wall, in one of tuberculous peritonitis, and in one of double gonorrhœal pyosalpinx.

Sterilization of Women.—Dr. J. Kochs (*Centralblatt für Gynäkologie*, September 13th) recalls the fact that in 1878 he recommended artificial sterilization of women by means of cauterization of both tubal openings. The author then discusses the question of the cessation of the menses in tuberculous women—whether it is a curative effort on the part of Nature, as Pincus regards it, or whether it is simply due to the existing anemia, a view advanced by Neumann. The author says that in all such cases castration or sterilization is indicated. He has devised a new method for the achievement of the latter purpose by the artificial formation of a valve of mucous membrane at the external os. He loosens the mucosa directly over and under the external os by a small crescentic incision and unites the wound with a few fine sutures. The valve acts so that the uterine secretions can come out, but the semen can not enter. The author gives no reports as the later course of the operated cases.

Atresia Vaginæ.—Dr. Langsdorff (*Centralblatt für Gynäkologie*, September 13th) describes a case of congenital atresia of the vagina in a girl of nineteen. There was a marked hæmatocolpos which had led to urinary retention. Puncture and tamponing with iodoform gauze brought about a cure. The case appears to have been one of hymeneal atresia, the occluding membrane being but half a centimetre thick.

Hebotomy.—Dr. T. H. van de Velde (*Centralblatt für Gynäkologie*, September 13th) describes hebotomy as a separation of the pubic bones instead of the symphysis in cases of contracted pelvis. The author believes the operation will supplant symphysiotomy and render the field of perforation, high forceps, Cæsarean section and the artificial induction of labor very limited. The operation has been successfully carried out five times, with living mother and children. [The details should be read in the original.]

DISEASES OF CHILDREN.

Two Rare Cases of Hemicephalia and Prosoposchisis.—Dr. W. P. Joukovski (*Virchow's Archiv*, July 15th) records two cases of prosoposchisis (congenital fissure of the face) in both of which the children were born with the membranes adherent to the head. The children each lived for a few hours, both dying with tetanic convulsions and much diminished temperature. The author ascribes the developmental defects to syphilis.

OPHTHALMOLOGY.

The Treatment of Uveitis.—Dr. Wilbur B. Marple (*Journal of the American Medical Association*, October 4th) points out that: (1) The ætiology of the ocular inflammation is to be investigated in order to obtain some general therapeutic indication. (2) In general, in acute processes of specific origin, mercury, best by inunctions, is indicated, aided, if necessary for the absorption of exudates by iodides. (3) Mercurials are often of service, even where there is no specific cause demonstrable. Here salicylates oftentimes accomplish more than the iodides. (4) Atropine is pretty generally indicated, aided, if necessary, in severe inflammations by moist heat and diaphoresis. (5) Subconjunctival injections, either of the sublimate or of chloride of sodium may sometimes be tried. They can do no harm, though it is not yet certain how much good they accomplish or just what are their indications.

GENITO-URINARY DISEASES.

The Radical Treatment of Urinary Retention Due to Prostatic Hypertrophy by Means of Cauterizing the Prostate through the Rectum.—Dr. Angelo Negretto (*Gazzetta degli ospedali e delle cliniche*, August 10th) reports a new series of cases of prostatic hypertrophy treated by a method which he devised some years ago, and which he had applied in a number of cases previously to this report. The author's method consists in cauterizing the enlarged prostate through the rectum by introducing a Paquelin cautery into the rectum, or by employing the gal-

vanocautery in the same manner. The latter is preferred by Negretti himself. In answer to a number of inquiries as to his exact technics, the author describes the operation as performed by him in the following way: The purpose of his method is so to cauterize all the lobes of the prostate that the gland will be induced to undergo atrophic changes. The fact that his operation accomplishes this is shown by the diminution of the gland after the operation of cauterizing by rectum. The instruments necessary for the performance of Negretti's operation are: A speculum, a sharp hook specially devised by the author, and a thermocautery or galvanocautery. The author prefers a speculum which is a modification of the old model of Weiss, because it is strong and exposes better than any other the operative field. The hook is sharp, one centimetre in length, and is provided with a graduated handle. The patient is given a purge, preferably oil, on the day preceding the operation; and in the night preceding, he is given a large dose of bismuth subnitrate with opium. He is also given one or two enemata with glycerin an hour before he is placed upon the operating table. General anesthesia is given, if possible, and, if not, the patient receives a dose of morphine and chloral. He is placed in the lithotomy position, with the pelvis considerably raised. The rectum is then dilated, and a wad of gauze is inserted in the bowel above the prostate. The speculum is now removed and the index finger of the left hand introduced into the rectum and placed at the centre of the prostate. The hook is next introduced along the finger as a guide, and is hooked into the prostate, so that traction can be exercised upon the gland. An assistant is then given the hook to hold, and the rectum having been wiped out with sterile gauze pads, the cautery is applied to the prostatic portion, all around the hook. The extent and the depth of the eschar formed are proportionate to the size of the gland. The cauterization is made rather superficial and when the area around the hook is cauterized, the hook is removed and the spot occupied by it is also cauterized. The effect of this operation, according to the author, is gradual atrophy of the gland; and every part of the gland, not only that which has been reached by the cautery, takes part in the process.

Removal of the Bladder and Prostate for Carcinoma Through a Suprapubic Opening.—Dr. Malcolm L. Harris (*Annals of Surgery*, October) in an interesting case report directs attention to the following points: (1) The suprapubic route for the removal of the bladder and prostate for malignant growths. (2) The method of operating, which consists in dividing the urethra at the triangular ligament, and working from before backward in separating the prostate and bladder from the rectum, aided by an assistant's finger introduced into the bowels. (3) The use of constant traction on the bladder toward the suprapubic opening as fast as liberated from below, as a means of materially reducing the amount of hæmorrhage. (4) The retention of a portion of the bladder wall, however small, into which the ureters are to be stitched, and the whole to be fixed as near the posterior end of the urethra as possible, with a view to its ultimate regeneration into a serviceable bladder.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Tetanus after Gelatin Injection.—Dr. R. Gra-denwitz (*Centralblatt für Gynäkologie*, September 13th) reports the case of a woman with a carcinomatous cervix who received a subcutaneous gelatin injection on account of profuse bleeding. Six days later trismus appeared. Tetanus bacilli were found in the abscess which developed at the site of injection. Despite the use of tetanus antitoxine, death followed in a few hours. This is the eighth instance of death reported from the hypodermic use of gelatin.

HYGIENE AND SANITARY SCIENCE.

Hospital Abuse and Its Effect on the General Practitioner. By E. H. T. Nash, M. R. C. S. (*British Medical Journal*, October 4th).—The author's ideas as to the remedy for so-called "hospitalization" of the public are as follows: (1) No patient, except in cases of accident or emergency, shall be admitted to a hospital without the recommendation of his own medical attendant, or from some authority in the case of paupers. A reasonable amount should be charged by the hospital in those cases of accident or emergency in which the patients are able to pay. (2) The abolition of recommendations which entitle to admission to be distributed by laymen. (3) The formation of some institute which shall provide specialized skill at a reduced rate for the poor, but in the hands of the profession only, where no patient shall be seen unless on recommendation from his private practitioner.

The Prevention of Scurvy. By Dr. A. Turnbull. (*British Medical Journal*, October 4th).—From careful and extensive researches in the literature regarding scurvy, the author is forced to the conclusion that the presence of some toxic material in the food is the cause of scurvy, afloat and ashore, and also that the popular remedy for the affection—lemon juice or lime juice—has been erroneously accepted as a certain preventative, to the neglect of requisite precautions in provisioning. He instances Nansen's ship the *Fram*, whose crew obtained but little fresh meat during their three years' arctic service, and yet without "lime-juice" rations had no scurvy—all due to the scrupulous care with which the provisions of the *Fram* were selected and prepared, by sterilizing even in some cases. Just as antiseptic surgery is purity, so the true antiscorbutic is purity of food. [This paper was read at a discussion on the prevention of scurvy. The other speakers disagreed with the author and held that scurvy was not caused by a ptomaine, but was due to the absence of some substance present in fruit, meat, and vegetables, which disappeared during the preservation of these articles of diet.]

Consumption in the Navy. By G. Sichel, F. R. C. S. (*British Medical Journal*, October 4th).—During 1900, 305 cases of tuberculous disease occurred in the British navy. Of these, 206 were invalided and 49 terminated fatally. The ratio of cases for the whole force was 3.18 per 1,000, of invaliding 2.41 per 1,000, and of deaths 0.51 per 1,000. The author calls attention to the lack of ventilation in sailors' quarters on board ship; service conditions are especially unfavorable to consumptives. The remedy lies

in prevention rather than cure; in other words, in prompt diagnosis. The surest and earliest method of diagnosis is by means of sputum examinations, and the author urges that such examination be carried out systematically on board ship. He further holds that every medical man, whenever he gets the opportunity, should urge the necessity for compulsory notification of tuberculosis throughout the country.

Reform in Hospital Management. By Dr. D. E. Anderson (*British Medical Journal*, October 4th).—The author's criticisms as to hospital management in general are as follows: (1) Lay committees of management on which there are no medical men, are a failure, and are out of sympathy with both the medical profession and the patient. (2) The secretary, unless he is kept strictly within the limits of his duties, often usurps supreme authority over the committee, and becomes the manager of the hospital, to the detriment of the institution. (3) The medical staff holds a false position in a hospital where it is not represented on the managing committee. (4) Too much stress cannot be laid on the importance of electing to the posts of matrons and head nurses only those who have served a long apprenticeship in large hospitals. (5) The system of having patients help in the service of the wards is not a good one; patients should not be treated as if they were inferior beings; they should be allowed to complain to the committee by letter. (6) Hospital commissioners should be appointed by the government to inspect every hospital, public or private.

An Inquiry Into the Influence of Soil, Fabrics, and Flies in the Dissemination of Enteric Infection. By Dr. R. H. Firth and Dr. W. H. Horrocks (*British Medical Journal*, September 27th).—In this article the authors give the results of a series of experiments undertaken to determine the facts regarding the survival of the typhoid bacillus in soil and on fabrics; also as to the possibility of infection being borne by flies. Among their most important conclusions are the following:

The typhoid bacillus, when placed in soil, shows no disposition or ability to increase in numbers or to grow upwards, downwards, or laterally.

It can be washed through at least eighteen inches of soil by means of water, even when the soil is closely packed down.

It can assume a vegetative existence in ordinary and sewage polluted soil and survive therein for varying periods, amounting in some cases to as much as seventy-four days.

The presence or absence of organic nutritive material in the soil appears to be a largely negligible factor.

An excess or great deficiency of moisture in soils appears to be the dominant factor affecting the chances of survival of the typhoid bacillus in soil.

The typhoid bacillus is able to survive up to the sixty-seventh day in a sewage-polluted soil recovered from beneath a broken drain.

When pieces of khaki or serge are treated with an emulsion of the typhoid bacillus and allowed to dry, the bacillus is recoverable for over seventy days.

When similar materials are treated with liquid typhoid fæces, the bacillus is recoverable up to the seventeenth day.

When similar materials are fouled with solid or

semi-solid typhoid fæces, the bacillus is recoverable up to the ninth day.

The typhoid bacillus is able to survive in surface soil an exposure to 122 hours of direct sunshine, and in an infected fabric to fifty hours of sunshine.

Ordinary house flies (*Musca domestica*) can convey typhoid infective matter from specific excreta or other polluted material to objects on which they may walk, rest, or feed.

Such infective material appears to be attached, not only to their heads (mandibles probably), but also to their legs, wings, and bodies. It has not been proved that the typhoid bacillus passes through the digestive tract of the fly.

From the above-mentioned facts the authors conclude that outbreaks of typhoid fever are not exclusively water-borne and that infective material carried by winds and flies may play a large part. For a proper exercise of preventive measures attention must be concentrated on the dejecta the moment they leave the human body. The most ideal method of sewage disposal is by fire. In the water-carriage system the danger of local infection is practically nil, but the real difficulty commences at the termination of the sewers. The dry earth or pail closet system is replete with danger.

PHYSIOLOGY AND PATHOLOGY.

Emigration of Leucocytes.—Dr. J. Almkvist (*Virchow's Archiv*, July 15th) has found, experimentally, that in from twenty to forty minutes after the peritonæum had been irritated by the injection of cultures of bacteria, lymphocytes appear in conjunction with uninuclear and multinuclear leucocytes. As it can not be assumed that lymph flowed from the stomata of the peritonæum, he regards the experiment as a proof of the ability of leucocytes to emigrate.

Intraglobular Methæmoglobinæmia in Man.—Dr. S. Talma (*Berliner klinische Wochenschrift*, September 15th) says that this condition, now described for the first time, consists in the conversion in the red blood cells of a small quantity of oxyhæmoglobin into methæmoglobin. The condition is not incompatible with life, but methæmoglobin dissolved in the serum causes degeneration of all the organs. Spectroscopically, Talma has demonstrated this condition in three human beings, whose clinical histories are given in the article. Only one of the patients recovered. Cyanosis and a feeling of anxiety are among the prominent symptoms. The author thinks the disease originates in some intestinal toxine.

Chemical Analysis of the serum of Œdema.—M. Boy-Teissier and M. A. Rouslacroix (*Presse médicale*, September 27th) assert that the fluid of œdema has an analogous composition to that of the serum of the blood, although it is poorer in albumin, there being but four parts in 1,000 in the former to seventy-six parts in 1,000 in the latter. It is rich in glucose, however, the figure remaining constant, whatever the cause of the œdema. The length of time the fluid remains in the tissues makes some difference in its composition, the sodium chloride becoming diminished, while the glucose, the urea, and the phosphoric acid become increased.

Book Notices.

Some Thoughts on the Principles of Local Treatment in Diseases of the Upper Air Passages. Being Two Lectures delivered at the Medical Graduates' College and Polyclinic on October 2 and 9, 1901. With an Appendix consisting of Two Letters published on November 23, 1901, and on January 11, 1902, in the *British Medical Journal*. By SIR FELIX SEMON, M. D., F. R. C. P., Physician Extraordinary to H. M. the King, etc. London and New York: The Macmillan Company, 1902. Pp. vi-7 to 130. (Price, \$1.)

This manual consists of two lectures delivered at the Medical Graduates' College and Polyclinic about a year ago. They are in brief a protest against excessive zeal in having recourse to surgery in the treatment of some of the common affections of the upper air tract. In so far, they are commendable from every point of view and may be read with profit by every practitioner whose work falls in the sphere referred to. The views expressed are somewhat radical, and the author's countrymen have not allowed them to pass unchallenged. In fact, out of the publication of the lectures has grown a somewhat acrimonious discussion which is not without its humorous side to those acquainted with the progress of rhinology and laryngology in the mother country. The two principal operations overdone, according to Dr. Semon, are those for adenoids and lingual varix. He maintains that outside of a few rabid personal opponents, his views have met with general acceptance. The lectures will repay reading, and one should especially not forget the appendix, which contains some correspondence that has passed on the subject. As Horace Greeley used to say, "it is mighty interestin' readin'."

The Purin Bodies of Food Stuffs: Their Estimation, Action, and Significance. By I. WALKER HALL, M. D., Assistant Lecturer and Demonstrator in Pathology, Owens College, Victoria University, etc. Manchester: Sherratt & Hughes, 1902. Pp. 9 to 108. (Price, 2 shillings.)

The author endeavors in this brochure to depict the earlier pathological changes in certain disorders ascribable to a perverted metabolism. The estimation of the purins in various articles of diet, their action upon the various organs, and the metabolism of these substances are fully discussed. The author has developed a volumetric method for the determination of the purins by means of the "purinometer," which may be briefly sketched as follows: The urine, freed from albumin, is poured up to a certain mark in a graduated tube fitted with a glass stopper and provided with a stop cock near its lower end, as in the Hüfner urea apparatus. Sufficient ammoniacal magnesia mixture is then added to bring the volume up to another mark, and the precipitated phosphates are thereupon allowed to settle, the stop cock then being turned at a right angle to the tube, closing the lower end thereof. To the supernatant liquid an ammoniacal silver nitrate solution is then added to bring the volume up to a third mark. The liquid is then shaken until the precipitate is of a uniform yellowish-white color, and the whole is allowed to stand for twenty-four hours, the volume of

precipitate then being read off on the graduated tube.

The conclusions reached by the author are summed up, the production of purins and their effect upon the various normal and pathological metabolic conditions being explained, and their careful determination recommended. A valuable bibliography of 162 titles relating to this subject completes this little work.

The Diseases of the Nose, Throat, and Ear. By CHARLES PREVOST GRAYSON, A. M., M. D., Lecturer on Laryngology and Rhinology in the Medical Department of the University of Pennsylvania, etc. Illustrated with 129 Engravings and 8 Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. vii-2 to 540. (Price, \$3.50.)

This work has been actuated by a constant thought on the part of the author to instruct "those who wish to know not only *what* to do but *how* to do it." The pages devoted to pathology and symptoms are written along conventional lines, but under the head of treatment the author mentions for each disease but one plan, "that which he has found to have been most often successful in subduing symptoms and shortening duration." Much stress also has been laid upon the technicalities of examination. The results of Dr. Grayson's efforts along the lines indicated have been distinctly successful. His pages carry the conviction of careful observation and honest statement, while his views are set forth in a facile style that challenges attention. For therapeutic shams and the fads of the hour he has no sympathy and he pays his attention to some now before the public in language both vigorous and refreshing. For students and the family practitioner the book will prove most useful; for specialists it is valuable as a record of personal clinical experience, but too restricted in its discussion of many important topics to serve a wider purpose. We cordially recommend it.

Gynecological Pathology. A Manual of Microscopic Technics and Diagnosis in Gynecological Practice. For Students and Physicians. By DR. CARL ABEL, Privat Docent, Berlin. Translated and Edited by SAMUEL WYLLIS BANDLER, M. D., Adjunct Gynecologist to the Beth Israel Hospital, New York. With a Chapter on the Embryology of the Female Genitalia and the Pathological Growths developing from Embryonal Structures. Illustrated by 100 Engravings. New York: William Wood & Company, 1901. Pp. xvi-237.

A work devoted exclusively to gynecological pathology is, so far as we can recall, almost an innovation in American or English literature. Indeed, this work is not indigenous, for it comes as a translation from the German, from the land in which specialization has reached the limit which it has nowhere else attained. The field of gynecology is now so extensive that there is a decided advantage in having one's pathology compressed into a book of moderate dimensions like this one. We say most emphatically, therefore, that a book of this character has a positive *raison d'être*.

Passing over the various chapters, we observe nothing new or unusual in the measures advised for the diagnosis of diseases of the cervix uteri, the

methods of preparing specimens, the description of the normal and pathological conditions of the endometrium, etc. The chapters on extrauterine pregnancy are of decided value; indeed, it would be rather difficult to write intelligently upon a subject of such transcendent importance without exciting interest. The suggestion that infantile tubes may be a causative factor in this disease is a new one to us, and the idea is not improbable, while that of accessory ostia has been advanced by other writers. Interesting also are the statements concerning the insertion and retention of ova within the tubes. The important chapters on ovarian anatomy and pathology are well elaborated without calling for particular comment or commendation.

The important subject of embryology forms an interesting portion of this book, and its consideration adds very materially to its value as a work of reference.

The criticism of a work of this character, which deals with facts which for the most part are well known and accepted, must mainly be in regard to arrangement and style which shall adapt it to the convenience of readers as a book of reference. This work fulfills such requirements satisfactorily and is recommended as a convenient and reliable one. The translator has done his work commendably, the text being clear and intelligible.

Quain's Dictionary of Medicine. By Various Writers. Third Edition. Largely Rewritten and Revised Throughout. With Fourteen Colored Plates and Numerous Other Illustrations. Edited by H. MONTAGUE MURRAY, M. D., F. R. C. P., Joint Lecturer on Medicine, Charing Cross Medical School, etc., assisted by JOHN HAROLD, M. B., B. Ch., B. A. O., Physician to St. John's and St. Elizabeth's Hospital, etc., and W. CECIL BOSANQUET, M. A., M. D., M. R. C. P., Physician to Outpatients, Victoria Hospital for Children, etc. New York: D. Appleton and Company, 1902. Pp. xviii-1892. (Price, \$10.)

Nineteen years have elapsed since the first American edition of this great work appeared—years teeming with advances in medicine. It was high time therefore that the late Sir Richard Quain's book should be rewritten. The present edition hardly exceeds the first in bulk, but much augmentation was not to be expected, for, discarded theories and practices omitted, the medicine of to-day may be taught within practically the same compass as that of twenty years ago. Comparing the lists of contributors to the two editions, we find that the present writers are noticeably more numerous than their predecessors in the work, and that many of the names are new.

On its first appearance, *Quain's Dictionary* rapidly found favor with the medical profession of the United States, and it has held its place remarkably well for a work that was in such evident need of revision. We are of the opinion that in its present revised form it will meet with equal favor. Among the noteworthy new headings we find the following: Acromegaly, by Rickman J. Godlee; actinomycosis, by W. S. Greenfield; albumosuria, by Sidney Martin; alkaptosuria, by A. E. Garrod; ambulance, by A. T. Norton; angiokeratoma, by James Galloway; antitoxines, by Herbert E. Durham; autointoxica-

tion, by Walter Myers; blackwater fever, by David C. Rees; bradycardia, by Gustave Schorstein; brass poisoning, by William Murray; caisson disease, by E. Hugh Snell; children, clinical examination of, and training of, by Francis Warner; combined degeneration of the spinal cord, by Frederick E. Batten; cystinuria, by A. E. Garrod; Darier's disease, by James Galloway; drug eruptions, by H. Radcliffe Crocker; enteroptosis, by Lauriston E. Shaw; erysipelas, curative, by William B. Coley; erythema induratum, by T. Colcott Fox; erythromelalgia, by James Collier; euthanasia, by John Harold; facial atrophy, by J. S. Risien Russell; fibrosis, by J. G. Adami; filariasis, by Patrick Manson; food, poisonous, by Arthur P. Luff; Friedreich's ataxia, by H. Charlton Bastian; glandular fever, by Dawson Williams; globulinuria, by A. E. Garrod; habits (addiction to drugs), by F. S. D. Hogg; hæmoglobinuria, by T. Grainger Stewart and A. E. Garrod; hemianopia, by H. Charlton Bastian; heredity, by William Turner; immunity, by Sidney Martin; indicanuria, by A. E. Garrod; internal capsule, by D. Ferrier and W. A. Turner; life assurance, by James E. Pollock; lumbar puncture, by D'Arcy Power; Malta fever, by David Bruce; meningitis, epidemic cerebrospinal, by T. W. Grimshaw and G. F. Still; mountain sickness, by W. A. Wills; myasthenia gravis, by J. S. Risien Russell; mycoses, by R. T. Hewlett; mycosis fungoides, by J. J. Pringle; myopathy, by J. S. Risien Russell; negro lethargy, by Patrick Manson; neuritis, multiple, by H. Charlton Bastian; occupation diseases, by Thomas Oliver; paralysis, periodic, by J. S. Risien Russell; paramyoclonus multiplex, by W. R. Gowers; phagocytosis, by Sidney Martin; physical education, by Frederick Treves; pigmentary diseases of the skin, by H. Radcliffe Crocker; pneumoconioses, by Thomas Oliver; psoriasis, by G. Thin; pyogenic bacteria, by John Eyre; Raynaud's disease, by Arthur Francis Voelcker; Röntgen rays, by James Mackenzie Davidson; saline solution, infusion of, by Stanley Boyd; sanitary law, by W. A. Casson; sapræmia, septicæmia, and pyæmia, by J. Lorrain Smith; serum reactions, by Walter C. C. Pakes; serum therapeutics, by J. W. Washbourn; skin grafting, by Rickman J. Godlee; skin, tuberculosis of the, by T. Colcott Fox; sputum, by Percy Kidd; standardization, by Frederick Willcocks; Thomsen's disease, by James Taylor; toxins, by William Bulloch; urethra, clinical examination of, by F. Swinford Edwards; urinary fever, by C. Stonham; vital statistics, by B. A. Whitelegge; and xanthoma diabeticorum, by J. J. Pringle.

It is to be noted that these titles are all major headings. In themselves they are sufficient to show the immense amount of investigation that has gone on in medicine during the last twenty years, but there are in addition numerous new subheadings, and many of the original articles have been materially amplified. Little indeed has been omitted. We find no mention of the so-called "fourth disease," but perhaps it did not come into notice until it was too late to treat of it. In the article on drowning we fail to find anything concerning Laborde's rhythmical traction on the tongue as a means of resuscitation, and the Janet treatment of gonorrhœa seems to be rather insufficiently dealt with; but these are about all the deficiencies that we have noticed. As a whole, the book will certainly commend itself to the great ma-

jority of medical men. The plates, fourteen of which are in color, are all new, and we may say that they are satisfactory. The half-tone illustrations, too, are excellent, but many of the woodcuts are not creditable.

BOOKS, ETC., RECEIVED.

Diseases of the Rectum and Anus. Designed for Students and Practitioners of Medicine. By Samuel Goodwin Gant, M. D., LL. D., Professor of Rectal and Anal Surgery at the New York Post-Graduate Medical School and Hospital, etc. Second Edition, Rewritten and Enlarged. With Thirty-seven Full-page Plates, Twenty of which are in Colors, and Two Hundred and Twelve Smaller Engravings and Half-tones. Philadelphia: The F. A. Davis Company, 1902. Pp. xxiv-687. (Price, \$5.)

A Text-book of Histology and Microscopic Anatomy of the Human Body, including Microscopic Technics. By Dr. Ladislaus Szymonowicz, A. O. Professor of Histology and Embryology in the University of Lemberg. Translated and Edited by John Bruce MacCallum, M. D., Johns Hopkins University, Baltimore. Illustrated with 277 Engravings, including 57 Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. ix-17 to 435.

Kirke's Handbook of Physiology. Revised by William H. Rockwell, Jr., M. D., and Charles L. Dana, A. M., M. D., Professor of Diseases of the Nervous System, Cornell University Medical College, etc. Seventeenth American Edition. With Five Hundred Illustrations, including many in Colors. New York: William Wood & Company, 1902. Pp. xi-854. (Price, \$3.)

Anatomy and Histology of the Mouth and Teeth. By I. Norman Broomell, D. D. S., Professor of Dental Anatomy, Dental Histology, and Prosthetic Technics in the Pennsylvania College of Dental Surgery, Philadelphia. Second Edition, Revised and Enlarged, with 337 Illustrations. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. x-17 to 500. (Price, \$4.50.)

Disinfection and Disinfectants. A Practical Guide for Sanitarians, Health, and Quarantine Officers. By M. J. Rosenau, M. D., Director of the Hygienic Laboratory, etc. Illustrated. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xii-17 to 353. (Price, \$2.)

General Paresis: Practical and Clinical. By Robert Howland Chase, A. M., M. D., Physician-in-Chief, Friends Asylum for the Insane, Philadelphia, etc. Illustrated. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xl-17 to 291. (Price, \$1.75.)

Physical Diagnosis. Diseases of the Thoracic and Abdominal Organs. A Manual for Students and Physicians. By Egbert Le Fevre, M. D., Professor of Clinical Medicine and Associate Professor of Therapeutics in the University and Bellevue Hospital Medical College, etc. Illustrated with 74 Engravings and 12 Monochrome Plates. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. viii-17 to 448.

Materia Medica, Therapeutics, Medical Pharmacy, Prescription-writing, and Medical Latin. A Manual for Students and Practitioners. By William Schleif, Ph. G., M. D., Instructor in Pharmacy in the University of Pennsylvania. Series Edited by Bern B. Gallaudet, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, New York, etc. Second Edition, Revised and Enlarged. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 3 to 389. (Price, \$1.75.)

A Manual of Practical Anatomy. By the Late Professor Alfred W. Hughes, M. B., M. C. Edin., F. R. C. S. Edin., F. R. C. S. Eng., Professor of Anatomy, King's College, London, etc. Edited and Completed by Arthur Keith, M. D., Aberd., F. R. C. S. Eng., Lecturer on Anatomy, London Hospital Medical College, etc. In Three Parts. Part II. The Abdomen and Thorax. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xiii-308. (Price, \$3.)

Practical Obstetrics. A Text-book for Practitioners and Students. By Edward Reynolds, M. D., Visiting Surgeon to the Hospital for Women, etc.; and Franklin S. Newell, M. D., Assistant in Obstetrics and Gynecology in Harvard

University, etc. Illustrated with 252 Engravings and 3 Colored Plates. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. xi-17 to 553. (Price, \$3.75.)

Practical Diagnosis. The Use of Symptoms and Physical Signs in the Diagnosis of Disease. Fifth Edition, Revised and Enlarged. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, etc. Illustrated with 236 Engravings and 25 Plates. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. xii-17 to 698. (Price, \$5.)

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume X. Skin and Venereal Diseases—Nervous and Mental Diseases. Edited by W. L. Baum, M. D., and Hugh T. Patrick, M. D. Chicago: The Year Book Publishers, 1902. Pp. 5 to 245. (Price, \$1.25.)

The Nose and Throat in Medical History. By Jonathan Wright, M. D., Brooklyn. With Ten Illustrations. St. Louis: The Laryngoscope Company, 1902. Pp. 5 to 244. (Price, \$2.)

A Guide to the Practical Examination of Urine. For the Use of Physicians and Students. By James Tyson, M. D., Professor of Medicine in the University of Pennsylvania, etc. Tenth Edition, Revised and Corrected. With a Colored Plate and Wood Engravings. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xii-13 to 297. (Price, \$1.50.)

Photographic Atlas of the Diseases of the Skin. A Series of Eighty Plates, comprising more than One Hundred Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A. M., M. D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York, etc. Part XVI. Philadelphia and London: J. B. Lippincott Company, 1902. Pp. 211 to 228.

A Compend of Human Physiology. Especially Adapted for the Use of Medical Students. By Albert P. Brubaker, A. M., M. D., Adjunct Professor of Physiology in the Jefferson Medical College, Philadelphia. Eleventh Edition, Revised and Enlarged. With Illustrations and a Table of Physiologic Constants. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. viii-9 to 270. (Price, 80 cents.)

Miscellany.

Powdered Milk is a recent novelty. The *Medical Times* for September says that a Swedish scientist has recently invented an apparatus whereby milk can be reduced to powder. The process differs materially from that so long in use of condensing milk by evaporation. The milk flour is soluble in water and can be used for all purposes for which milk is employed. It does not get sour or ferment, and in its dry state is not sensitive to changes in the weather. The cost of reduction is about twenty-seven cents for every 106 quarts. Skim milk, which hitherto has been so largely wasted, can be reduced to flour and sold for about thirteen cents a pound. In its dry form it can be kept in tin cans, barrels, or bags, and transported all over the country without losing any of its original good qualities.

Atrophy of the Skin as an Early Sign of Ankylostomiasis.—Mr. A. B. Duprey (*Journal of Tropical Medicine*, September 1st) again calls attention to an early sign of ankylostomiasis, previously reported by him, viz., a commencing atrophy of the skin due to a kind of general inanition, which shows itself prior to any marked anæmia. Any one who

has performed post-mortem examinations on subjects of ankylostomiasis cannot help observing the general innutrition and degeneration of the organs and tissues. In the living patient the skin shows this condition of innutrition in a very early stage of the disease.

This sign is specially suggestive in regions where ankylostomiasis is endemic, in the case of children who suffer from "heart beating and quick breath," but with no anæmia or other symptoms as yet. It should lead at once to enquiries as to the habit of eating dirt, uncooked rice, rags, paper, slate, ashes, finger nails, etc.

Wholesale Maternity.—The *Indian Lancet* for August 25th says that it has remained for an Italian woman to break all maternity records. She has, in the course of nineteen years of wedlock, become the mother of sixty-two children. This extraordinary statement is vouched for by many credible witnesses, who testify to its truth in a petition now before the Italian Government, asking for the woman a yearly pension of £72. Of these children fifty-nine are boys and three girls. Eleven times in succession, in nine years, the prolific female gave birth to triplets, three times four boys arrived at one birth, and once five boys and a girl. The other twelve were born singly, but very close together. The woman is a native of Nocera, a little village near Naples, and at fifty-seven is, of course, almost incapable of gaining her livelihood.

How to Use Soft Coal.—In view of the present situation as regards the production of anthracite, the following suggestions from the *Boston Weekly Transcript* for September 26th may have some interest to physicians as such, seeing that the maintenance of a proper warmth is a very essential element for the preservation or restoration of health. As is pointed out in the article in question, the details for the effective use of soft coal (including the minimum of disagreeables) are nearly the reverse of those employed when anthracite is used.

"In the feed door of every furnace there is a slide damper to admit air over the fire, and the same is true of most of the ranges now in use. When anthracite coal is used these dampers are kept open only when it is desired to deaden the fire or lower the temperature of the house. With soft coal these dampers must be left open all the time. The first stage in the combustion of soft coal is its 'coking,' which calls for more air than can be had through the body of the fuel, and unless this air is supplied above the fire, the best heat of the coal is not received, the gases escaping up the chimney. Too much air for good combustion can be admitted over the fire, but it is not likely to occur if only the slide damper is kept open.

"The draught openings in the ash-pit door, or under the fire, do not need to be open as widely or kept open as long as they would in burning anthracite coal. With the same amount of bottom draught it is customary to give anthracite coal the soft coal would burn too freely and much of the best heat be lost. It should be remembered also that the funnel pipe into the chimney, which with hard coal usually is kept partly closed during moderate weather, should be kept nearly open all the time, to allow the free passage of smoke when soft coal is used. In starting a fire after soft coal has once been used it will not be

necessary to remove all of the coal which was left over after the old fire went out, but after freeing the fire box from the ashes the fresh fire may be kindled on top of the old coal, in most cases. While the anthracite fire is raked from the bottom the bituminous should be packed down from the top."

Medical Amenities in the Seventeenth Century.

—Dr. George Cheyne, an eminent Scottish physician and mathematician, born in 1671, settled in London, and later in Bath, where he died in 1743. He became very corpulent, but recovered health and activity on a milk and vegetable diet. Whereupon he was apostrophized by Dr. John Wynter, another well-known physician of Bath, as follows:

Tell me from whom, fat headed Scott,
Thou didst thy system learn;
From Hippocrate thou hadst't it not,
Nor Celsus nor Pitcairn.

Suppose we own that milk is good,
And say the same of grass;
The one for babes is only food,
The other for an ass.

Doctor, one new prescription try,
(A friend's advice forgive),
Eat grass, reduce thyself and die,
Thy patients then may live.

To this Dr. Cheyne replied:

My system, doctor, is my own,
No tutor I pretend;
My blunders hurt myself alone,
But yours your dearest friend.

I can't your kind prescription try,
But heartily forgive;
'Tis natural you should wish me die,
That you yourself may live.

Ankylostomiasis in Cuba.—Dr. Aristides Agramonte (*Revista médica Cubana*, September 1st) in consequence of articles by Dr. Stiles (*American Medicine*, May 10th), and Dr. Guitéras (*American Medicine*, July 19th) has devoted considerable attention to cases of persistent anæmia of obscure origin that have come to his clinic. From his observations he believes ankylostomiasis to be more widely diffused in Cuba than is generally thought. The new species of the parasite discovered by Dr. Stiles is the one found in the cases seen by the author. Prior to the discovery of the uncinaria in the fæces, the various diagnoses had been as follows: Paludal hydræmia, 3 cases; chronic paludism, 2 cases; paludal cachexia, 7 cases; splenic anæmia, 3 cases; intestinal tuberculosis, 1 case. Total 16 cases, 11 in males and 5 in females. The ages varied between eighteen and thirty-nine years in the males and between eight and twenty-five years in the females. The patients' occupations were as follows: Of the females, 2 field laborers, 2 outdoor houseworkers, and one school girl, also from a camp. Of the males, 6 were laborers, 2 workmen in a brickyard, 2 laborers on railway construction, and one a mechanic, ex-soldier of the insurgent army.

The first symptom was gastrointestinal disturb-

ance, occurring in 6 males and 5 females; in 3 cases repeated vertigo attracted attention; the other 2 patients could not recall the beginning of their trouble.

Anæmia was intense in all cases. In the girl, who had been sick for a year, there were only 1,700,000 red cells to the c. mm. None of the others reached 3,000,000 to the c. mm. The hæmoglobin varied from 22 to 30 per cent. The spleen was enlarged in 7 males and 2 females; the other 7 patients showed no organic lesions. The patients complained principally of fatigue and lassitude, diarrhœa alternating with constipation, unaccountable sensations of cold and heat, and irritation of the skin. A most careful clinical examination revealed only anæmia as the direct cause of the symptoms. Four patients, 2 of each sex, presented acute affections of anæmic origin; opacity and tumefaction of the retina with small hæmorrhages.

The treatment adopted was the administration in capsules of thymol in a daily dose of from one to two grammes (15 to 30 grains), preceded occasionally, and followed always, by a saline purgative according to the requirements in each case.

The result was uniform—the expulsion *per rectum* of innumerable adult worms, many of them gorged with the blood they had ingested. The treatment was accompanied by a restorative regimen, tonics, and hæmatinics, from which, however, it is too early yet to look for results.

In one case after the recognition of the existence of uncinaria and before resorting to thymol, the author examined the fæces passed as a result of taking 30 grammes (450 grains) of sodium sulphate, and to his astonishment found 23 adult worms, some of them yet living.

The author asks: Considering the frequency with which in his cases a diagnosis of paludism, cachectic, chronic, or anæmic had been made (12 times out of 16), is it not probable that the so-called "dialytic" treatment of Dr. Vila for malarial disease, endorsed by Dr. Coronado, may have been used in cases really of ankylostomiasis, and to that may have owed its real efficacy. Seeing that hitherto no examination of the fæces has been made in such cases, and that paludal affection is strictly confined to the blood, it is difficult otherwise to explain the remarkable results that have followed the use of purgatives.

The author describes in detail two of his cases, and concludes with an illustrated description of *Uncinaria Americana* and *Uncinaria duodenalis*.

The Irrational Starvation Treatment of Appendicitis.—At the meeting of the American Association of Obstetricians and Gynæcologists, held recently in Washington, Dr. John B. Deaver read a paper on this subject, in which he stated that acute appendicitis was dangerous in that it excited septic peritonitis, the gravity of the appendicular inflammation depending upon the severity of the peritoneal infection. In the author's experience, based upon several thousand cases, this infection was progressive, and in order to stop the invading process the source of infection must be removed. Early removal of the appendix, then, was the only treatment which promised a low mortality. If the appendix was taken out in the pre-inflammatory stage with aseptic surgery, and barring accidents, there should be no mortality.

If it were possible, which it was not, to be ascertain of the degree and bacteriological type of the peritoneal inflammation as we were of the good results following early removal of the appendix, then only might there be ground for arguing in favor of delay. The author wished to sound a note of warning against the advocates of the so-called "rest," or starvation, treatment of appendicitis, not including, however, the practice in certain cases of washing out the stomach and giving of all nourishment per rectum. Against the claims made for this treatment it was the object of this paper to protest and to make a firm stand against any form of treatment, other than early operation, aiming to restore the peritoneal cavity to the condition which existed in the early hours of an appendicular inflammation.

The author's experience for the past two months and a half had furnished the lesson from which the objection to the rest treatment was drawn. From June 15th. to September 1st there were operated on in the German Hospital 98 cases of appendicitis, exclusive of the cases occurring in children. Twenty-seven cases were of the type called chronic and ended in recovery. The remainder, 71, were acute in character with 12 deaths, a mortality of 16.9 per cent. A detailed study of these cases revealed the following points of interest: Thirty-two patients suffering from acute appendicitis were sent to the hospital early in the course of the disease and the infective process was limited to the appendix or to the tissues immediately contiguous. These patients were operated on immediately, after cleansing the digestive tract with a gentle cathartic or after the giving of an enema. They were typical of the acute type of appendicitis. With the exception of one case, they all made an uneventful recovery—a mortality of 3.1 per cent. The single death was that of a man of sixty-four years of age, whose appendix was removed twelve hours after the onset, who made a good recovery, but nine days later suddenly died from cardiac dilatation. Autopsy showed a healthy peritoneum and the wound in the cæcum healed and was in good condition.

The remaining 39 cases were those unfortunate patients in whom the infective process was allowed to proceed until the diseased appendix had perforated and become necrotic. Owing, in most instances to the wishes of the attending physician or to the patient himself, operation was performed within thirty-six hours on twenty-two of these patients. Five died, a mortality of 22.7 per cent.

In every case there was bilateral rigidity, slight distention and a more or less well defined mass. At operation an abscess was found, usually behind the cæcum, surrounding the necrotic and perforated appendix. The abscess was opened, evacuated, the cavity thoroughly cleansed and drained after removing the appendix or its remains. Three of the cases were found to have free pus throughout the abdominal cavity. All died from twenty-four to forty-eight hours after operation and the autopsy revealed general purulent peritonitis. A fourth death was that of a patient, with a large abscess well walled off, but suffering from the absorption of septic products. Autopsy revealed gangrene of the cæcum and local adhesive peritonitis. The fifth case had been treated for gastritis for six weeks before admission; a sort

of modified "rest" treatment. Patient was operated on twenty-four hours after admission. A large mass of adhesions was present. There was pus about a badly diseased appendix in the pelvis and an infected tube on the right side. Patient died five days after operation and the autopsy showed a gangrenous cæcum with a local peritonitis.

The remaining 17 cases were treated by the "rest" or starvation treatment. These patients were admitted on an average five days after the onset of the attack. Fifteen cases had marked bilateral rigidity. In two cases right sided rigidity alone was present. In every case more or less distention was present, with fever, a rapid pulse, and tenderness over the right iliac fossa. In 9 cases a mass could be palpated. The leucocytes numbered from 15,000 to 30,000 with a multinuclear increase indicating pus.

The stomach was well washed out and all food and catharsis by mouth was withdrawn. Rectal feeding every four to six hours and ice or warm fomentations to the abdomen. It was found that the distention lessened and the rigidity became less pronounced in 13 cases. In the rest no improvement was noticed after from four to seven days of treatment.

Where a mass existed on admission a slow and steady increase in size was found, never a decrease. Of the eight cases in which a mass was absent on the first examination, in four a mass promptly appeared a few days after the inauguration of the rest treatment and was accompanied by agonizing pain. In three cases there never was a mass, and these were those cases where a small abscess was found about the appendix with a mass of adhesions in the right iliac fossa. One died five days after operation. This patient was admitted seven days after the onset of the attack, with marked abdominal distention, pain and tenderness, most marked on the left side. No distinct mass could be determined. There was a leucocytosis of 17,600. The patient was slightly septic, the starvation treatment was inaugurated and continued for nine days. During the first few days of this treatment the condition of the abdomen seemed to improve, but the patient slowly weakened and relapsed, the abdomen once more distending. There was slight delirium for a few hours. Again an improvement began and operation was performed. About the appendix a small abscess was found with the organ on the brim of the pelvis and adherent to the cæcum, which was soft and friable. The right side of the abdominal cavity was a mass of adhesions which were more highly organized about the site of the appendix and more recent towards the middle line. The appendix was removed and the pelvis and right iliac fossa were drained.

On the second day after operation the patient showed septic peritonitis and died on the fifth day. Autopsy revealed general adhesive peritonitis with pus in the pelvis and among the intestines and a gangrenous cæcum. It was evident to the author that an early operation would have saved this case.

In the eighth case the diagnosis grossly exaggerated the gravity of the intraperitoneal lesion. After fifteen days of "rest" treatment, the appendix was found thickened and nearly occluded and adherent to the floor of the iliac fossa, very few adhesions were present. A microscopical examination revealed an interstitial appendicitis of long standing.

The course of the thirteen cases with large abscess formation was that of a steady progress toward in-

crease of the mass and absorption of its septic products. When the symptoms of pyæmia began, operation was performed. It was then found that the entire right side was a mass of adhesions, with a large malodorous abscess about the infecting appendix, in several cases extending from the pelvis to the liver. In six cases no attempt was made to find the appendix; the author was satisfied with opening and draining the abscess, so terrible was the condition of affairs found. In one case the appendix had sloughed off. Two cases were opened by reflecting the peritonæum and going into the abscess from the outside. The cases were all well drained and left unsutured.

Six of these seventeen patients died, a mortality of 35.3 per cent. Where then was the reduction in the mortality? Five of these six patients were distinctly made worse by waiting and some would probably have recovered if operated on earlier. Even the etherization in these cases was more difficult than usual; the way a patient took ether was often an index to the gravity of the intraperitoneal lesion. After opening the abdomen it was a serious problem how to dispose gauze pads before opening the abscess. There were so many adhesions, not so complete as to effectually wall off the pus, but enough to interfere with the placing of the gauze. Also the infected coils of intestine were so friable that the breaking of any adhesions would cause the serous coat to peel off. This might suggest that in presence of a walled-off abscess the peritoneal cavity should not be opened, but it was impossible to gain access to these abscesses in any other way, situated as they were behind the cæcum and colon well to the median line.

The autopsies revealed general purulent peritonitis in 4 cases, general adhesive peritonitis in 2 cases, with pockets of pus among the coils of bowel and in the pelvis. The cæcum was gangrenous in 5 cases.

The patients recovering were discharged on an average of thirty-two days after operation, but five cases were still in hospital, one with a large faecal fistula twenty-nine days after operation. In a second a secondary pus collection was evacuated a few days ago.

What were the lessons to draw from these cases?

1st. That an early operation, preferably in the stage of appendicular colic, was the only rational procedure and the only treatment which would reduce the mortality in acute appendicitis to insignificant figures.

2nd. That the so-called "rest" treatment of appendicitis failed to check peritoneal inflammation and would in the majority of instances harm the patient.

The figures presented in this paper bore their statements out to the letter. In the cases where there was no active inflammation, no infection, the mortality was nil.

In the cases operated upon before the peritoneal inflammation had become extensive, or in those where the appendix alone was involved, the mortality was 3.1 and that mortality due to a late complication.

In those cases suffering from advanced peritonitis with abscess formation and operated upon immediately, the mortality rose to 22.7 per cent. while the "rest" treatment, for which it was alleged that the mortality was greatly reduced, gave 35.3 per cent. of deaths.

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DISEASES OF THE GALL BLADDER.*

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A more accurate comprehension of diseases of the gall bladder has been gained during the past few years by those whose experience with these diseases is greatest. This has been made possible by the extensive studies of bacteriologists and by the observations of surgeons who have large opportunities of observing the living pathology of diseased conditions of the gall bladder. To the majority of practitioners the early diagnosis of cholelithiasis proves a veritable stumbling block, and the patient too often passes from one physician to another unrelieved and receiving all the drugs known to the pharmacopoeia as remedies for the relief of chronic gastritis. It is, therefore, the duty of surgeons to show the medical man that jaundice and the passage of calculi are not necessary to form a diagnosis of gall stone disease, and that no treatment other than early surgical intervention will safely remove a stone in the biliary tracts.

Whenever a patient is referred to me for diagnosis and the attending physician makes any reference to stomach disease, I at once examine the patient for chronic appendicitis and next for gall bladder trouble. I do this because I invariably find some gastric derangement in patients suffering from chronic appendicitis, and the intimate anatomical relation of the stomach to the gall bladder disturbs the gastric function sooner or later.

By the brilliant work of American surgeons the diagnosis and treatment of appendicitis has been placed on a sound surgical basis. Mayo Robson, in England, and Kehr, in Germany, have contributed largely to the advances made in surgery of the gall bladder.

As these two diseases form by far the greatest bulk of abdominal surgery, excluding the pelvis, and because of the marked analogy which they bear to each other, I have seen fit to draw comparisons, one to the other, throughout this paper.

The classification of diseases of the gall bladder may be considered under three headings:

1. Inflammatory affections.
2. Cholelithiasis.
3. Specific infections, such as carcinoma and tuberculosis.

Inflammatory affections may be further divided into

- a.—Catarrhal;
- b.—Suppurative;
- c.—Ulcerative;
- d.—Phlegmonous;
- e.—Gangrenous;
- f.—Obliterating, including stricture.

INFLAMMATORY AFFECTIONS.

The gall bladder is lined with mucous membrane having columnar epithelium and racemose glands, with an anastomosis of blood vessels and a plexus of lymphatics. Like all other mucous surfaces, it is subject to catarrhal inflammation.

Catarrhal cholecystitis in its aetiology is precisely similar to that of catarrhal appendicitis. Both organs are in dependent positions and susceptible to the effects of chronic constipation, and have an outlet of limited calibre. They are in direct communication with the highly infectious intestinal tract and are both the subject of calculus formation.

Catarrhal cholecystitis gives rise to symptoms very similar to those of cholelithiasis. There are marked pain, intermittent in character, sometimes jaundice, and gastric disturbances. The attacks, however, are less severe and the jaundice never intense. Medical treatment usually relieves the condition. Unfortunately, in some cases a pericholecystitis appears, with the consequent formation of adhesions; these continue the symptoms, and the case is thought to be one of gall stones and operation advised.

Suppurative cholecystitis is due to infection of the gall bladder with microorganisms. The *Bacillus coli communis* is most frequently the cause, but the *Bacillus typhosus*, the streptococcus, and staphylococcus also occasionally cause the condition, which is associated as a rule with gall stone.

The infective process continuing in the gall bladder will result in pus formation, or empyema. This is associated with marked pain necessitating the recumbent position, tenderness on pressure over the gall bladder, rigidity of the abdominal wall, fever,

* Read before Rochester, N. Y., Academy of Medicine, October 7, 1902.

chills, and a gradual emaciation. This latter symptom is not only due to the sepsis present, but also to the loss of appetite occasioned by the gastric disturbances.

Early in the progress of the disease, before pericholecystitis occurs, the distended gall bladder will be found to move with respiration as a rounded, and perhaps fluctuating, tumor. As a rule, there is no jaundice and its presence indicates a catarrhal inflammation of the smaller hepatic ducts.

If the gall bladder ruptures, the pus usually travels along the course of the suspensory ligament of the liver to the umbilicus. It may point down alongside the colon toward the right iliac fossa, or form a mass over the gall bladder and ulcerate through the abdominal wall. In rare cases evacuation takes place by ulceration into the duodenum, colon, stomach, portal vein, vena cava, etc.

Ulceration of the gall bladder follows simple empyema in the majority of instances, especially when associated with enteric fever, carcinoma, and gall stones. The fever is higher and the chills more marked in this form of the disease. Stricture, fistulæ, perforation, or hæmorrhages may result, and in all cases an adhesive pericholecystitis is produced.

Acute phlegmonous cholecystitis is a rare and very fatal condition, due to infection with highly pyogenic microorganisms. Gall stones are usually present, though not necessarily so. The symptoms are those of a rapidly advancing peritonitis, like that in fulminating appendicitis, with great depression amounting almost to shock. The pulse is rapid and shallow, there are fever, rapid thoracic respiration, tympanites, and persistent vomiting. A fatal termination most frequently follows, though in some cases the disease becomes subacute, with a localized abscess around the gall bladder.

Gangrene of the gall bladder is dependent on destruction of the blood supply by an infectious thrombophlebitis or from the results of overdistention. It frequently results in the phlegmonous form, and gives the same symptoms with a more advanced peritonitis and less local pain.

Obliterating Forms. As a result of continued catarrhal inflammation, the mucous membrane of the gall bladder becomes inactive and the muscular fibres overgrown with connective tissue. Atrophy then takes place and the gall bladder becomes obliterated. Ulceration, or rarely malignant disease, causes strictures of the gall bladder, usually changing the configuration of the gall bladder. From obstruction of the cystic duct, whether due to stricture or gall stones or to pressure from tumors of the pancreas, the mucus accumulates and gradually distends the bladder. This enlargement may attain such a size as to be mistaken for an ovarian cyst.

Adhesions. Following any severe inflammation of

the gall bladder, a pericholecystitis develops, with the formation of more or less extensive adhesions. These are Nature's barriers to prevent the spread of peritoneal infection, should the gall bladder perforate or rupture; but, unfortunately, the anatomical relation of the gall bladder to the hepatic flexure of the colon, to the duodenum, pylorus, pancreas, and great omentum is so intimate that these structures are involved in the process of adhesive peritonitis with grave symptomatic disturbances as a result.

It is this complex of symptoms, due to adhesions, that throws us off the track so many times when endeavoring to make a diagnosis of the presence of gall stones, or to distinguish cholelithiasis from beginning malignant disease. Dilatation of the stomach may be caused by the rapid encroachment of adhesions upon the lumen of the pylorus or severe pain occasioned by the peristaltic action of an adherent duodenum, great omentum, or colon.

Relation of appendicitis. In considering the forms of inflammatory cholecystitis, we are at once struck with the great similarity which they bear to acute appendicitis. In appendicitis we have the catarrhal type resulting from a mild acute attack with the consequent disturbance in the drainage of the organ. If no further symptoms result, the walls of the appendix thicken from the organization of the inflammatory products into connective tissue, and the appendix may gradually obliterate its lumen and shrink, remaining as a fibrous cord bound by adhesions to the right iliac fossa. I have seen cases of well-marked hydrops of the appendix, containing over an ounce of a turbulent mucus, with the outlet into the cæcum totally obstructed.

The infective forms of cholecystitis bear a closer analogy to appendicitis, and this is evidenced by the fact that the diagnosis between the two is one of the hardest in surgery. The appendix, of course, is by far the most frequently involved because of its more direct communication with the infecting gut. In both diseases the mucous membrane becomes swollen and ulcerated, purulent products form, are retained, and give rise to marked and similar symptoms.

In appendicitis the organ soon becomes necrotic and perforates, with the formation of an abscess limited by the adhesions which have been formed during the early stages of the disease. This complication is so much more frequent in appendicitis because of the scanty blood supply of the appendix, while the gall bladder is abundantly supplied with a network of blood vessels. For this reason gangrene is frequent in the appendix and rare in the gall bladder.

The acute forms of both diseases, fulminating appendicitis and phlegmonous cholecystitis, are marked by a rapid progression of symptoms and a fatal termination, unless operated on immediately after the onset of the inflammation. In both gall bladder and

appendicular disease adhesions are formed, which are capable of giving rise to most distressing symptoms if the patient recovers unaided from the acute attack. The adhesions due to gall bladder disease may cause gastric obstruction from pressure on the pylorus; while intestinal obstruction is not a rarity, by any means, in appendicular disease.

The hourglass bladder is paralleled in the strictured appendix, which is so very prone to a future grave attack from the imperfect drainage.

CHOLELITHIASIS.

This is the commonest and most important disease which affects the gall bladder. Kehr states that nearly ten per cent. of adults exhibit gall stones, though only about five per cent. of those so affected suffer any discomfort from them. The cause of the formation of gall stones may be summed up in two words, viz., defective drainage. In the normally working gall bladder the bile flows in and out, constantly draining away the cast off epithelium, mucus, and cholesterin crystals. If, from want of exercise, manner of dress, or deficient nitrogenous food, stagnation of bile is induced, or its cholesterin increased and precipitated, we have a factor in producing gall stones. Catarrhal cholecystitis is an undoubted cause, especially when infection takes place. The swelling of the mucous membrane at the orifice of the cystic duct causes the bile to stagnate and a desquamation of the epithelium with precipitation of bile products occurs. This débris may form the nidus for a stone, or a clump of the bacilli themselves may be the starting point around which the cholesterin deposits.

In investigating a case of cholelithiasis particular attention should be paid to the personal history. The patient is usually in the middle period of life, gall stones rarely occurring in those under thirty years of age. The disease is commonly found in several members of the same family. Of previous diseases, typhoid fever is said to play the most prominent part. Cushing states that about one fifth of the cases operated upon at the Johns Hopkins Hospital for cholelithiasis gave a history of having previously had enteric fever; which is quite in accord with the writer's experience.

We may hear of previous attacks of appendicitis, of symptoms suggestive of movable kidney, or of many bilious attacks associated with jaundice.

When gall stones are present in the gall bladder, without any or but little disease of the walls and a clear cystic duct, the symptoms are very slight. There is no jaundice and but little pain. There may be some tenderness to pressure over the gall bladder, but the condition, as a rule, causes no annoyance whatever. At many autopsies stones are found in the gall bladder, which have given the patient no

trouble at all during life. If any infection takes place in a gall bladder so situated, marked symptoms make their appearance. There is severe pain, colicky in nature, which, starting over the gall bladder or in the epigastrium, may radiate to the back and right shoulder, or may remain circumscribed under the right rectus at a point nearly midway from the ninth rib to the umbilicus.

The pain is less severe during the period of full digestion. With the attacks, vomiting and severe tenderness to pressure are noted. Jaundice is rarely present, the fever usually being slightly above normal. To palpation not only is there tenderness, but the gall bladder may be felt as a tense rounded mass moving with respiration. This attack may subside leaving behind it the results of a pericholecystitis with adhesions to the pylorus, intestine, or omentum. The symptoms now present themselves as derangements in the gastric functions, with pain from the intestinal adhesions; rarely, intestinal obstruction may develop from the latter. The discomfort is most marked on the straightening up. The gall bladder itself may contract from the healing ulcerations and become thickened and hourglass in shape, with a few stones surrounded by a slight exudate, slimy and purulent in character. If the cystic duct is obliterated the gall bladder shrinks up under the liver and diagnosis may be difficult.

If the acute inflammation is followed by the passage of the stone into the common duct there are intense vomiting, fever and chills, marked pain, and prostration with clay colored stools. If the stone passes into the duodenum the symptoms subside; if it remains in the common duct, jaundice, colic, and fever may be present intermittently.

In many instances of large stones remaining in the gall bladder both an infectious cholecystitis and cholangitis develop with severe symptoms, sometimes ending in perforation of the gall bladder with a general or localized peritonitis. In the latter instance a fistula may develop, through which the gall stones are discharged.

I have never found the x ray of any material use in the diagnosis of cholelithiasis.

The similarity which appendicitis bears to gall stone disease is marked. If drainage is interfered with, the formation of a foreign body is promoted from the accumulation of débris; a gall stone in one and a faecal concretion in the other, each exerting a determined influence on the walls of their respective organs. The progress of appendicitis is, however, more rapid. The calibre of the appendix is much smaller and the concretion is always laden with highly infectious bacteria, which exert a direct action on the wall of the appendix suffering from the pressure of the concretion.

SPECIFIC INFECTIONS.

Carcinoma of the gall bladder, when primary, is usually a result of gall stone irritation and is a rather rare condition. The diagnosis is difficult to make in the early stages, because, with the probable history of previous gall stone attacks, the resulting pericholecystitis with adherent and tangled omentum will give a resistance to palpation just as the beginning tumor will. There are digestive disturbances with gradual loss of weight or strength; jaundice is absent unless the portal lymphatics become enlarged and cause pressure. Later in the disease the well marked cachexia develops, and there is ascites from disturbances of the portal circulation. This, with the nodular tumor, makes the late diagnosis easy. When gall stone attacks are coincident with the malignant growth the jaundice is more intense and fever more pronounced.

When the gall bladder is infiltrated by a growth from neighboring organs, the condition is beyond surgical help and needs no description.

Tuberculosis and hydatid growths have been recorded, but they are quite rare. Attention is called to the fact that both primary carcinoma and tuberculosis have been detected in the appendix.

TREATMENT.

Catarrhal cholelithiasis is usually relieved by the use of rest, moist heat, and aperients. When the gall bladder becomes infected and an empyema results, with or without the presence of stones, surgical intervention is as necessary as it is in appendicular abscess.

Operation should be advised as soon as the diagnosis is made and for the same reason that is advanced in appendicular surgery. We cannot foretell the ending of the disease and wish to avoid the deadly perforation and risk of general purulent peritonitis. Furthermore, if suppurative cholangitis has not already occurred, operation is still more urgently demanded in order to drain the purulent gall bladder of its septic products.

Cholecystotomy is the operation of choice and should be performed as rapidly as possible. The gall bladder is exposed by an incision in the rectus muscle and well walled off from neighboring structures by gauze pads. It is then aspirated of its purulent contents and either packed with a strip of iodoform gauze, or grasped by a hæmostat so as temporarily to close the opening and prevent the dissemination of infecting material; a piece of iodoform gauze is then passed around the gall bladder, encircling it so that the ends drain at each angle of the wound. A few silk sutures fasten the gall bladder to the peritonæum and aponeurosis, the packing or hæmostat is removed, and a long piece of rubber drainage introduced into the gall bladder down as far as the cystic

duct. This drains into a receptacle at the side of the patient.

It is not advisable to break up any existing adhesions nor to make any search for stones beyond those dropping out on opening the gall bladder. This can be done later when the danger of infecting the ducts has disappeared. In one case of mine, the gall stones were all discharged into the dressing during convalescence. The gall bladder should be palpated as little as is consistent with good work and the common duct should not be probed for the presence of a stone.

Acute phlegmonous cholecystitis and gangrene of the gall bladder require immediate operation as soon as the diagnosis can be made. The former condition should be treated as an empyema, this is, opened and drained. If peritonitis ensues before a diagnosis is made, operation should be deferred until the acute symptoms have abated. Gangrene of the gall bladder requires cholecystectomy as urgently as a gangrenous appendix necessitates excision.

When numerous attacks of cholecystitis have been superimposed, one on another, with a pericholecystitis and marked adhesions to the stomach, intestine, or omentum, and where the gall bladder is shrunken, contorted, or atrophied, I must dissent from the opinion that an ectomy is the best operation.

If the gall bladder is free from the liver at all points but its normal attachment, its complete removal may be feasible, but in the class of cases I have mentioned this is rarely so. It is not only thoroughly adherent to the outer surface of the liver, but is covered with tangled omentum and intestine. Operation is thereby rendered difficult and must be accompanied by considerable hæmorrhage by oozing from liver and omentum. This is controlled by gauze drainage with the further formation of extensive adhesions, and the last state is no better than the first. So, as a rule, I am satisfied with breaking up the adhesions about the pylorus, duodenum, and colon, in order to minimize the dangers of obstruction. The raw surfaces are then covered with the animal membrane known as Cargile and the bowel dropped back, leaving the gall bladder *in situ* and closing up the abdomen in tier suture with silk. I encourage peristalsis immediately after operation by the free use of salts, using the stomach tube if nausea develops.

I have not found it practicable to dissect out the mucous membrane alone in these cases, the connective tissue binding all the coats together. Where this could be done a complete cholecystectomy also could be performed, covering the stump of the cystic duct with a portion of the peritonæum reflected from the lower surface of the gall bladder.

Hydrops of the gall bladder usually requires aspiration and cholecystectomy.

As this paper discusses the diseases of the gall

bladder alone, the treatment of cholelithiasis can be dismissed in a few words. In stating prophylactic measures one would call attention to proper diet and clothing, sufficient exercise and fresh air, and a restriction of the amount of alcohol used. This treatment is applicable to those whom we should suppose, from hereditary or personal habits, to be particularly susceptible to gall stone formation; but, when once gall stones have formed, no treatment yet discovered other than the aseptic scalpel of the surgeon will remove them or effect anything else than mere palliation. It is true that marked relief from pain may be obtained at Carlsbad. This is due solely to the regular methods of living and the warm baths with rest abating the cholecystitis present. When patients are said to have been cured by such a course of treatment, they have been of the infectious, non-calculous class.

Massage is a dangerous therapeutic agent in this disease, owing to the risk of causing ulceration. As I have just stated, a surgical operation is the only rational cure for gall stones.

The various operations and their indications are well known. I always place a sand pillow beneath the back to arch the spinal column and throw the liver forward. This gives a very fair view of the field of operation, which can be increased by having the assistant grasp the liver and pull it forward and outward.

The best incision is made through the rectus muscle from the ninth costal cartilage down. If necessary, it may curve upward toward the xiphoid. When the gall bladder is exposed and palpated, an idea can be obtained of the nature of the operation to be performed. Cystotomy, with removal of the stones and closure with fine silk Lembert sutures, may be done if one is absolutely sure there is but little infection present.

When suppuration exists a cholecystostomy is performed in the manner previously described, opening and draining the gall bladder.

Malignant disease of the gall bladder is practically inoperable. If primary, it is seldom detected until metastasis has taken place, and then a cholecystectomy with excision of a part of the liver would not save the patient. If secondary to advanced carcinoma of neighboring organs, the only operative treatment possible would be a cholecystoduodenostomy after obstruction of the common duct had occurred.

The Financial Value of the Human Body.—According to the *Old Dominion Journal* for October, the body of a man of average size is said to contain about sixty-one ounces of calcium, which at the present price of about \$300 an ounce, makes the value of this constituent alone amount to \$18,000.

EXPERIMENTAL GASTRITIS; EARLY PATHOLOGICAL CHANGES.*

By FENTON B. TURCK, M. D.,
CHICAGO.

Clinical and pathological observations of gastritis are usually unsatisfactory, because (1) cases of acute gastritis are not frequently found in the autopsy room; (2) post mortem changes are so early produced, due to autodigestion as well as autolysis of the mucosa; (3) even where the stomach is washed out immediately after death, and alcohol introduced into it, as suggested by Ewald, there may be ante mortem changes in the gastric mucosa, such as may occur by autodigestion or autolysis during the agonal period; (4) the finding of exfoliated pieces of mucous membrane in the wash water is of decided advantage, if we could determine positively the length of time the loosened or partly detached material had remained in the stomach, and usually the exfoliated pieces are found in chronic conditions and not in the acute stages. Excellent work on exfoliated pieces of mucous membrane has been accomplished by Hayem, Cohnheim, Boas, Einhorn, Hemmeyer, and others.

The earlier observations in the study of gastritis by Edinger, Virchow, Klebs, Ewald, Fenwick, and others, and the minute histological changes observed by Hayem, have added to our knowledge, especially those changes occurring in chronic gastritis.

Booker's researches in acute inflammation demonstrate, as Hemmeyer noted, important changes, such as destruction of the superficial epithelium and infiltration of the mucosa by leucocytes.

Various methods have been used in producing gastritis in animals. Ebstein used phosphorus and alcohol and Papoff used a number of other agents, but these observations were not made until twenty-four hours after the introduction of the irritant.

The writer, in his experiments on animals, has selected mustard for producing acute gastritis, because of the relatively mild and prolonged irritating properties of mustard and the peculiar toxic effect that causes a distinctive and a specific reaction. The writer has shown the effect of mustard emulsion upon the local circulation, of the gastric walls, and upon the entire splanchnic area. (Proc. of the Am. Gastro-ent. Assoc., 1900, *American Therapist*, November, 1900). These experiments here presented show the earlier histological changes of the walls of the stomach, as well as the more prolonged effects. *The specimens were taken from animals under anesthesia during life*, and put in fixing fluid before any other changes could occur.

In these experiments I selected dogs that were in

* Read by title before the American Gastro-enterological Association, Washington, D. C., 1902.

healthy condition and fully developed. No food was allowed the animals for twenty-four hours previous to the introduction of the mustard emulsion. At the end of that time the animal was placed in the trough, gagged, and its stomach washed out until the water ran clear. Time was allowed for the stomach to completely empty itself of any water that might remain, after which a bacteriological examination of the walls was made by the use of the bacteriological gyromele, which was enclosed in a rubber sheath or tube and exposed only at the cardiac and pyloric ends of the stomach, preventing contamination from other parts. This bacteriological examination was done for control, and comparison with subsequent cultures made later in the experiments. After this ten grammes of ground mustard, mixed in 100 c. c. of water, was injected through a stomach tube into the dog's empty stomach. The ground mustard used was a mixture of equal parts of *sinapis alba* and *sinapis nigra*, which produces two oils in warm water. The reaction does not take place in hot water. The *oleum sinapis volatile* of *sinapis nigra* is developed by the reaction upon each other of sinigrin (potassium myronate) and myrosin, in presence of the water, when placed in the warm stomach.

The *sinapis alba*, under like condition, produces the sulphocyanate of acinyl, which is developed by the action of myrosin upon sinalbin. This latter oil is not so volatile as the former, and the effects are not so evanescent. The combination of these two mustards, therefore, serves our purpose excellently for the investigations. Emulsions of the two oils of mustard were also used. Emulsions 1 to 500.

Anæsthesia with chloroform, ether, or chloretone was attempted, as well as with morphine and the local effects of cocaine in the stomach, and of spinal injections, but they were found to interfere somewhat with some of the pathological changes.

It was not found necessary, except in some instances, to use morphine, when severe symptoms developed.

Observations were made of the temperature and other symptoms that arose, and recorded, but, for want of space, it is thought best to omit them in this report.

After the mustard emulsion had remained in the dog's stomach the allotted time, the animal was placed under anæsthesia and the abdomen opened, and while the animal was living specimens were taken from the cardia, fundus, body, pylorus, duodenum, and gall ducts. These specimens were immediately dropped into a fixing fluid. I usually use two per cent. formalin; then ten per cent. formalin, from three to four days, according to the size of the specimen; then alcohol, 95 per cent., for twenty-four hours; absolute alcohol for twenty-four hours; aniline oil until clear; and xylol from three to four

hours. The specimen is mounted in paraffin and stained by various stains for cytological and interstitial study.

The following pathological reports are from specimens taken from the stomachs of six dogs after the introduction of mustard respectively after one, two, six, twenty-four, thirty-six, and forty-eight hours.

One Hour Specimen (Dog No. 1).—Pylorus: The mucosa is covered with a deposit of cylindrical epithelia, leucocytes, lymphocytes, and red blood corpuscles. The remaining surface epithelium appears distinct. The nuclei stain well. *Polymorphonuclear leucocytes* are occasionally seen here and there between the surface epithelial cells, passing evidently out on the surface. The glands appear distorted. The cells stain well.

The capillaries in the interglandular connective tissue between the glands, underneath the surface epithelium and near the muscularis mucosa, are all engorged and stand out injected. There is considerable leucocytic infiltration between the glands and tubules in the interglandular connective tissue. A collection of polynuclear leucocytes is seen, especially under the surface epithelium and between the glands and muscularis mucosa. The blood vessels in the submucosa are all distended and filled with blood, and in the capillaries and smaller veins there are collections of leucocytes within the lumen and on the walls. There is also hyperæmia in the muscular coats. (Fig. 1.)

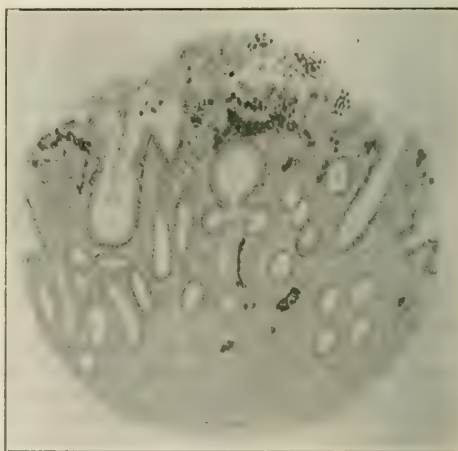


FIG. 1. One hour. Dog Pylorus. (Litz Obj. 4. Eye piece, 50) Hematox.

Two Hours' Specimen (Dog No. 2).—Fundus: The surface of the mucous membrane is covered with a thick layer of broken-down, desquamated cylindrical epithelial cells, leucocytes, a few red blood corpuscles, and granular detritus. The acid cells stain intensely with eosin and are very granular. Vacuolization of a few of the central cells. Hyperæmia of the mucosa. Numerous wandering cells in the gland ducts and interstitial connective tissue. Some proliferation of the interstitial tissue. Tubu-

lation in the lower strata of the mucosa is somewhat obscured. No eosinophiles. No true mast cells, but some cells in the ducts which appear to be *degenerated acid cells*. (Fig. 3.)

The blood vessels in the other coats, including the serous, are more or less distended and filled with blood and leucocytes, otherwise the coats appear normal.

Six Hours' Specimen (Dog No. 3).—(a) *Body*: There is a deposit on the surface of the mucosa. Oc-

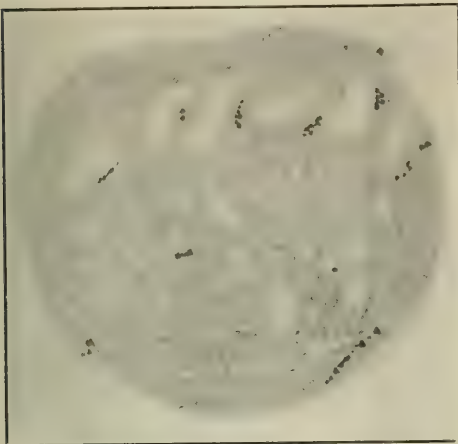


FIG. 2.—Two hour Stomach. (Fundus.) Hematoxy and eosin Leitz, obj. 5. Eye-piece, 5.

asionally there may be seen a few epithelial cells and leucocytes embedded in a homogeneous or granular mass. The surface epithelium appears normal; outline distinct. The nuclei, however, stain more or less intensely. In fact, the most important changes to be noted in these, as well as in the cells of the tubules, consist of an active proliferation.

Mitosis is seen everywhere. The nuclear figures stand out very distinctly, and the various stages can be very well made out. Some of the gland cells are more or less granular. (Fig. 4.) The interglandular capillaries are found dilated and filled with blood. There is a considerable infiltration of leucocytes and round cells in the interglandular connective tissue, especially at the upper portions of the mucosa, and especially beneath the surface lining. Many of the cells have penetrated the tubules or are lying in the walls.

The blood vessels in the submucosa are enormously distended and filled with blood and leucocytes. Similar dilated and engorged blood vessels are noted in the serous coats, and between the serous and muscular layers. Proliferation of nuclei of M. fibres of muscularis.

(b) *Cardiac Fundus*: Most extensive inflammatory changes are to be found in this portion of the stomach. In fact, all the classical changes of inflammation are to be seen here. The surface of the mucosa is covered with a more or less fibrillar, at times granular and homogeneous, membranelike structure, in which are found embedded many polymorphonuclear leucocytes, desquamated cylindrical and degen-

erated epithelial cells, red blood corpuscles, broken-down cells, and fragmented nuclei. This membranous mass has, in many respects, the general appearance of an exudate.

The surface cells (cylindrical epithelium) lining the mucous membrane are greatly disarranged, the line is largely broken up, while in many areas it has disappeared altogether, or it has been so disarranged that the cells appear in nests or collections. In these instances the cells have lost their cylindrical shape and appear round or oval. A large part of the so-called false membrane is made up of these desquamated cells, or they may be found loose or free on the surface. Here the surface covering is denuded of its epithelium. The cylindrical cells show various degrees of degeneration, from simple granular degeneration to complete necrosis. The protoplasm of these cells stain more or less intensely with eosin, according to the degree of degeneration, and their nuclei stain either poorly or not at all. They have all more or less lost their cylindrical outline, and are usually oval or irregular. In some areas, where destruction of these cells is the greatest, they have run together into a conglomerate reddish or pinkish mass.

At this area, where the destruction of focal necrosis is the greatest, there is an extensive hæmorrhagic infiltration. The infiltration with red blood corpuscles is seen largely at the neck and between the tubules and underneath the surface epithelium. As the infiltration increases, it pushes up the surface cells, and this causes the irregular bulging of the



FIG. 3.—Two hour. Dog. Hematoxy and eosin. (Fundus.) Leitz, one-twelfth. Eye-piece, 4.

lining at the same, also pushing apart the tubules, and in this manner disarranging them. At certain areas the entire surface and halfway down the mucosa consists of a hæmorrhagic infiltration in which may be seen islands of gland cells and surface epithelium, partially broken-down or necrotic, according to the degree of infiltration. (See Fig. 5.)

In among the blood corpuscles are many leuco-

cytes. There is considerable leucocytic infiltration all through the mucosa, in the glands, between the tubules, in the connective tissue, and between the surface cells, passing through them out on to the surface.

The cells lining the tubules and those of the glands also show changes. They are more or less disarranged, swollen, and granular, especially the parietal cells, which occasionally show evidences of proliferation.

There is a considerable infiltration of red blood corpuscles and leucocytes underneath the surface epithelium and between the tubules. (See Fig. 5.)

Leucocytes and lymphocytes seem to be more numerous in the lower portion of the mucosa, infiltrating between the glands, also within them. In many instances the glands have become dilated, the neck appears choked with degenerated gland cells, the epithelium lining them is flat, and the lumen is filled with numerous polymorphonuclear leucocytes and lymphocytes, forming cysts.

The changes noted in the glands, and especially in the tubules, is *active proliferation* of the cells. Mitotic figures are very numerous, and seen in various stages and rosettes, diaster, etc. (See Fig. 5.)

In some parts the tubular structure and gland outline are somewhat disarranged. The cells are somewhat granular, while some are vacuolated. There

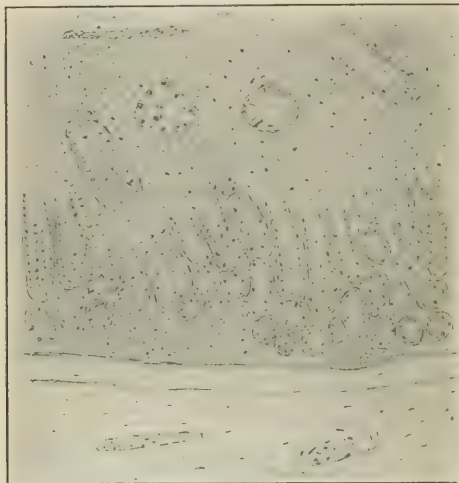


FIG. 4. Six hours. Acute gastritis (experimental). Cardiac Fundus. Hematox and eosin.

There is some proliferation of the connective tissue, which is seen by the increased number of spindle and oval-shaped nuclei.

The capillaries between the mucosa and muscularis mucosa are all distended, filled with blood and leucocytes; in some areas there are minute hemorrhages between these two layers, while in others it is quite extensive.

The changes in the submucosa consist in the greatly engorged and distended blood vessels, arteries, veins, and capillaries. The vessels are filled with blood, many polymorphonuclear leucocytes, and serum.

The smaller vessels and capillaries in the muscular coats are also distended and filled with blood and polymorphonuclear leucocytes. There is an infiltration of leucocytes in the intermuscular connective tissue. The muscle fibres appear somewhat cloudy. All the blood vessels in the serous coats and the lymph vessels are dilated and filled either with blood or with serum.

Twenty-four Hours' Specimen (Dog No. 4).—Cardiac Fundus: There is a slight deposit upon the surface of the mucosa, made up of leucocytes, epithelium, a few red blood corpuscles, granular detritus, and a few colonies of bacteria.

The surface epithelium lining the mucosa is comparatively well preserved, and there appears to be no change in the cells. Occasionally a few leucocytes are noted wandering between the cells.

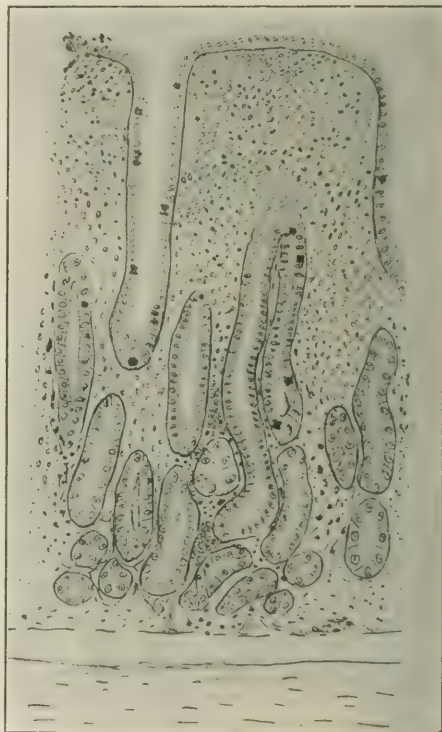


FIG. 5. Acute gastritis (experimental). Cardiac Fundus. Twenty-four hours' specimen.

is proliferation of the interglandular connective tissue. There is a moderate hemorrhagic and leucocytic infiltration between the glands and muscularis mucosa.

There is an infiltration of round cells and leucocytes in the submucosa; the capillaries, veins, and arteries are all engorged and contain many polymorphonuclear leucocytes, especially lining the inside of the vessel wall. Similar conditions are seen in the muscular and serous coats.

Thirty-six Hours' Specimen (Dog No. 5).—The pyloric end and the body of the stomach show more especially the evidence of focal necrosis. The fragmentation of the nucleus is of the gland cells, which refuse the stain, and small fibrillar masses mark the point of the partly destroyed glands, otherwise the changes appear similar to those in the preceding specimens. More colonies of cocci and small rods are seen in the coating or exudate upon the surface.

Forty-eight Hours' Specimen (Dog No. 6).—These specimens show similar changes to the preceding, but with more reparative changes, round cell proliferation surrounding focal areas, described in other specimens. There is an increase in the number of colonies of microorganisms developed on the surface of the mucosa.

The extension of the inflammation from the duodenum to the bile ducts is shown in focal areas. Desquamation at points. Vessels injected. Leucocytic infiltration well marked. (Reserved for a separate report.)

There are a few points that may be of interest to note in the progress of these series of experiments.

1. The early appearance of an exudate on the surface of the mucosa, composed of cells, granular debris and fibrillar masses, leucocytes and red cells, within one and two hours after the introduction of the mustard emulsion.

2. Later, the debris of cells become more ill defined, and form a more homogeneous mass.

3. The marked chemotactic effect of the mustard shown in the early specimens.

4. The surface epithelium not destroyed in proportion to the marked changes occurring deeper in the mucosa.

5. The early appearance of necrosed acid or parietal cells, which become granular and lose their nucleus. Some cells found free in the duct, which have the appearance of degenerated acid or parietal cells. (Fig. 3.)

6. Karyokinetic figures make their appearance within six hours, and are very active even deep in the body and fundus of the tubules.

7. Cyst of the glands in the twenty-four hours' specimen, with accumulation of leucocytes and degenerated epithelial cells.

8. It is important to note that the exudate that forms on the surface at first is not a good soil for the development of microorganisms, but as the exudate becomes changed in character and appearance, bacteria early develop in the coating on the surface. This the writer has previously called attention to, and the further experimental work on this point of the bacteriology of the stomach will be reported later.

9. The chemotactic and other effects of mustard, evidently due to its peculiar toxic properties, open up an interesting point of what antibodies may be found. This is now being investigated by giving animals small doses of mustard to observe the degree of immunity that is induced.

THE TREATMENT OF THE INSANE IN PRIVATE PRACTICE.*

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PROFESSOR OF NERVOUS AND MENTAL DISEASES IN THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA; NEUROLOGIST
TO THE PHILADELPHIA AND HOWARD HOSPITALS.

"Truth will prevail" is a true dictum. What constitutes truth is often the stumbling block in medicine, and the special vagueness of it all in mental disease is a mist that should be dissipated by the sunlight of science and common sense.

We need, it seems to me, more exact observations of insanity as seen clinically, as well as of pathological states; the latter are frequently the cause of the alienation, but in the smallest number of cases morbid changes are the resultant of a diseased mind—insidious, it is true, but existent, surely, no matter how difficult to see or test for the neuronc change. All will admit the dominance of mind over body and that it must affect the function and structure of human cells. We therefore need to emphasize also the need of exacting individualization as to the etiology of insanity, to find out what practically caused the loss of balance. Was it worry alone, or toxins, or specific disease; or was the physical state of the body just at such a low (vulnerable) ebb that mind was not sustained in coordination, and gave way first in the crash? Psychology, in other words, must be better understood by medical men if insanity as a study is to mount higher in the scale of the progress occurring in all lines in this dawning twentieth century. And through clinical psychiatry we must learn to know better the malignity of the mental affection, so to speak, and by close study of a single case we shall, once in a while, strike the key note of successful treatment of many. Meanwhile we must fight on with confident hope of a future for our control of mental disease as of other bodily affections.

We certainly need, it seems to me, better judgment as to those cases of insanity proper for asylum treatment, and those to be kept under private care and management, and more exact methods of treating cases of mental disease in private practice. It is axiomatic that asylum treatment is desirable for the majority of cases of mental disease of all sorts, and in almost every case of chronic insanity; but there are many instances, especially among "well to do" people, that would be treated better at home. The selection of these few chronic cases and the many acute cases for home or out-of-door therapeutics, together with the treatment of them, shall be the object of this contribution to practical psychiatry. Optimism, I must confess, is more and more the bur-

*Read before the Medical Society of the State of Pennsylvania, at Allentown, September 16, 1902.

den of my song as I face along with progress in general in nervous and mental disease.

There is running through almost all classes of insanity, it must be insisted, an individuality more or less marked after all; personal characteristics of body and mind persisting. It is the intuition, one might say—that higher scientific quick deduction which the alienist learns through years of dealing with well and sick minds—that permits him often to give early judgment in a case; for example as to the type of insanity that will ultimately dominate the case, etc. The scientific psychiatrist will, as we advance, more and more quickly and accurately learn which case, too, is likely to be homicidal or suicidal; the latter of which is one of the important aspects to have knowledge of, when the subject of keeping the patient out of asylum comes up for consideration—as it constantly does in every case I have to deal with in hospital, private, and consultation work.

The physician's responsibility is great indeed in mental disease. His full duty is clear, however—he should try to keep mentally sick people in normal surroundings. What are the cases that can best be so kept? In the first place, all cases of alienation in which hysteria enters as an element must be carefully selected as among those that should be kept out of asylum. For, if this substratum is cured, the patient does seem to come more quickly to see his mental defect in clearer perspective, and will, with the aid of the physician, be able to reason himself out of a mild subacute delusional state which the hysteria has intensely aggravated. So with that more vague hysterical insanity itself—such patients should almost never be placed in asylum among other diseased minds. They can be treated best in private under rest cure with the wise surveillance of an experienced nurse, sympathetically shown by example and instruction, to the overcoming of the lack of will that prevails; or they should even be forced to do what is known upon physical examination to be within the compass of their strength, thus to reinforce nerve energy the while the patient is being overfed and given passive exercise by that delightful energizing adjunct, massage and Swedish movements. In a paper¹ read before the College of Physicians of Philadelphia, last December, these views were gone over in detail and need not be repeated here. Suffice it to say that vacillation of symptoms, as in the general diagnosis of hysteria, is important for determination of the coexistence of a hysteria. If it is found, then, in my experience, the riddle is half solved, for the vast majority of such patients recover. Were they placed in an asylum the stigma on them would be greatly intensified and a permanent dementia would be very likely to remain. As a *dernier ressort*,

however, I would place such a patient in an asylum when the last effort had been spent, hoping that repugnance to incarceration would arouse a latent consciousness by the mere idea of confinement, vague as that suggestion is to us.

A type of insanity (a delusional, depressive type), in my judgment best treated in private or in a hospital for nervous disease, is that class of subacute cases in women at or near the climacteric, who have been overburdened by the cares of rearing a large family of children; who lose interest in household affairs; and who generally have excitable periods lasting a few days at a time, in which some member of the family is especially the subject of dislike, and is often threatened openly (these are the patients that usually do not kill anybody). Such cases of lack of balance under private care, away from the patient's children, with forced feeding, massage, and hyoscine in appropriate dosage for the excitable periods, are usually favorable in prognosis and curable in from two to four months if a good family history obtains. Such a one should surely recover, as in the case of hysterical insanity referred to me in A. B. and reported in the paper mentioned. This woman has since then fully recovered after a course of semi-rest treatment in which morale and forced feeding with the stomach tube, had a part, and when a faint mental gain had been shown by a partial willingness not to resist us, this was added to by restoring her to her home in Delaware, where she made a rapid recovery to the surprise of her people. We got the good will of this woman, finally, which paved the way to cure.

For want of more scientific classification the hybrid melancholia—hypochondriac cases, the termination of sexual neurasthenia in men, where the idea of self degradation has become fixed—can frequently be helped better at home by advising and insisting upon social reinstatement, through placing them in the good company of interested congenial friends, rather than in an asylum. Such a case was seen in Ohio the past summer; the man was advised to be removed from the Massillon Institution to his home; the change proved marvellously for the better within a few weeks. This man had been treated as an incurable by his physicians, who were the first to acknowledge the therapeutic advantage of the régime outlined. These cases, it is insisted, are not sufficiently studied. The sight of patients worse than themselves as frequently as not leads to the introspective idea that they are as hopelessly insane as the patients about them, and we do an injustice to mental medicine, as well as an injustice to the State, in permitting them to become cases of secondary dementia in an asylum. Asylum superintendents are not to blame so much for this state of overcrowding of their hospitals as we are in private practice upon

¹ Association of Hysteria with Insanity. *Journal of Nervous and Mental Diseases*, March, 1902.

whom the burden of blame through commitment must fall.

Hebephrenias, and especially the acute insanities of childhood, are generally also better treated in private or in psychopathic hospitals than in asylums. The impressionistic age of youth is much more influenced by other insane persons, and if they are to be at all restored in mind, by all means give a thorough trial to out-of-door treatment. Often, the removal of some imaginary foe, or of a too sympathetic relative from a home, or, if that is not feasible, the restraint in a general hospital, will be sufficient to effect a start toward mental equilibrium, though it may take months to attain it. Persistence, which the busy doctor does not take time for, will very frequently win success. Some of my own graver mistakes in prognosis have been among children.

In mania from overwork or of a religious nature, we can be hopeful of cure by ordinary methods of restraint at home, if the family are first pacified by lending them the confidence of hope, no matter how demonstrative the patient. It often occurs that the excited relatives are singularly enough the first to urge the physician to commit such a case, they themselves being in mortal terror of a case of insanity. In such instances the physician is on the two horns of a dilemma indeed.

The judicious use of wristlets and anklets to control the patient from harming himself or others, together with full bromism by mouth, or combined with chloral *per rectum*, and hydrotherapy if high temperature exists, will often surprise the family with the hopefulness of cure of their much ostracized patient.

CONCLUSIONS.

For all of us the lesson of acute insanities should be modified and re-taught, and the earliest possible treatment instituted; looking toward the cure of the acutely insane in private, long before there is any occasion to think of asylum treatment, valuable as that is in chronic insanity and for the homicidal maniacs and melancholics.

Acute insanities of hybrid types, *i. e.*, those that savor of two or more types, are the most hopeful in prognosis, and are therefore the ones to be kept out of asylums to the last moment. Especially where hysteria enters as an element in the case, the patient should be kept out of an asylum.

The physician's duty is to overcome the terror felt by lay folk for the insane, and to engender that hopefulness of treatment of such cases in private which is so common in general medical affections.

Professor Lorenz.—It is said that Professor Lorenz on leaving Chicago will journey to the Pacific Coast, and will hold a public clinic en route at Denver, Salt Lake City, and San Francisco.

THE RESULTS OF EXAMINATIONS OF THE BLOOD FOR THE WIDAL REACTION PERFORMED AT THE DIAGNOSIS LABORATORY OF THE HEALTH DEPARTMENT OF NEW YORK CITY DURING 1901.

By JOHN S. BILLINGS, JR., M. D.,
NEW YORK.

During 1901, 2,702 specimens of blood from patients suspected of having typhoid fever were examined at the Diagnosis Laboratory of the Health Department. The great majority of the specimens consisted of dried drops of blood upon glass slides. Although the department furnishes special outfits for the collection of serum, yet very few physicians take advantage of the opportunity. The reaction may be more distinct with pure serum than where the blood corpuscles are also present, yet the longer time necessary for the use of the cantharides plaster and the attendant irritation seem to be potent arguments in the eyes of physicians against the use of the serum outfits, and the results attained with the dried blood seem to be very satisfactory.

The department of health is conservative in making a diagnosis of typhoid fever from examination of the blood. There must be well marked clumping and death of the bacilli (evidenced by loss of motility) within ten minutes when the serum is diluted twenty-fold. Such a reaction is looked upon as positive evidence that typhoid infection exists or has existed very recently. All specimens are first examined with a low dilution—one to ten—and here the reaction should appear at once. Doubtful reactions are divided into two classes:

1. Negative with a dilution of one to twenty; positive with a dilution of one to ten.
2. Negative with a dilution of one to twenty; incomplete reaction with a dilution of one to ten.

Theoretically, reaction No. 1 would point more strongly to the existence of typhoid infection than reaction No. 2; but practically, as is shown later by consideration of the cases which were doubtful on the first examination and positive or negative on the second examination, the diagnostic values of the two classes of reaction appear to be about equal.

During 1902, the department has reported the results of blood examinations to the attending physician over the telephone, where it is possible to obtain his telephone call. In cases where the result is negative, the physician is asked whether he still wishes the department to consider the case as one of typhoid fever.

In considering the results obtained during 1901, reference is had only to specimens of blood from pa-

tients residing in the borough of Manhattan. In every case where the physician's diagnosis was typhoid fever and the laboratory findings were negative, a letter was written to the physician asking for information as to the outcome of the case, and a similar letter was sent in every case where the laboratory findings were doubtful. A special blank form was sent with each letter, for forwarding the desired information. Four hundred and forty-three such letters were written, and the desired information was received in 266 cases. The statistics here given are based upon these reports, together with the information given on the original specimen slip. One thousand nine hundred and eight specimens were examined. Of these, 304 showed a positive reaction, and 111 cases were considered by the attending physicians as being cases of typhoid, even though the results of blood examination were doubtful or false. In 131 instances, where the result of examination was doubtful, and in 1,362 where it was negative, the cases proved not to be typhoid fever. In 210 instances a second specimen was sent; in 74, a third. The greatest number from one case was nine.

Cases Showing a Positive Reaction.—The chief point of interest as regards the 304 cases which showed a positive reaction was the day on which the reaction appeared.

TABLE I.

Day of disease on which reaction appeared	1st to 3d.	4th.	5th.	6th.	7th.	8th to 10th.	11th to 14th.	Not stated.
No. of cases	3	5	15	13	48	65	51	11

From a consideration of Table I it will be seen that in 88 per cent. of the cases showing a positive reaction the blood was not taken until the end of the first week of the disease. It may be argued that the specimens could have been taken earlier in the disease and would have proved positive. Yet, as will be shown later, of those cases showing no reaction which proved clinically to be typhoid fever, in 63 per cent. the blood was taken previously to the seventh day. Further, in 47 cases in which the blood was negative on the first examination and positive on later examinations, in 81 per cent. the first examination was made prior to the seventh day of the disease. These facts go to show that a negative result during the first week has no great significance. Indeed, the reaction may not appear until very late. In one case the reaction did not appear until the sixth week, the blood being negative during the first, second, fourth, and fifth weeks. The reaction may be present for one or two days only. In one case eight negative examinations were made up to the fourteenth day; a positive reaction then appeared, but the blood was again negative on the sixteenth day and remained so.

In only a few instances did a doubtful reaction intervene between a negative result and a positive reaction. The latest period at which a reaction was found was thirteen weeks after the beginning of the illness. Every case showing a positive reaction proved clinically to be typhoid fever.

Cases Showing Doubtful Reaction.—In 164 cases the blood showed a doubtful reaction of one of the two classes previously described. Of these, 39 proved not to be cases of typhoid fever, 33 were typhoid, while in 92 no information could be obtained.

In the 39 negative cases the disease afterward proved to be:

Grippe	4
Cerebrospinal meningitis	4
Enterocolitis	5
Pneumonia	3
Gastroenteritis	3
Malaria	11
Tuberculosis (chronic miliary)	1
Autotoxæmia	2
Smallpox	1
Angidolitis	1
Abscess of the suprarenal capsule	1
Not stated	3

Of these 39 cases, 21 showed doubtful reaction No. 1, and 18 doubtful reaction No. 2.

The four cases of cerebrospinal meningitis were interesting; all showed a positive reaction with a dilution of one to ten. Two cases showed a rose rash, and all had enlargement of the spleen and typical typhoid stools.

In 33 cases where the result of examination was doubtful, the disease afterward proved to be typhoid.

The day of the disease on which the doubtful reaction appeared was as in Table II.

TABLE II.

Day of disease	1st to 3rd.	4th.	5th.	6th.	7th.	8th to 10th.	11th to 14th.	Over two weeks.	Not stated.
No. of cases	1	1	2	2	3	2	10	1	1

This shows that the doubtful reaction was not due to the specimen having been taken too early in the disease. In 19 cases the doubtful reaction was the result of a second examination, the first examination being either negative or doubtful. Of the 33 cases, 17 showed doubtful reaction No. 1, and 16, reaction No. 2.

In the Tables I and II no account is taken of the cases showing first a doubtful reaction, and later a positive reaction. Table III gives all cases showing a doubtful reaction in which two or more specimens were taken.

TABLE III.

1st examination negative; 2nd doubtful	19
1st examination negative; 2nd positive	18
1st examination negative; 2nd doubtful; 3rd positive	2
1st examination doubtful; 2nd positive	24
1st examination doubtful; 2nd negative	11

Cases Showing Doubtful or no Reaction, Afterward Proving to be Typhoid Fever.—These cases include not only the 33 instances of doubtful reaction previously mentioned, but also 78 cases which failed to show a reaction, but which afterward proved to be typhoid fever, 111 in all.

Table IV shows that in the 78 negative cases the blood was taken before the seventh day in 63 per cent.

TABLE IV.

Day of disease when blood was taken.	1st to 3d.	4th.	5th.	6th.	7th.	8th to 10th.	11th to 14th.	Over two weeks.	Not stated.
No. of cases	5	18	11	4	6	6	2	1	1

Yet too early examination was not at fault in all cases. A second examination also proved negative in 43 cases, and a third in 22 cases. In two cases the blood was examined respectively six and nine times, and was always negative. Yet, in each case, autopsy showed the correctness of the diagnosis of typhoid fever. In these 111 cases enlargement of the spleen was present in 73 (65 per cent.), skin eruption in 68 (61 per cent.), and a relapse in 8 (7 per cent.).

It has been stated that cases of typhoid fever in which relapses occur are apt to show a doubtful reaction during the original attack and a positive reaction during the relapse. Of the eight cases which relapsed, a doubtful reaction was present in but two.

The clinically true cases of typhoid, together with the cases which showed a positive reaction, amount to 415. Classified as to season, these cases occurred as follows:

Spring. 40	Summer. 53	Autumn. 160	Winter. 144	Not stated. 18
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The youngest patient was an infant aged six months. In two cases the patients were over sixty years of age, one being sixty-seven.

Ten patients had previously had typhoid fever; in one case it was asserted that the patient had had three previous attacks. Of the ten patients, one had had the disease within one year, two within five years, and seven more than five years previously. In 104 cases there was a probability that the disease had been acquired outside of the borough of Manhattan.

General Remarks.—It is interesting to note what varied and diverse conditions may so simulate typhoid fever as to lead the attending physician to have the blood examined for the presence of the Widal reaction. Among them may be mentioned ulcer of the intestine, tumor in the right lumbar region, cirrhosis of the liver, acute hepatitis, and abscess of the suprarenal capsule. Only one instance of the association of typhoid fever and malaria was noted, both the parasite and the Widal reaction being found.

Paratyphoid Reaction.—Several observers have noted that certain cases, apparently typhoid fever, the blood from which failed to show the Widal reaction, were not due to infection with the bacillus typhosus, but were due to other typhoidlike (hence "paratyphoid") organisms. Such cases are clinically indistinguishable from typhoid fever, but their blood serum gives a reaction only with its own paratyphoid organism, and not with the true typhoid bacillus. It seemed possible that the number of varieties of paratyphoid bacilli might be limited; if so, testing of the blood from cases of typhoid fever which failed to show the Widal reaction with cultures of such organisms would prove of value in diagnosis. Accordingly, cultures of six such varieties of paratyphoid bacilli were collected from various sources, among them those isolated by Gwynn, Cushing, Coleman and Buxton, and Smith. Whenever the examination of a specimen from a case diagnosticated as typhoid proved to be negative with regard to the Widal reaction, inquiry was made of the attending physician as to whether he still considered the case one of typhoid fever; if so, he was informed that the department would be glad to make the paratyphoid test. Thirteen such specimens were examined, each one being tested with the foregoing different strains of paratyphoid bacilli. The results may be summed up in a word; they were uniformly negative; so that it seems likely that the blood from cases of paratyphoid infection react only with their own particular organism.

THE PREVENTION OF SMALLPOX.

By M. L. HUGHES, M. D.,
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The highest aim of the medical profession to-day is preventive medicine. It has been applied to disease from the most remote times, but has only in very late years approached perfection. The medical world not being content to cure disease, has gone a pace further, and in both medicine and surgery has sought after prevention of almost all diseases. The fruits of years of hard work have resulted in marked progress toward this end, and the highest praise the world can give is none too much for the physician who endeavors to prevent the spread and ravages of disease. Prevention seeks the highest plane of thought, it embodies all that is good and noble, it shows the layman how great an interest is manifested for his good, how unselfish is the work, how the physician battles with and apparently defeats his own object, even to eradicate that which, left unrestricted and unmolested, would mean to him a fortune, but to humanity increasing distress and devastation.

When we reflect and realize how large the mortality from tuberculosis, from smallpox, from diph-

theria, yellow fever, cholera, bubonic plague and typhoid fever, suppurative and septic disease, then we see fully the vastness of the opportunity in prevention. It is in one of this number, especially, that prevention has reached its acme. Nothing illustrates the value of prevention better than the recent mortality statistics from the island of Puerto Rico, where smallpox has until recently been the greatest foe of the people.

Health boards have been organized, volumes have been written, and almost all governments have enlisted in the work, to advance the thought along this line, to educate the people, and to scatter the knowledge broadcast. One would think that the world would grasp at such knowledge as if from thirst and hunger for its need; but it has been exceedingly tedious for the public mind to realize the importance of such investigation, so potent for its own welfare, and to carry it into the millions of homes where its influence should reign. Thousands of scientific workers have spent their lives for this one great study and purpose; fortunes have been spent, experiments and researches have been exhaustive, demonstration and proofs have followed, and the nearest possible perfection has crowned these continued efforts. But why this knowledge of prevention of disease, after all this work of ages and of masters, should ever even once meet with rebuff, none can intelligently tell; why facts so absolutely pure, proved over and over again, through so many decades, at home and abroad, should once be lost. Is it possible an intelligent person should ever question it? And yet many who are generally considered broad, liberal thinkers become blinded to the blessings which, after so much labor, have been given them, and have no greater reasons than ignorance and prejudice.

My preceding thoughts are directed chiefly to smallpox, for in this disease we have as near an absolute prevention as can exist.

Preventive medicine sometimes assumes a very ludicrous aspect, for, even in this enlightened age, it is not an uncommon occurrence to find a buckeye in the pocket or a bag of asafetida about the neck; or even some among physicians who profess to prevent smallpox by the administration of creosote or numerous small pills of pleasant taste and harmless proportions. But we rejoice to know that we have one preventive measure so certain and so potent, and yet in its effects so harmless, that even at its mention we revert to its discoverer as the greatest benefactor of modern times.

For the prevention and eradication of smallpox, systematic vaccination (compulsory if need be) so overshadows in importance all other means and measures as to make it the prophylactic *par excellence* against this pest.

The isolation of the patient, the disinfection of his

room, the cleansing of the body by antiseptic baths and ointments used during the dangerous desquamative stage should not be ignored; but they are as nought in efficiency compared with successful vaccination of all those with whom the smallpox patient or convalescent is likely to be in association.

It is well known that the art of vaccination was discovered in a very indifferent way, when it was noticed that milkmaids, for reasons long unknown, were immune to the scourge of mediæval times—smallpox. The immunity acquired was due to inoculation by cowpox accidentally obtained from the teats of the cow. The knowledge of this immunity was given to the world—that was sufficient—but how the protection was obtained was left for more modern investigators to determine. In the familiar example that a single, non-fatal attack of smallpox generally confers a life-long immunity from subsequent attacks of the same malady, we have the starting point for all that has been done in the important field of preventive inoculation.

Kitasato and his associates, working along lines of tetanus and diphtheria, have given us accurate conclusions which show us not only that the introduction of bacteria into the blood of animals renders the animal immune, but that the serum from the blood of these animals acquires an antitoxic nature, which, when injected into individuals, will immunize them against the original disease.

Reasoning by analogy, we are led to believe that cowpox originated by the cow first being infected with the contagion of variola, and now we obtain the toxins in a very much modified and attenuated form—the lymph from the vaccine vesicle—which, when inoculated into the circulating fluids of man, immunizes him against variola.

Abbott fittingly tells us that immunity is acquired in three different ways, namely: By the activities of living bacteria in the tissues; by the introduction into the body of the poisonous products of germ life; and by the injection into the blood of the serum of the blood from an animal which has already been immunized.

As an example of the first means, we have recently been given the experiments in Cuba by the United States Commission there for the purpose of studying yellow fever, in the course of which Dr. Lazarretto sacrificed his valuable life.

As examples of the second method, the toxins of Kitasato's tetanic bacillus have been used to immunize against tetanus; and sterilized cultures of Asiatic cholera have recently come into notice, and may eventually accomplish for man the protection they afford to guinea pigs and some other animals.

For the third form, we have the familiar antidi-phtheritic serum.

Vaccination immunizes in the first way, but in a

somewhat modified manner, in that the living vaccines have become attenuated by being passed through the cow; these organisms must have been the original protozoa of Pfeiffer. Funck has recently conclusively shown that the protozoa, as found in the pustules of smallpox, are identical with those in vaccine pustules, which are generally conceded to be the cause of vaccinia. The only difference is in their virulence.

While one attack of smallpox generally gives a life protection from a second attack of the same malady, yet this rule is not absolute. In an epidemic of forty-eight cases, in Clarksville, in 1900, recurrence occurred in one case, in which case numerous pits were present as the result of an attack of variola which occurred in 1861. In this case, immunity acquired was either not complete or was subsequently lost, and for this reason individuals who have had smallpox are sometimes susceptible to vaccination.

I believe that many cases of smallpox that we have seen in the past few years are susceptible to vaccination because the contagium has been mild. The opportunity to prove this absolutely has not been great, because of the natural resistance to vaccination after an attack of smallpox. As a rule, the protective power of vaccination does not last throughout life, but must be repeated at intervals, according to the potency of the vaccine virus and the susceptibility of the individual.

Reasoning a step further along this line, we are led to believe that those cases of successful vaccinations in which the too refined glycerinized virus has been employed, are not fully immune to variola, as we have repeatedly seen them yield to the inoculation by dry virus, because in the latter product there is no extreme method employed which might lessen the protective power. I refer to its prolonged subjection to the influence of glycerin, which often surely attenuates the virulence of vaccine virus to such an extent that even its local reaction becomes entirely different from the ordinary phenomena attendant on vaccination, and the value of its constitutional changes is about as problematical.

I believe that absolute protection from variola can be given by a complete and perfect inoculation by vaccine virus. I am sure the fluids of the body can be so charged by repeated vaccinations that the antitoxic value of the blood will be as great as that induced by the poison of variola itself, though of not such long life.

A successful inoculation, I mean the communication of vaccinia, can only be accomplished by a reliable virus. In vaccine lymph, as ordinarily obtained, we already have the attenuated smallpox toxine; but why should we go further and by greater attenuation secure an inferior article which does not secure such full protection against variola? I refer to the refined

and elegant glycerinized lymph preparations which have flooded the market but have failed to give complete satisfaction. I have seen an epidemic of malignant smallpox, the cases numbering about sixty-five, where almost all infected (I cannot now give the exact figures) had been successfully vaccinated by glycerinized lymph a year previously. The physician in charge said to me "I am about to lose faith in vaccination as protective against smallpox." The art of vaccination has suffered more abuse and criticism than almost any other measure at our command for the prevention of disease; but the efforts to enhance its virtues and render it a safer agent and a more reliable antitoxine by glycerinization (I refer to the full ripe product) will eventually prove its worst enemy and will militate strongly against its use.

A most unfortunate condition is often met with when a vaccination or several vaccinations have been partly complete or wholly unsuccessful. Under such circumstances there is a dangerous feeling of fancied security and the patient will very often resist any further attempts at and persuasion to repeated vaccinations; should such an individual contract smallpox, vaccination would surely suffer as a consequence of his non-belief.

It is the aggregate of such abuse and misguided information which has increased the number of antivaccinationists in the past few years. It is a very common occurrence to see a shallow thinker bitterly opposed to vaccination, hold up to public criticism some individual who has been vaccinated and who has subsequently had smallpox, not even considering the real facts in the case as to the character of virus used, time of exposure, and time of inoculation, whether successful, early or late, etc. It is indeed painful to see how the public will often feast off of such incomplete statements.

I am opposed to vaccinating an individual after an unreasonable time has elapsed since an exposure to smallpox. It is without question our duty to do it, hoping for an unusual disparity of time in the incubation of the vaccine virus and variola poison, but the inoculation often fails to protect against or to modify the disease, and vaccination suffers an injustice. I believe that we should do every thing possible to sustain vaccination, it has suffered so often for the mistakes of men, but whenever it has been tested fairly it has always been successful and has shown its life saving power.

But of all reasons for the spread of smallpox of late years, the most important has been the mildness of the type. Those who generally contract it belong to a class who are so ignorant that they will not believe the disease to be smallpox for no other reason than that it has a small mortality. Such people have a total disregard for other people's ideas, and will

often go from place to place; and before it has been found out, large numbers of cases have developed and some have recovered. Such conditions multiply the complications in handling an epidemic. But the most deplorable of all things connected with the recent epidemics of smallpox is to see some few regular practitioners deny the fact that the disease is smallpox.

Some have made an erroneous diagnosis in the beginning and later refuse to change their opinions; others want to discover a new disease; and yet others believe that, because of its mildness and anomalous type and because vaccination was sometimes successful after the attack, there was sufficient proof that the disease was not smallpox. But as we have a therapeutic test for malaria, so we have a prophylactic test for smallpox, both benign and malign, and whenever a doubtful case presents itself and a question arises as to whether it is variola or varicella, the evidence of a recent and apparently successful vaccination is a strong point in the diagnosis in favor of varicella.

Of all diseases with which we are acquainted, an outbreak of smallpox is to my mind the most inexcusable. Communities and municipal authorities have a perfect right to a grievance against any individual who endangers their commercial interest by importing smallpox, or even by remaining in the class of the unvaccinated, and especially in times of epidemic; and we should see to it that these dangers are but transitory.

I do not believe we attach sufficient importance to revaccination. If the profession would impress upon the minds of people that repeated vaccination is almost, and sometimes altogether, as important as the original vaccination, we should be better fortified to stamp out smallpox. I have seen individuals who have many years previously been successfully vaccinated, and have later contracted smallpox, which would cause the most poignant contempt for vaccination. Had these individuals been revaccinated, not only would they have been protected, but their faith in vaccination would have been increased, and instead of a life long criticism against vaccination a widespread and good influence would have resulted.

Revaccination is especially important to every one in times of epidemic. It is the first measure at our hands to prevent the spread of smallpox when a single case is found to which there have been exposures. At such times there are so few who should not be vaccinated or revaccinated, that it is well to adopt the rule advocated by the U. S. Marine Hospital Bureau:

There are but two classes of people who should not be vaccinated, namely, those who are dead, and those who have had smallpox, and—whenever in doubt, vaccinate.

The avenue of entrance into the body for the poison of smallpox is not known, but it is most probably through the respiratory tract, the poison being inhaled and then taken into the general circulation.

While we know that vaccination is the only reliable preventive measure after exposure to the contagium, still experience goes to show that one may be exposed for a short time and fail to inhale the poison, but may later acquire an infection from his own clothing. The knowledge of this fact has led us to take other measures in addition to vaccination to save the exposed. An immediate change of clothing and a bichloride bath of a strength 1 to 5,000, will accomplish all that is possible.

The first thing to be considered for a case of smallpox is complete isolation. Nothing can compare with the hospital for this purpose, though it is possible by the greatest care to isolate in a residence, or even in a part of a house. However, it is a very dangerous practice, because it is almost impossible to avoid accidents, and it is difficult to impress upon the attendants the importance of carrying out in detail instructions which, if neglected, soon multiply the foci of the disease.

After the removal of the patient due attention must be given to the infected house. It is well to remove the patient's bedding with him, if possible, for it is often difficult to disinfect it, and, moreover, when he is isolated, he cannot complain of the bedding furnished to him. Whatever cannot be boiled or is not permeable to smoke or cannot be exposed to antiseptic solutions, should be burned. I always feel safest whenever I can see doubtful articles go up in smoke. On several occasions I have found it necessary to burn the entire contents of a room after fumigation. Next to burning I prefer boiling to all other germicidal agents.

For general fumigation I do not believe that there is a better disinfectant than sulphur dioxide, when used in sufficient quantity and in the right way. It accomplishes its greatest good when the largest volume of gas is generated at one time. In my efforts in a certain instance to burn at the same time several pots of sulphur, the fumes began to pour out of the house so rapidly that the family became alarmed and summoned the fire department. It has been my custom to use about six or seven pounds of sulphur to the average sized room. It is needless to say that the fumes should be confined as much as possible and for twenty-four hours. All floors should be scrubbed with a strong solution of mercury bichloride; all wood work, including the furniture, should be wiped down with the same solution.

Whenever a room can be found which can be made sufficiently close, formaldehyde gas, generated by boiling a 40-per-cent. solution, has always proved effective. But unless the room can be made close,

formaldehyde gas, owing to its very volatile nature, is inferior to sulphur dioxide. In doubtful cases I have used both methods successively. The generation of formaldehyde gas is a tedious procedure and one not free from danger, though it is conceded to be the most reliable under favorable circumstances.

After thorough disinfection of the premises the house is made a detention hospital for a period of fourteen days. However, if a vaccination is done immediately after exposure to smallpox and the vaccination shows evidence of a "take" in four or five days, I readily give the suspect his freedom, taking the necessary precautions for his change of clothes and disinfectant bath.

The question of quarantine is a most important one. Negroes will, in the face of all danger, flock to houses where smallpox is thought to exist, to satisfy a morbid curiosity, and when they are sought after for detention they are like so many escaped jail birds. It is most important that all these be returned to the infected house, so that new foci are avoided. It is not always necessary to have guards for infected houses, but each family should be dealt with according to its own merits. After fourteen days of detention, it is generally safe to raise quarantine, though I keep an observation on suspects for a few days longer. I have seen one case show its first symptoms after eighteen days from exposure to a smallpox eruption. This was the case referred to as previously having had variola.

When the patient becomes convalescent, and his preparation for his return begins, I think it a good plan to cut the hair close, especially among negroes, because the scalp does not become so tender and the after disinfection is more thorough. The free use of carbolic soap affords one of the best means and removes the scales which we know to be such an easy matter to overlook, and such a frightful source of additional trouble. Carbolic soap baths in the morning and a bichloride bath, 1 to 1,000, in the evening, has been my routine for the home preparation. Such means not only disinfects, but also removes the discoloration resulting from the eruption, very much to the patient's satisfaction.

All garments worn from the hospital are best prepared by a two hours' boiling in a 1 to 1,000 bichloride solution. Shoes should be soaked in a strong solution of carbolic acid.

Nothing short of stripping the body before dismissal from the hospital, to review every square inch of skin, and to see and know that all scales have disappeared, will give complete security against further infection.

I think the foregoing statements show in a brief way that it requires the exercise of every available measure to prevent smallpox, and successfully to

stamp it out when it exists. All measures must be taken promptly and simultaneously, for it is in the very beginning of epidemics that most good is to be accomplished. Vaccination is already a century past the experimental stage and it is the duty of the profession always to uphold its virtues. Hygienic measures are indeed most valuable adjuncts in the prevention of smallpox, but the simple operation of vaccination is so incomparably superior to all other measures combined, that its value should never be overlooked.

Universal peace comes nearer to us day by day because of the increasing strength of the nations, and universal freedom from smallpox is just as possible if we will but fortify against the disease, and increase and perfect the immunity of the world by vaccination and revaccination.

Correspondence.

LETTER FROM CHICAGO.

Professor Lorenz's Operation for Congenital Dislocation of the Femur.

CHICAGO, October 15, 1902.

Complying with the *New York Medical Journal's* request of October 11, 1902, I herewith submit a report of the case of Lolita Armour. Mr. J. Ogden Armour, recognizing that a case that has received so much attention from the newspapers as has recently been bestowed upon this case must be of interest to medical men, kindly permits me to make this, the first authentic report that has been made of the case.

The diagnosis of congenital dislocation of both hips was first made by me, in consultation with Dr. Frank Billings, on September 30, 1900. At that time the child was about four years and two months old. She was a fine, large child for her age, but had walked only during the previous six months. The walk was the characteristic waddling gait of those having bilateral congenital dislocation of the hips. She walked as well as persons with this deformity ever do, and suffered no pain and little fatigue. There was a moderate degree of lordosis, prominence of the hips, and flexion of the thighs. The upward displacement of the greater trochanters was about $1\frac{1}{4}$ inch (this was later demonstrated by the x ray picture). There was some restriction to abduction and outward rotation at the hip joints. The femoral heads could be felt under the gluteal muscles, and could be pulled downward and pushed upward to some extent.

On October 4, 1900, the first x ray picture was made. It is submitted herewith. On December 30, 1900, the operation for bloodless reduction by the

Lorenz method was done by me on both hips. I was assisted by Dr. Wallace Blanchard and Dr. John L. Porter. There were present Dr. Frank Billings, Dr. L. L. McArthur, and Dr. Frank Cary. The replacement presented no serious difficulty, and the characteristic click as the femoral head passed over the cotyloid ring could be distinctly heard by all in the room. The click was heard more distinctly at the left hip than at the right, and this hip was thrown out and replaced several times to demonstrate the fact. The patient was then encased in plaster of Paris from below the knees to the lower border of

On March 12, 1901, the plaster splint was again changed and the abduction reduced by about half.

On May 3, 1901, the plaster splint was removed and the right hip was found to have slipped and to have passed upward to nearly its original position. Further treatment of this, the right, hip was abandoned for the time; the abduction of the left hip was reduced as far as possible, nearly to the normal, and it was again encased in plaster from just above the knee to the free border of the ribs. The patient now began to walk about. The plaster splint was again changed on June 2d and July 1st, and on August 21,



X ray picture (posterior view) in the case of Lolita Armon.

the sternum, the legs being flexed at the knees and the thighs placed in extreme right-angled abduction, the knees being carried as far backward as the transverse plane of the body. X ray pictures made at this time, both before and after the application of the plaster splints, demonstrated the replacement.

On February 10, 1901, the patient was again anesthetized, the plaster splint changed, and the extreme abduction reduced about one fourth. An x ray picture made at this time showed the left hip in better, closer, relation to the acetabulum than the right.

1901, was finally removed. At this time the left limb was $1\frac{1}{4}$ inch longer than the right; motion of the joint was restricted in all directions to a considerable extent; the head of the left femur could not be felt, and an x ray picture showed it in close relation to the acetabulum. From this on passive motion was made at the left hip every other day. In October the head of the left femur could be felt anteriorly. This became more and more in evidence, and by December it was evident beyond question that the femoral head had passed into anterior transposition beneath the

anterior superior spine of the ilium. There it has since remained, and the range of motion of the joint has gradually increased. There has been no return of shortening on this side, the patient walking about constantly up to the recent operation on the right hip by Professor Lorenz.

On October 12, 1902, Professor Dr. Adolf Lorenz, of the University of Vienna, assisted by Dr. Frederick Mueller, of Vienna, and Dr. D. D. Ashley, of New York, Dr. Frank Billings, and myself being present, operated on the right hip. When the patient had been fully anesthetized, Dr. Lorenz seized the right thigh near the knee, flexed the thigh strongly on the abdomen, and pressed firmly downward, stretching the soft parts at the back and below the joint. He then, with the leg flexed to a right angle, strongly abducted it, sawing against the upper part of the abductor muscles of the thigh with the ulnar border of the hand until the fossæ which appear above and below the upper insertion of the abductor muscles when they are put on the stretch had disappeared and the thigh could be abducted to the plane of the table upon which the patient lay. During this stretching process the pelvis was firmly held by the assistants. A sheet was then passed between the child's legs and its ends were fastened to the head of the table to make a fixed point against which to pull. Both assistants now seized the limb and pulled downward with a heave-ho motion while Professor Lorenz pushed downward against the greater trochanter. When the head had been pulled down to, or below, the acetabulum, the thigh was again flexed, a wedge-shaped block placed beneath the greater trochanteric region for a fulcrum to pry over, and the thigh again strongly abducted, even beyond the transverse plane of the body. In this way all the soft parts binding the femur to the pelvis were stretched and torn subcutaneously until the head could be freely moved about in all directions. Then Professor Lorenz seized the thigh just above the knee and, abducting, flexing, rotating, and adducting, lifted the femoral head into the acetabulum. The click of replacement could be readily heard, and the jump seen and felt as the head passed over the cotyloid ring. Then with the head in place the thigh was carried into extreme lateral abduction, and in this position the hamstring muscles were stretched by straightening the knee many times.

The child was then clothed in smoothly fitting stockinette from the ankle to the ribs, raised above the table on a pelvic rest with a low stool under the head and shoulders, and the fixation dressing applied. The leg was flexed on the knee, and the thigh on the body to a right angle and abducted to the transverse plane of the body. From below the knee to above the waist the patient was wrapped in many layers of sheet wadding to the thickness of an inch, and this

bound smoothly down by an ordinary unbleached muslin bandage; over this the plaster of Paris was applied. Plaster bandages four and five inches wide were used, being carried around the flexed knee of the replaced limb and the pelvis of the opposite side in a way to tend to press the femoral head more deeply into the acetabulum. Then these were bound down by bandages carried around the limb. These bandages were repeated again and again until the plaster splint was an inch or more in thickness. When the plaster had set, the splint was trimmed off just above the knee, above the thigh of the right side, and around the genitals and anal region, and from the top it was trimmed down so that the bridge of plaster passing around the side of the pelvis on the right side was scarcely more than three inches in width. The cut edges of the plaster splint were then rounded and smoothed, the padding was cut away, and the stockinette was drawn over the outer surface of the splint and sewed. This splint will remain on until the child goes to Vienna, in May, 1903. When it is removed, there will be a course of massage and active exercises given to restore muscular strength.

The left hip was carefully examined by Professor Lorenz, who pronounced the result satisfactory, and he therefore declined to attempt any betterment of the condition there existent.

What the ultimate result of Professor Lorenz's operation will be cannot be told until the plaster splint has been removed and the limb has had free use for at least six months, but we may reasonably expect that the result will be good. By a good result is meant either a real replacement or an anterior transposition of the femoral head which corrects the shortening, flexion deformity, and lordosis and gives a secure resting place for a false joint.

Professor Lorenz receives a fee of thirty thousand dollars. This includes the services of his two assistants and also the after-treatment here and in Vienna when the plaster splint is removed.

JOHN RIDLON, M. D.

The Virtues of Alcohol.—Dr. W. E. Clemm (*Medizinische Woche*, July 7th and 14th; *Treatment*, September) warmly defends the moderate use of alcohol. Its power of increasing appetite for food cannot be denied. The author believes that by the consumption of the substance in the tissues, alexins are formed, by which deadly poisons may have their activity annulled. Its value in snake-bite is insisted on, being an instance, according to the author of its power of annulling the influence of poisonous proteid matters. A similar action is exerted by it in many fevers, and Mircote has pointed out that those accustomed to the use of alcohol offer a greater resistance to the inroads of phthisis than abstainers. It is needless to say these remarks apply only to its *use*.

Therapeutical Notes.

The Treatment of Phthisis.—Dr. Jesse Shoup (*American Medicine*, October 4th) has lately given the following prescription:

℞ Arsenous acid..... 0.65 grammes (10 grains);
Potassium carbonate.. 1.12 grammes (17 grains);
Cinnamic acid..... 1.94 grammes (30 grains);
Boil with distilled water to make.....
23.38 grammes (6 drachms);

Add

Aqueous extract of opium.....
1.94 grammes (30 grains);
Brandy..... 14.17 grammes (3½ drachms);
Distilled water..... 56.70 grammes (14½ drachms).

M.

Begin with three drops after lunch and dinner, and gradually increase to twenty drops.

In incipient cases and in chronic cases, without the mixed infection, patients seem to improve rapidly with disappearance of night sweats, lowering of temperature, and gain in body weight. In all acute cases and cases with mixed infection, and when there was great debility, this treatment had to be abandoned, as it seemed to hasten the course of the disease.

For Gastralgia in Children.—*Progrès médical* for September 20th ascribes the following to Comby:

℞ Tincture of belladonna... }
Tincture of calumba..... }equal parts.
Tincture of arnica..... }
Paregoric..... }

M. From five to ten drops in a little sugar water.

For Infantile Bronchitis.—*Progrès médical* for September 13th ascribes the following to Debove and Gourin:

℞ Syrup of lactucarium..... 20 parts;
Syrup of adiantum..... of each 50 parts;
Syrup of poppy.....
M. From four to six teaspoonfuls daily.

Or this:

℞ Syrup of lactucarium..... 40 parts;
Syrup of belladonna..... of each 15 parts;
Syrup of orange flowers.....)
Syrup of tolu..... 70 parts.
M. From four to six teaspoonfuls daily.

The Treatment of Boils.—Desfosses (*Presse médicale*, July 9th) recommends as abortive treatment, when the case is seen early, painting with tincture of iodine. [This treatment has been successfully used in chilblains.] If pus is present it must first be evacuated. Failing success, the surrounding skin should be protected and the boil subjected for two hours daily to a two-per-cent. carbolic spray, or gauze soaked in a warm sublimate solution, 1 in 2,000, may be applied and covered with gutta percha tissue, changing them five or six times in twenty-four hours. Crucial incision must be used for large boils, and on the face it should be practised early. General treatment includes naphthol, sulphur, bis-muth salicylate; or a teaspoonful of yeast in a glass of mineral water three times a day before meals. This treatment may, however, derange digestion.

The Treatment of Erysipelas.—Tregubois (*Deutsche medicinische Wochenschrift*, July 3rd) describes the following method as a domestic remedy in Bulgaria for erysipelas. A piece of cotton soaked in alcohol is taken up in a forceps and ignited, and the flame brought about a quarter of an inch from the surface of the erysipelatous skin and held there till the patient complains of pain. Another part is then attacked in like manner. By this means a burn of the first degree is produced. The process is repeated [we presume over small separate areas] twice or three times a day, and a cure is said to be effected in about two days. [In superficial erysipelas it seems likely that such a mode of "sterilization by heat," if cautiously exercised, might prove effective.]

Methyl Salicylate in Parotiditis.—The *Journal médical de Bruxelles* for September 25th cites from the *Journal de Médecine interne* the statement of certain authors whose name is not given to the effect that excellent results have been obtained in parotiditis from the use of local applications three or four times daily by means of a pledget of cotton, of methyl salicylate. The inflammation is said to be subdued in three or four days.

Menthol Vinegar.—*Province médicale* for September 20th cites the following from the *Policlinique de Lille*:

℞ Pure menthol..... 5 grammes (75 grains);
Crystallizable acetic acid 8 grammes (120 grains);
Alcohol..... 100 grammes (3½ ounces).
Dissolve the menthol in the alcohol and add the acetic acid.

This preparation is useful in anginas, gingivitis, stomatitis, and herpetic affections. It is an antiseptic and local anæsthetic. It may be used in gargles—half-a-teaspoonful in a wineglassful of warm water. Also in lotions or sprays, either pure or mixed with one third of brandy or Eau de Cologne.

For Fœtid Bronchitis.—*Progrès médical* for September 20th attributes the following to Legroux:

℞ Beechwood Creosote }
Terpine..... } of each 5 grammes (75 grains);
Iodoform..... }
Benzoic acid..... } of each 2 grammes (30 grains);
Larch turpentine.....)
Powdered marshmallow.....) of each 6 grammes
Calcined magnesia.....) (90 grains).

M. ft. pil. 100. From 4 to 10 may be taken in the twenty-four hours.

For Hay Fever.—Dr. George Barksdale (*Virginia Medical Semi-monthly*, September 26th) says that first, the patient should have any growth in his nose removed, and should lead an outdoor life, and avoid those causes known to excite attacks. For the paroxysms of asthma the writer has found that blotting paper dipped in the following, after being first put in a saturated solution of potassium nitrate and allowed to dry, will, when burnt, relieve the sufferer very much:

℞ Fluid extract of belladonna..... 15 parts;
Tincture of benzoïn..... 20 parts;
Fluid extract of stramonium..... 15 parts

M.

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MORE OF THE DEMONSTRATIVE AND LESS OF
THE DIDACTIC REQUIRED IN THE MEDICAL
CURRICULUM.

During the last quarter of a century the medical schools, here as well as elsewhere, have been giving more and more prominence to what is commonly termed practical instruction, and cutting down the formal lectures which not very many years ago constituted, with us at least, almost the entire work of the faculty proper, the little that was done in the way of demonstration being virtually given over to adjunct teachers. Beyond a doubt the steps thus taken have been in the right direction, and there is little question, we take it, of the desirability of carrying the movement still further. Whether or not it would be wise to be quite so precipitate in the matter as is advocated by an anonymous contributor to the October number of the *Scottish Medical and Surgical Journal*, however, seems to admit of some doubt, although in the main we are inclined to agree to his proposals, "iconoclastic" as they are termed by the editors of our *Scottish contemporary*.

The irksomeness of attendance on didactic lectures day after day is first pointed out by the writer, and he fully acquits the students who manifest their sense of it of acting in a spirit of laziness, for he insists on the evidence everywhere to be seen of their enthusiasm and assiduity in practical work. It is his opinion that in several of the branches the study of text books would be easier and more profitable than attendance on long courses of systematic lectures. "Not for a moment do we doubt," he says, "but that long courses of lectures were useful when good text books were few, expensive, and either badly or not at all illustrated, and when the medical student had not too much money to spend. At the present time

these conditions are entirely changed. Text books are almost without number, nearly all are excellent, and most are finely illustrated, in fact, the diagrams and figures in these far surpass those usually shown in the lecture hall. These books, in addition, are cheap as compared to the cost of a course of lectures, and contain as a rule much more than any teacher can impart in his course." Skeptical as we may be as to this entire change in one particular, that of the money at the disposal of the medical student of the present day, it still strikes us that the point made is a good one; in nothing concerned in the teaching of medicine, perhaps, has a greater advance been made of late years than in the steady improvement of the text books, and we are persuaded that the student has left at his command far too little time in which to study them.

In some branches our author would altogether do away with systematic lectures—in descriptive anatomy, for example—and he would greatly restrict the didactic instruction in surgery, blending systematic and clinical surgery into one course. One subject, that of medical jurisprudence, he would dispense with entirely as a separate feature of the curriculum, arguing that its component elements could be better taught by the teachers of surgery, obstetrics, materia medica, and pathological anatomy. He even doubts the wisdom of "giving to lawyers the smattering of knowledge which they must and do get from such a heterogeneous course" as the one ordinarily given in forensic medicine. He favors the more thorough teaching of sanitary science, preventive medicine, parasitology, the management of the insane, and the more elementary work of the dentist.

It is gratifying to observe in an editorial note in the same number of the *Scottish Medical and Surgical Journal* the following appreciative remarks concerning the relative value of the Scottish five year course and the American four year course: "The apparent year less demanded in America is much more apparent than real, for their whole four years are devoted to medicine proper. If all our students were to pass the first professional examination at the proper time, they, too, would have four clear years for medicine. But it is notorious that they do not, and that many of them are occupied for two years with the preliminary scientific subjects, and thus have only three for the study of medicine proper."

A POSSIBLE STEP TOWARD MEDICAL RECIPROCITY.

The question of reciprocity in State licenses to practise medicine is occupying an ever increasing amount of attention. The great inequality, however, in the requirements of various States is a stumbling block that it is very difficult to surmount. But, there is one view of the matter, which, though it would not effect a universal reciprocity, would yet group States in such a way as to minimize the existing lack of harmony, and by a levelling-up process lead in the near future to such uniformity that complete interstate reciprocity would be at least within view.

Mr. A. N. Taylor, in his excellent work *The Law in its Relations to Physicians*, divides the States into four classes in regard to their requirements for the practise of medicine. The first class demands the possession of a diploma from a medical college in good standing, and in addition, that the candidate shall pass an examination before the State board of examiners. To this class belong Arizona, Connecticut, Delaware, District of Columbia, Florida, Georgia, Idaho, Illinois, Iowa, Louisiana, Maryland, Minnesota, Montana, New Hampshire, New Jersey, New York, North and South Carolina, Pennsylvania, and Utah.

The second class demands the passage of a State examination, but the possession of a diploma is not indispensable. This class includes Alabama, Arkansas, Maine, Massachusetts, Mississippi, North Dakota, Oregon, Tennessee, Texas, Virginia, Washington, and West Virginia.

The third class gives the option of presenting an acceptable diploma, or of undergoing a State examination for a license. This class comprises Colorado, Missouri, New Mexico, Rhode Island, Vermont, and Wisconsin.

The fourth class exacts the ownership of an acceptable diploma, but requires no State examination. This class contains California, Indiana, Kansas, Kentucky, Michigan, Nebraska, Nevada, Ohio, Oklahoma, South Dakota, and Wyoming.

The lists of States are given as in Mr. Taylor's work, since the publication of which, however (in 1900), a few changes have taken place, in that certain States have passed from one class to another. The four classes, however, remain characterized by the same conditions, and it is satisfactory to note that all such changes as have taken place in the rating of

individual States have been in an upward direction.

Now, it seems to us, that it should not be a very difficult matter for the various States comprised respectively in each of these four groups, to agree among themselves, first, as to what diplomas they will recognize, if any, and secondly, where examination is insisted on, upon the establishment of a conjoint examining board which shall give the same examination at frequent intervals simultaneously in prominent cities in each of the States in the group. Classes I and III would thus require an agreement on both points; class II in regard to the examining board, only; and class IV only in regard to what diplomas should be held acceptable.

If even a majority of the States in each group could come together and agree upon these points, the present heterogeneous condition would be simplified by the formation of four groups of reciprocating States; and it is only reasonable to expect that before very long the other States in each group would fall into line. Moreover, having attained so much unanimity of action, we think that an ambition would probably be aroused that would tend to a constant upward movement in the direction of the ultimate adoption of the highest standard by all.

RECENT OBSERVATIONS ON RICKETS.

Within the last year and a half several notable contributions to the literature of rickets have been published. Five of these have attracted our particular attention. The first of them that we shall mention, though it was not the first in order of publication, is by A. Delpuch (*Presse médicale*, January 8th), who deals with the antiquity of the disease and incidentally gives much interesting information concerning the probable origin of various popular names by which the malady and certain deformities due to it have been designated among different peoples. M. Delpuch hardly needed to demonstrate the fact that rickets was known to the ancients, for in their writings there is to be found the expression *ῥαχιτις νόσος*, the spinal disease, of which our *rhachitis* is simply the transliteration, the noun *νόσος* being dropped. They seem to have interpreted hunchback as one of the manifestations of rickets, and we may readily fancy that the conspicuousness of that deformity led to its being made to stand in nomenclature for the disease itself, but their descriptions of

the other deformities now commonly referred to rickets leave no doubt that they knew the disease as we know it. Must we conclude from the remote origin of rickets, asks M. Delpuch, that it is destined to persist eternally? He answers the question in the negative on the strength of our present understanding of the causes of this error of nutrition and the simple character of the means of preventing it by hygienic care during infancy.

Two of the four other articles are by G. Edlefsen (*Deutsche Aerzte-Zeitung*, 1901, Nos. 22-24; 1902, Nos. 8 and 9), the fourth is by Kassowitz (*Deutsche Aerzte-Zeitung*, 1902, No. 3), and the fifth by F. Mendel (*Münchener medicinische Wochenschrift*, 1902, No. 4). All four of the German articles bear upon the aetiology of the disease and three of them upon the question of its infectious nature. They are all summarized in the *Centralblatt für innere Medizin* for September 6th. Edlefsen has noticed that the majority of cases show themselves during the first six months of the year, and that particularly is their development frequent during the second quarter. These facts, he says, favor the carbonic acid theory, dwellings being generally closed during the winter months, and they explain also the frequency with which rickets shows itself in houses in which such infectious diseases as polyarthritis, pneumonia, and cerebrospinal meningitis have occurred.

Kassowitz combats the theory of infection, arguing that rickets does not come on suddenly, as the infectious diseases commonly do, and that it has its origin further back than in the winter months next preceding its recognition—in the earliest months of life and even before birth. Uncomplicated rachitis coming on suddenly with fever, he continues, does not occur; swelling of the spleen, too, is not common, and when it is observed it is especially in children that have some blood disease or severe digestive disturbances. He is inclined to think that the repeated inhalation of the volatile products of the ammoniacal fermentation of urine is the most common cause of rickets, but it is plain that no such theory as this will account for the antenatal cases, unless we are prepared to admit that the deleterious action of these fermentation products on the mother may be passed on to the fetus in utero, and Kassowitz's contention that the first manifestations of the disease are virtually as common in November and December as during the first half of the calendar year seems to

detract from the force of his argument against Edlefsen.

Mendel upholds the idea that rickets is caused by insufficient functional activity of the thymus gland, and argues that the nutritive disturbances commonly looked upon as accounting for it operate only by virtue of their diminishing the internal secretion of the thymus. He finds enlargement of the spleen almost always present, but that, too, he regards as due to insufficient development of the thymus. The nervous derangements, especially laryngismus, he thinks, bear the same relation to the thymus that myxoedema bears to the thyroid. He cites Mettenheimer and Friedleben as having found the thymus atrophied in the great majority of cases of pronounced rachitis. He has tried the thymus gland as a remedy, and in many instances with good results. He administers the fresh thymus of the calf, fifteen grains a day for each month of the child's age.

We are still, then, far from unanimity as to the aetiology and nature of rickets, but it is from such investigations and reasoning as those we have cited that substantial agreement—in other words, the truth—is to be hoped for before many years have passed.

THE TREATMENT OF UNDESCENDED TESTICLE.

The observations on record are not quite in accord as to the frequency with which an undescended testicle becomes atrophied, but its atrophy seems to be common enough—to say nothing of its proneness to undergo malignant degeneration—to call for any form of intervention that holds out a promise of preserving the functional activity of the organ. We may admit that for procreative purposes two testicles are not necessary, but at the same time we are probably warranted in entertaining the idea that the internal secretion of two testicles is better than that of one. It has been shown that a testicle arrested in the inguinal canal may in a certain sense become grafted upon the tissues surrounding it in case the spermatic cord is so short as to require severing before the testicle can be brought down into the scrotum, but the new vascular connection which it then contracts appears sufficient only to maintain it in a state of vegetative life, and its innervation is not energetic enough to insure its secreting power. Such at least seems to be the opinion of M. Mau-

clairé, who relates in the September number of the *Annales des maladies des organes génito-urinaires* an amount of experience, both surgical and experimental, that may be called exceptional.

M. Mauclairé has devised a special operation for undescended testicle, a sort of intertesticular grafting, or artificial synorchidia, founded on the idea that the testicle may be grafted upon a structure of its own kind, that, namely, of its fellow of the opposite side, with greater probability of its functional regeneration than when it is left to contract a graft connection with other tissues. Accordingly, after having performed a radical operation for hernia if that condition is present, as it often is, and freed the spermatic cord of adhesions, he lays open the intertesticular sæptum from top to bottom, refreshes the opposing surfaces of the two testicles by removing a lozenge-shaped portion of the albuginea from each of them, brings the undescended testicle down into the scrotum, sutures the two organs to each other, and encloses them both in one common tunica vaginalis formed by stitching the two tunicae vaginales together. If the affected testicle cannot be brought down into the scrotum, he draws the other one through the incision in the sæptum and up into the inguinal canal of the affected side.

The result of this procedure is that one testicular mass takes the place of the two testicles, usually situated in the median line, the scrotum losing its cleft appearance. M. Mauclairé gives a number of case histories, and in a fair proportion of them an increase in the bulk of the undescended testicle was observed. In a case in which, as described, he had to draw the normal testicle up to the level of its fellow, he hopes that the development of the latter may lead to its ultimate descent, but says that time enough has not yet elapsed to show whether or not his expectation is well founded. His operation, although it bears a superficial resemblance to one described by Villemain three years ago, is really quite a different one, for Villemain obtained only a fibrous connection between the two testicles, and his operation was therefore in reality only a form of orchidopexy.

THE DIAGNOSIS BETWEEN VARIOLA AND VARICELLA.

In the *New York University Bulletin of Medical Science* for July, Dr. W. H. Park described a mode of testing which promises to afford a means of diag-

nosis between variola and varicella, in those cases, not so very infrequent, in which the diagnosis is a matter of doubt even at the hands of skilled clinicians. Dr. Park found by repeated experiments that monkeys were very susceptible to inoculation with smallpox virus, whether fresh or dried, the area of vaccination becoming swollen, and its centre being occupied by a typical vesicle changing into a pustule. Inoculation experiments with virus from cases of varicella, on the other hand, produced no result. Three cases are then reported in which the diagnostician was in doubt and monkey inoculation was tried. In all cases the inoculation in the monkeys failed of effect, whence it was concluded that the disease in each case was varicella. From the tenor of the communication we are led to suppose that this diagnosis ultimately proved to be correct, though it is not so stated. If the results of these investigations are sustained by further researches, we shall have a mode of laboratory diagnosis resembling that of diphtheria, and one that can be practised from afar with specimens submitted by the attending physician in a doubtful case.

ALLEGED BODY SNATCHING IN INDIANA.

The Grand Jury at Indianapolis is investigating alleged cases of body snatching in the State of Indiana, in which, it is said, certain physicians are implicated. The charge, if true, is a serious one. But if it is true, there must be a necessity for the act in inadequate facilities on the part of that State for the proper provision of medical schools with the necessary means to train its students. Therefore, while we cannot but feel horror at the resuscitation of practices which it was hoped had been relegated to the dark ages of medicine, neither can we acquit the State that renders such practices necessary, from being as great an offender against public polity, as the implicated physicians were against private rights and natural sentiment.

THE RECKLESS MULTIPLICATION OF MEDICAL SYNONYMS.

In our issue for October 18th we touched editorially upon two phases of the difficulties of modern medical nomenclature. A third is most ably put by the *British Medical Journal* for October 11th, in its editorial on the Huxley lecture recently delivered at Charing Cross Hospital Medical School by Professor W. H. Welch, of Johns Hopkins. "In one matter we would wish to appeal to Professor Welch himself. Modern research in bacteriology is difficult to follow by reason of the obscurity of the subject, but is rendered trebly so by the mountain of names beneath

which it is buried. When a substance may be called at will an intermediary body, an immune body, an amboceptor, a sensitizer, a fixative, a preparative, or a desmon, fresh terrors are added to the labor of tracking it through the literature. Professor Welch can by the weight of his authority cause definite appellations to crystallize out from the at present plastic mass. If he will define the nomenclature of immunity he need not fear but that English-speaking pathologists will follow him loyally and in gratitude. He has laid the scientific world under so many obligations that it is to be hoped he will not hesitate to confer this further one upon it."

The graceful compliment to American Medical Science in the person of Professor Welch only adds force to the innate cogency of the matter urged by the *British Medical Journal*. We suppose it is too much to hope yet for an international committee on medical nomenclature, which should lay down authoritatively the classical forms (Greek or Latin) to be preferred out of synonymous terms already existing, and formulate rules whereby more correct methods may prevail in the future. If, subsequently, national committees would take in hand the selection and further formation of vernacular derivatives from these classical terms, much good would have been accomplished.

THE COLONY DISPOSAL OF THE INSANE IN MASSACHUSETTS.

Much is to be hoped for, we think, from the tentative way in which the Massachusetts State Board of Insanity seems to be entering upon the establishment of an industrial colony for the insane on a large farm in Gardner. The farm is said to include about 2,000 acres of rough land, so that the labor at first required of the colonists will be simply that of clearing it by such work as the removal of stones and brush. Agriculture proper will be pursued after this preliminary labor has tested the capacity and tractability of the men, and the women, in a separate colony, will be set to work in the conduct of a dairy, in needle work, and in washing and ironing.

INTERNATIONAL CLINICS.

It is announced that with the beginning of the year 1903 the quarterly publication thus entitled will be under the editorial direction of Dr. Aloysius O. J. Kelly, who has long been favorably known as a contributor to current medical literature. We have frequently had occasion to commend the *Clinics*, and we feel confident that under the new editor the publication will fully sustain its reputation.

A NOVELTY IN INTESTINAL SURGERY.

Concerning M. Dauriac's recent proposal in the *Presse médicale* (cited in *Lyon médical* for October 5th) to establish an artificial anus for the purpose of giving rest to the small intestine in typhoid fever and facilitating irrigation and asepsization, we are constrained to say that we do not see how these objects could be accomplished by the procedure, although it is reported to have been followed by recovery in a grave case of intestinal hæmorrhage. The intestinal contents would still have to traverse the small intestine before reaching the opening in the colon.

THE THERAPEUTIC VIRTUE OF A RED SHIRT.

An amusing instance of the occasional impotence of mind when confronted with matter is related in *Lyon médical* for October 5th. It was the case of a young man who suffered with occasional hæmaturia among other troubles. The red stains on his shirt drove him to a state bordering on madness. Half in jest, the physician, who signs himself "P. A.", suggested that he should wear a red shirt. The young man acted on the suggestion, and his mental trouble disappeared.

THE ÆTIOLOGY OF NOMA.

Longo (*Policlinico*, May; *Centralblatt für innere Medizin*, September 27th) remarks that nine different bearers of infection have already been counted as playing a part in the ætiology of noma, and this fact, he thinks, would point to the assumption of a mixed infection, but he himself has isolated a micro-organism not before described, closely resembling *Proteus vulgaris*, which experimental inoculations on animals lead him to believe to be the specific germ of the disease. Further investigation of the matter will probably be required before Longo's conclusion can be accepted.

THE MEDICAL CORPS OF THE NAVY.

It is earnestly to be hoped that the salient recommendations set forth in Surgeon-General Rixey's annual report, recently issued, will meet with early and favorable treatment by Congress. He estimates that the increase in the naval force already authorized will call for 150 additional medical officers, but he asks for an increment of only half that number from the coming session. He also shows the need of a preparatory school for young officers analogous to the Army Medical School, and of a new hospital building on the grounds of the Naval Academy.

News Items.

Society Meetings for the Coming Week:

MONDAY, October 27th.—Medical Society of the County of New York; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, October 28.—New York Dermatological Society (private); Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Richmond, Va., Academy of Medicine and Surgery; Rome, N. Y., Medical Society; Boston Society of Medical Sciences (private).

WEDNESDAY, October 29th.—Auburn, N. Y., Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

Change of Address.—Dr. Martin J. Dwyer, from Albany, N. Y., to No. 527 West One Hundred and Sixty-second Street, New York.

Dr. William H. Bates.—We are glad to find in the daily press an announcement, to the effect that Dr. Bates, who mysteriously disappeared from his home last August, has been located in London.

St. Luke's Hospital, South Bethlehem, Pa.—The capacity of the hospital has been increased to eighty-five beds through the gift of Mr. Sayre of a pavilion that will accommodate twenty-four beds.

Gift to the Hospitals of Lowell, Mass.—The Lowell General Hospital and the Corporation Hospital of that city are, it is said, to be merged into one institution, an endowment fund of \$100,000 having been promised by an anonymous benefactor on condition that the merger be effected.

The New York Academy of Medicine.—At the last meeting of the Section in Obstetrics and Gynecology, held on Thursday evening, October 23rd, Dr. Margaret A. Cleaves read a paper on Electrical Treatment of Malignant Diseases of the Uterus.

The Medical Society of City Hospital Alumni, St. Louis.—A regular meeting was held on Thursday, October 16th, when the following programme was presented: Report of a Case of Chorioma, by Dr. H. S. Crossen; Pathological Report of Case of Chorioma, by Dr. Carl Fisch; Public Sanatorium for Tuberculous Persons, by Dr. George Homan.

The Jackson, Missouri, County Medical Society.—At a meeting held at Kansas City on Thursday, October 9th, the following officers were elected for the ensuing year: President, Dr. W. S. Wheeler; vice-president, Dr. J. W. Pyker; secretary, Dr. E. H. Traillkill; treasurer, Dr. L. W. Luscher; censor, Dr. W. F. Kuhn; librarian, Dr. Maggie L. McCrea.

The New York State Medical Association.—At the annual meeting held in New York, on October 21st, 22nd and 23rd, the election of officers for the ensuing year resulted as follows: President, Dr. Frederick Holme Wiggin, of New York; vice-president, Dr. William H. Thornton, of Buffalo; secretary, Dr. Guy D. Lombard, of New York; treasurer, Dr. E. H. Squibb, of Brooklyn.

The New York Obstetrical Society.—At the annual meeting held on Tuesday, October 17th, the following officers were elected: President, Dr. Egbert H. Grandin; first vice-president, Dr. I. Clifton Edgar; second vice-president, Dr. G. W. Jarman; recording secretary, Dr. W. S. Stone; corresponding secretary, Dr. E. E. Tull; treasurer, Dr. J. L. Morrill; pathologist, Dr. W. S. Stone.

The Tri-State Medical Society of Alabama, Georgia and Tennessee.—At the annual meeting, held at Birmingham, Alabama, on Wednesday, Thursday and Friday, October 8, 9 and 10, the election of officers for the ensuing year resulted as follows: President, Dr. Michael Hoke, of Atlanta; first vice-president, Dr. C. H. Peete, of Macon; second vice-president, Dr. W. L. Nolen, of Chattanooga; third vice-president, Dr. L. C. Morris, of Birmingham; secretary, Dr. Frank Trester Smith, of Chattanooga; treasurer, Dr. George R. West, of Chattanooga. Atlanta was fixed upon as the place of the next annual meeting.

The National Association for the Study of Epilepsy and the care and Treatment of Epileptics will hold its second annual meeting in the New York Academy of Medicine on the afternoon of Wednesday, November 5th next. The programme contains the following items: Presidential Address, by Dr. Frederick Peterson; Reports on the Progress in the Public Care of Epileptics, by Dr. W. N. Bullard; The Causes of Epilepsy in Early Life, with Notes on Treatment, by Dr. Abram Jacobi; The Pathology of Epilepsy, by Dr. Adolph Meyer; The Surgical Treatment of Epilepsy, by Dr. Roswell Park; The Legal and Social Standing of the Epileptic, by Dr. Edgar J. Spratling; Examinations in Epilepsy, with Records and Notes on Treatment, by Dr. H. N. Moyer; The Problem of Epilepsy; some suggestions to its solution, with demonstrations on the lesions by Dr. L. Pierce Clark and Dr. Thomas P. Prout; The Colony System for Epileptics, illustrated with lantern views of the Craig Colony at Sonyea, by Dr. Wm. P. Spratling; The Treatment of Epilepsy, by Dr. Wildermuth (Stuttgart). Dr. William Osler and other distinguished physicians have promised to attend the meetings and discuss the papers. The profession is cordially invited.

The New Jersey Sanitary Association.—The twenty-eighth annual meeting was held at Lakewood, N. J., on Friday and Saturday, October 24th and 25th, 1902. The programme included the following items: Sanatoria for Consumptives, by Dr. Charles J. Kipp, of Newark, N. J.; Hygienic Instruction for Teachers in the Public Schools, by Dr. C. J. Baxter, Superintendent of Public Instruction, of Trenton, N. J.; The President's Address, Boards of Health; their duties under the law; their relation to the prevention of communicable diseases, by H. Brewster Willis, Esq., of New Brunswick; Food Preservatives; their effect upon the health of consumers, by Ernest I. Lederle, Ph. D., President of the Board of Health, New York City; The Prevention of Tuberculosis, and what every one should know about it, by Dr. S. A. Knopf, of New York City; The Sanitary Aspect of the Mosquito Ques-

tion, by Dr. John P. Smith, Sc. D., of New Brunswick, N. J.; Some practical suggestions on Mosquito Extermination, by Henry Clay Weeks, C. E., of Bay Side, L. I.; Reclamation of Land subject to Tide Overflow, by John B. Duncklee, C. E., of South Orange, N. J.

Colonies for the Insane.—The Massachusetts Board of Insanity has started in on the establishment of a cooperative colony for mildly insane cases. The spot selected is at the junction of the townships of Gardner, Westminster, and Ashburnam, in the middle of a tract of hundreds of acres near the hills. A start is to be made at once with fifteen cases, and a complete outfit of suitable buildings is to be erected, which when completed will enable the board to care for hundreds of such cases under conditions that will afford them an outdoor active life conducive to recovery, and at the same time make their labor more or less mutually self-sustaining.

The Alvarenga Prize of the College of Physicians of Philadelphia.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14, 1903, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by the secretary of the college on or before May 1, 1903. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1902 was not awarded, the committee having decided that no essay of sufficiently high standing was submitted in competition.

The Death Rate of Chicago.—Statement of mortality for the week ending October 18, 1902, compared with the preceding week, and with the corresponding week of 1901. Death rates computed on estimated population of 1,820,000 for 1902; of 1,758,000 for 1901:

	Oct. 18.	Oct. 11.	Oct. 10.
Total deaths: all causes.....	1002	1002	1001.
Death rate per annum, in 1,000...	445	493	370
By Sexes:	12.73	11.53	10.95
Males.....	261	236	203
Females.....	181	167	167
By Ages:			
Under 1 year.....	66	65	71
Over 1 and 5 years.....	39	47	31
Over 60 years.....	66	80	81
Principal causes of death:			
Acute Intestinal diseases.....	27	44	42
Apoplexy.....	10	5	6
Bright's disease.....	26	26	27
Bronchitis.....	16	18	8
Consumption.....	40	48	20
Cancer.....	15	22	16
Convulsions.....	10	2	9
Diphtheria.....	14	6	9
Heart disease.....	38	31	30
Nervous diseases.....	33	20	15
Pneumonia.....	45	23	38
Typhoid fever.....	24	22	20
Scarlet fever.....	3	3	5
Suicide.....	2	14	3
Violence other than suicide.....	35	27	26
Whooping-cough.....	3	3	..
Measles.....	1	..	1

The Late Dr. A. M. Phelps.—At a meeting of the faculty of the New York Post-graduate Medical School and Hospital, held on October 8th, 1902, it was resolved that a committee be appointed to draft a minute in appreciation of the professional life and services of their late colleague, Professor A. M. Phelps. The committee subsequently made the following report, which was ordered to be sent to the medical journals for publication and to be spread upon the minutes of the faculty.

In the death of Professor A. M. Phelps our school has lost a teacher and the medical profession is deprived of a member whose energy cleared the way for great progress in his field of work during the past twenty years. His was the spirit of the pioneer. Not content with things that have been done, but ever restless to find new vistas with new horizons, his single-hearted devotion to the development of what is best in orthopaedic surgery led him to engage in a constant warfare of ideas. No matter whether the ideas were those of colleagues or his own, no matter whether he was right or wrong, his energy gave life to the subject and set men to thinking. It is such active lives as his that keep subjects alive, that keep men aroused, and lead them to their utmost, and when this is for no selfish end, but solely bent in the interest of science, we find a public benefactor whose usefulness exceeds that of the capitalist who gives his millions of dollars to the most worthy charity. The capitalist gains his fortune through his guidance of the work of others, and the scientist adds to the total of the world's knowledge by stimulating others to follow in his lead of investigation, or to take long steps in progress at his suggestion. In the professions there is a tendency for men to fall asleep upon the soft pillows of consensus of opinion, but men like Dr. Phelps realize that consensus of opinion is often wrong because it represents the lines of least resistance, and he turned all sleepers out and made them uncomfortable until they had made their own new opinions. Dr. Phelps was impatient with those who were contented in their work, and as impatient with himself, for he realized that great fields for giving help to suffering fellow men lay still undiscovered.

According to human experience, greatness implies the possession of constructive motives, nobility of purpose, catholicity of view, erudition. Dr. Phelps's motives were always constructive, his ideals were of the noble sort that included no interest before the interest of the sufferer. His views were so comprehensive that he could not long remain a partisan in any field aside from that of definite knowledge. His learning was that of the man of alert conception and of trained memory. Dr. Phelps, then, was a great man, and his opponents are the ones who would say it, sooner than he himself would have acknowledged it.

It was not in our school alone, nor in the city, nor in the State, nor in America that his talents were recognized, but wherever in the world men are engaged in studying the things that he studied, he gave direction to their methods and force to their efforts. An influence like that of Dr. Phelps is that of the wireless telegraph, sending through invisible ether an impulse that is felt and that meets sympathetic response in minds that vibrate in unison at all distances, an expenditure of energy that finds its kinetic

in the development of new knowledge. Yet he was not the one to say that he was right, only that he wanted to be right and that he wanted others to be right.

He was proud in his strength, yet modest in the presence of those who were stronger than he. Few knew this side of his character, but those of us who knew him best knew how much of humility there was beneath his forceful bearing.

And if we speak of Dr. Phelps as the surgeon, what shall we say of him as the citizen, as the friend, as the husband and father? Matters of public interest were matters with which he made himself conversant, and whether at home or abroad he formulated views of public affairs with a clearness of view that engaged the attention of statesmen. As a friend he was loyal almost to the point of weakness. His enjoyment of life and of his friends was that of a man whose spirit of camaraderie overlooked all failings. Beneath the stern exterior developed by men of his strength to resist external impressions, there was a heart so kind and sympathetic that a tale of woe or a pathetic sight moved him as it would have moved a woman, and his kindly deeds in response to the impulse of a great and generous nature were unknown to the world at large, because he considered it beneath the dignity of a man to show any side excepting the one that accomplishes things by force.

Dr. Phelps has been taken from the home, from the profession, and from the world before his activities had reached their zenith, but the influence of such a life as his will last beyond the lives of those who felt his influence, and we his colleagues sorrowing in his loss, exult in the privilege that we had in knowing him.

(Signed) ROBERT T. MORRIS,
REYNOLD WEBB WILCOX,
HENRY LING TAYLOR,
Committee.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending October 18, 1902:

DISEASES.	Week end'g Oct. 11		Week end'g Oct. 18	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.	138	20	130	22
Scarlet fever.	85	7	93	8
Cerebro-spinal meningitis	0	4	0	0
Measles.	45	0	43	2
Diphtheria and Croup ..	252	25	281	31
Smallpox.	1	1	2	0
Tuberculosis.	210	143	211	154

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy, for the week ending October 18, 1902:

FUCHER, W. H., Passed Assistant Surgeon. Detached from the *Panther*, and granted leave for one month.

DUNN, H. A., Assistant Surgeon. Detached from the Naval Hospital, Yokohama, Japan, and ordered to the Naval Station, Cavite, P. I.

GORDON, F. T., Pharmacist. Detached from the Navy Yard, League Island, Pa., and ordered to the *Wabash*.

McLARTY, C., Hospital Steward. Appointed Pharmacist from April 25, 1902.

MYERS, T. D., Passed Assistant Surgeon. Retired; ordered to the Naval Hospital, Philadelphia.

MICHELIS, Dr. R. H. Appointed Assistant Surgeon from October 4, 1902.

NEILSON, Dr. J. L. Appointed Assistant Surgeon from October 11, 1902.

Public Health and Marine-Hospital Service:

Official List of the Changes of Station and Duties of Commissioner and Non-commissioned Officers of the Public Health and Marine Hospital Service for the Seven Days ending October 16, 1902:

GODFREY, JOHN, Surgeon. To proceed to Cape Fear Quarantine, Southport, N. C., as inspector of unserviceable property.

EAGER, J. M., Passed Assistant Surgeon. Detailed to represent the service at the International Conference on Tuberculosis, at Berlin, Germany, October 22-26, 1902.

GARDNER, C. H., Passed Assistant Surgeon. To proceed to Port Townsend Quarantine, Washington, as inspector of unserviceable property.

COFER, L. E., Passed Assistant Surgeon. To proceed to New York, N. Y., and report to Surgeon G. W. Stoner, Immigration Depot, for temporary duty.

Leave of absence granted Passed Assistant Surgeon COFER amended so that it shall cover the period from September 10 to November 18th.

VON ESDORF, R. H., Assistant Surgeon. Granted leave of absence for two months and twenty-four days from November 5th.

LORD, C. E. D., Assistant Surgeon. Granted leave of absence for one month from November 6th.

BURKHALTER, J. T., Assistant Surgeon. Granted leave of absence for one month from November 3rd.

BOGESS, J. S., Assistant Surgeon. Granted leave of absence for fifteen days from November 1st.

EBERSOLE, R. E., Assistant Surgeon. To proceed to Brunswick, Georgia, Quarantine Station, and assume temporary charge of the station during the absence on leave of Assistant Surgeon J. T. BURKHALTER.

BULLARD, J. T., Acting Assistant Surgeon. Granted leave of absence for thirty days from September 15th.

HUNTER, W. R., Acting Assistant Surgeon. Granted leave of absence for fourteen days from October 13th.

STANTON, J. G., Acting Assistant Surgeon. Granted leave of absence for twenty-five days from October 7th.

WALKLEY, W. S., Acting Assistant Surgeon. Granted leave of absence for seven days from October 14th.

MACDOWELL, W. F., Senior Pharmacist and Special Disbursing Agent. Relieved from duty at Havana, Cuba, and directed to proceed to New York, N. Y., and report arrival.

RYDER, L. W., Senior Pharmacist. Granted leave of absence for fifteen days from October 13th.

Boards Convened.

Board convened to meet at Port Townsend, Washington, October 20, 1902, for the physical examination of officers of the Revenue Cutter Service. Detail for the Board: Passed Assistant Surgeon C. H. GARDNER, Chairman; Assistant Surgeon M. H. FOSTER, Recorder.

Board convened to meet at San Francisco, Cal., October 26, 1902, for the physical examination of officers of the Revenue Cutter Service. Detail for the Board: Passed Assistant Surgeon W. G. STIMPSON, Chairman; Assistant Surgeon W. C. RUCKER, Recorder.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending October 18, 1902:

Smallpox—United States.

California....	San Francisco....	Sept. 28-Oct. 5....	11 cases.	
Colorado....	Denver....	Sept. 27-Oct. 4....	1 case.	
Illinois....	Chicago....	Oct. 4-11....	13 cases.	
	Freeport....	Oct. 4-11....	7 cases.	
Indiana....	South Bend....	Oct. 4-11....	2 cases.	2 deaths.
Michigan....	Detroit....	Oct. 4-11....	7 cases.	1 death.
N. Hampshire....	Nashua....	Oct. 4-11....	23 cases.	
New Jersey....	Elizabeth....	Sept. 31-Oct. 11....	9 cases.	4 deaths.
New York....	Brooklyn....	Oct. 4-11....	1 case.	
	New York....	Oct. 4-11....	1 case.	1 death.
Ohio....	Cincinnati....	Oct. 3-10....	3 cases.	
	Cleveland....	Oct. 3-10....	23 cases.	12 deaths.
	Hillmilton....	Oct. 4-11....	1 case.	
	Toledo....	Sept. 27-Oct. 4....	1 case.	
	Youngstown....	Sept. 27-Oct. 4....	2 cases.	2 deaths.
Pennsylvania....	Altoona....	Oct. 4-11....	4 cases.	
	Johnstown....	Oct. 4-11....	5 cases.	2 deaths.
	McKeesport....	Oct. 4-11....	2 cases.	
	Philadelphia....	Oct. 4-11....	1 case.	
S. Carolina....	Charleston....	Oct. 4-11....	3 cases.	
Utah....	Salt Lake City....	Oct. 4-11....	3 cases.	
Wisconsin....	Green Bay....	Oct. 5-12....	1 case.	
	Milwaukee....	Oct. 4-11....	12 cases.	

Smallpox—Foreign.

Barbados....		July 13-Sept. 29....	793 cases.	30 deaths.
Belgium....	Brussels....	Sept. 20-27....		5 deaths.
	Ghent....	Sept. 20-27....		1 death.
Canada....	Amherstburg....	Oct. 4-11....	2 cases.	
Ecuador....	Guayaquil....	Sept. 13-27....		4 deaths.
France....	Paris....	Sept. 20-27....		1 death.
Gr. Britain....	Dundee....	Sept. 20-27....	1 case.	
	Liverpool....	Sept. 20-27....	4 cases.	1 death.
	London....	Sept. 20-27....	4 cases.	
	Sunderland....	Sept. 20-27....		1 death.
India....	Bombay....	Sept. 9-16....		5 deaths.
	Calcutta....	Sept. 9-13....		1 death.
Mexico....	City of Mexico....	Sept. 20-28....	1 case.	
Russia....	Moscow....	Sept. 13-20....	2 cases.	
	Odessa....	Sept. 20-27....	3 cases.	
	St. Petersburg....	Sept. 13-27....	13 cases.	3 deaths.
Spain....	Corunna....	Sept. 20-27....		1 death.
Straits Settlements....	Singapore....	Aug. 23-30....		1 death.
Switzerland....	Geneva....	Sept. 13-20....	1 case.	

Yellow Fever.

Colombia....	Panama....	Sept. 29-Oct. 6....	15 cases.	
Ecuador....	Guayaquil....	Oct. 20-27....		1 death.
Mexico....	Coahuila....	Sept. 27-Oct. 4....	1 case.	
	Merida....	Sept. 19-Oct. 3....	11 cases.	6 deaths.
	Vera Cruz....	Oct. 4-11....	5 cases.	2 deaths.

Cholera—Foreign.

China....	Hongkong....	Aug. 16-30....	25 cases.	21 deaths.
	New Chwang....	Aug. 16-30....	90 cases.	85 deaths.
Egypt....	Alexandria....	Sept. 20-27....	208 cases.	177 deaths.
	Suez....	Sept. 10-16....	20 cases.	16 deaths.
India....	Calcutta....	Sept. 6-13....		10 deaths.
Japan....	Osaka and Hiogo....	Sept. 6-20....	26 cases.	62 deaths.
Java....	Batavia....	Aug. 31-Sept. 6....	48 cases.	40 deaths.
Korea....	Chenampo....	Aug. 17-19....	92 cases.	50 deaths.
	Syen Chun....	Aug. 17-19....	20 cases.	11 deaths.
Straits Settlements....	Singapore....	Aug. 23-30....		1 death.

Plague—United States.

California....	San Francisco....	Oct. 7....		1 death.
			Bacteriological confirmed.	

Plague—Foreign.

China....	Hongkong....	Aug. 16-30....	19 cases.	19 deaths.
Egypt....	Alexandria....	Sept. 20-27....	4 cases.	2 deaths.
India....	Bombay....	Sept. 9-16....		51 deaths.
	Calcutta....	Sept. 6-13....		6 deaths.
	Karachi....	Sept. 7-14....	8 cases.	6 deaths.
	Madras....	Sept. 6-12....		1 death.
Russia....	Odessa....	June-Sept. 29....	38 cases.	11 deaths.

Births, Marriages, and Deaths.

Born.

REDSHAW.—In Curran, Illinois, on Wednesday, October 15th, to Dr. and Mrs. B. F. Redshaw, a son.

Married.

BELL—PARKER.—In Philadelphia, on Wednesday, October 15th, Dr. William Hemphill Bell, of the U. S. Navy, and

Miss Eleanor Yorke Parker, daughter of Medical Director J. B. Parker, of the U. S. Navy.

BRANDT—WILLARD.—In New York, on Wednesday, October 15th, Dr. John Egerton Brandt, of Nice, France, and Miss Marion Bradford Willard.

CARROLL—ROSS.—In Baltimore, on Wednesday, October 15th, Dr. James Joseph Carroll and Miss Agatha I. Ross.

GILLEN—QUINN.—In Brooklyn, on Wednesday, October 15th, Dr. Andrew M. Gillen and Miss Anita Quinn.

GRAY—PRATT.—In Chelsea, Mass., on Wednesday, October 8th, Dr. Hugh Barr Gray, of Chesterfield, Mass., and Miss Gertrude Merriam Pratt.

MCBRIEN—COOK.—In East St. Louis, Illinois, on Wednesday, October 8th, Dr. Alfred A. McBrien and Miss Eula Cook.

McFARLAND—HUNT.—In Baltimore, on Wednesday, October 15th, Dr. William McFarland, of Syracuse, N. Y., and Miss Virginia Hunt.

PECKHAM—STEVENS.—In Colorado Springs, Colorado, on Tuesday, October 14th, Dr. Herbert Edmund Peckham, of Brooklyn, N. Y., and Miss Eleanor Gertrude Stephens, of Boston.

ROBINSON—SYLVER.—In San Francisco, on Wednesday, October 8th, Dr. Frank B. Robinson and Miss Aurora Sylver.

SEARLES—GIFFORD.—In Lawrence, Kansas, on Tuesday, October 7th, Mr. James Clark Searles and Miss Ednah Grace, daughter of Dr. Alfred Clifford.

THOMAS—BEALE.—In Philadelphia, on Wednesday, October 8th, Dr. William Dulany Thomas and Miss Millie Milliken Beale.

WELLS—SHERWOOD.—In New Rochelle, N. Y., on Wednesday, October 15th, Dr. John Wells and Miss Antoinette Sherwood.

Died.

ADAMS.—In Fort Worth, Texas, on Wednesday, October 15th, Dr. William A. Adams.

BOWEN.—In Westfield, Mass., on Friday, October 10th, Dr. Charles W. Bowen, in the fifty-eighth year of his age.

MATTHEWS.—In Clifton Springs, N. Y., on Wednesday, October 22d, Dr. Henry C. Matthews, of Brooklyn, aged sixty-one years.

ROBERTS.—In Jacksonville, Florida, on Sunday, October 12th, Dr. J. M. Roberts, of Atlanta.

SMITH.—In Washington, D. C., on Tuesday, October 7th, Dr. David E. Smith, of Bronxville, N. Y., in the seventy-third year of his age.

WADE.—In Williamsburg, N. Y., on Sunday, October 19th, Dr. James D. Wade, aged sixty-four years.

Miscellaneous.

Severe Extrinsic Traumatism of the Spine.—Dr. Thomas H. Manley, in a paper presented recently to the Mississippi Valley Medical Association, at Kansas City, said that severe spinal injuries reduced to an anatomical basis might be divided into two classes: First, those which involved the rhachidian structures alone, the osseous, ligamentous, muscular and vascular. Second, those in which the effects of violence fell with greatest force on the central organ, the cord, its meningeal investments, its ganglia, or its medullary substance.

The former, or extrinsic injuries, were much the more common, and though not so serious to life or function might, by extension of pathological processes, involve the deeper or more vital parts; but in most cases they were recovered from, sometimes, however, leaving deformity or impaired function.

The primary extrinsic lesions of the spine were: 1st. Contusions, blows or falls. 2nd. Sprains, hyperflexion, or torsion. 3rd. Hæmorrhage, intra and extrarhachidian. 4th. Fractures, simple and open. 5th. Diastasis, fracture and luxations. 6th. Visceral complications.

Contusions, blows, or falls on the back seldom involved danger to the spinal structures, except when the force was great and was concentrated on a limited area. The spinal defenses provided frequent immunity by sudden sinking of the head, the projecting shoulders and ribs, the iliac crests, the ponderous lumbar development and the gluteal projections. A sudden violent blow over the neck was the most serious, on account of the large sympathetic ganglia here located and of its contiguity with the bulb at the base of the brain.

The pneumatic, thoracic areas were well calculated to resist shock, and lower down, afforded protection to many of the solid, floating organs of the abdomen.

The spinal cord ended at the last dorsal vertebra, and hence, concussive force on the lumbar or sacral regions could only affect the terminal nerve cords contained therein.

The effect of a blow on the lumbar or sacral region consisted in direct concussion and contre-coup effects, transmitted shock.

Sprain of the spine implied the effects of a complex force, with consecutive complex pathological conditions; *entorse* and *arrachement*, torsion with overstretching or sundering of ligaments were invariably essential factors.

The neck, the most mobile segment, suffered most frequently, and grave sprains there were most commonly produced by the body being projected against the occiput, as in diving, or falls on the side of the head. The costal bases which laterally supported the thoracic spine, safeguarded this segment against torsion injury. The lumbar region frequently suffered from sprains after great efforts in various exercises, or in making heavy lifts with the spine in a laterally inclined attitude.

A severe sprain of a joint was always a serious accident; of the spine more so, because of the vital and delicate organs which it encased. Spinal sprains might involve a diastasis of the vertebral segments though generally the apophyseal articulations alone were engaged. In lumbar sprains the tendons might suffer rupture or luxation,

Spinal hæmorrhage might be broadly divided into two varieties, viz., that which occupied the cord, and that which occurred external to the theca in any of the overlying structures. The former could never occur as a primary, uncomplicated lesion; the latter, the extrinsic variety, occurred frequently in nearly every type of severe spinal injury; it was usually venous, and might take place in the vertebral hollow, alongside the cord, or into the subcutaneous intermuscular spaces, posterior to the apophyses.

The most confused ideas prevailed in relation to "spinal hæmorrhage," the prevailing impression being that the blood escaped into the meninges or the medullary elements of the cord (hæmatomeningea), while quite invariably the blood leak was into the spinal canal (hæmatorrhachis). The latter was, of itself, rarely a cause for serious apprehension, but when complicated it became an aggravating factor in provoking pathological changes, tending to menin-

gitis or myelitis, ascending or descending. The gravity of this hæmorrhage depended on its site, volume, and complications.

Fractures of the spine should always be considered in a category separate to itself. This fracture might exist—a broken back—without any definite symptoms at all. Diagnosis of it by any means known to art might, at times, be absolutely impossible. When the spinal cord escaped impingement, as it did in the greater number of cases, *restitutio ad integrum* might speedily follow, or the fragments might unite, leaving an ankylosis, or a deviation, most commonly, a kyphosis. This involved a deformity with impairment of function in the mechanical action of the column, in its oscillatory movements and strength, but in no manner impairing the function of the cord.

Fracture of the spine was seldom attended with palpable displacement, the ligamentous attachments being so numerous and firm that the fragments were usually sprung into position automatically. This fracture only assumed a serious aspect when the cord was divided or fatally crushed.

Diastasis, or fracture-luxation: A genuine, complete luxation of the spine without simultaneous destruction of the cord, could be only imagined, it could never occur.

A displaced vertebral body was a diastasis and not a dislocation, because the intervertebral junctions were not true joints, and luxation of the apophyses could only occur with coexistent fracture of an arch or pedicle, except in the cervical region. It was very frequently impossible to distinguish an apophyseal luxation from a fracture, except, possibly in the neck, and even here, a luxation of the vertebræ had often been suspected, when on autopsy none was found, but instead a fracture of the base of the skull. Again, the author had known of an exploratory operation for luxation fracture when none was discerned through the incision, but it was later found that one existed, three vertebræ further down.

Visceral complications, coexistent with or consecutive to violent spinal injuries were not infrequent. The thoracic and abdominal organs most frequently suffered. Mediastinal, pleural, or pulmonary hæmorrhage might occur after a fracture through the vertebral blocks, or a diastasis through the intervertebral substance, in consequence of a laceration of the anterior ligaments and intrarhachidian plexus of vessels. The heart or great vessels suffer from the effects of violent commotion of the thorax.

In the abdomen the kidney might suffer displacement, contusion, or laceration, the spleen, pancreas or liver was liable to similar lesions; a distended stomach or gall or urinary bladder might suffer rupture and leakage; the pregnant uterus in any stage might sustain shock with the premature expulsion of its contents.

In many severe extrinsic rhachidian injuries, though the spinal cord might previously escape such damage as would induce paralysis, yet later symptoms might follow, suggestive of meningeal changes or disturbances of nutrition, and pronounced disturbance of the ganglionic connections with the sympathetic involved.

In all this class of traumatisms it was well to be reserved in prognosis until, at least the primary effects had been recovered from and function had been fully regained.

Pith of Current Literature.

PRACTICE OF MEDICINE.

The Treatment of Acute Septic Conditions. By Dr. I. I. Vernitz (*Roussky Vrach*, September 14th).—The injection of saline solutions, either intravenously or per rectum has been recently recommended as a method of treatment in acute septic conditions. The author tried both these methods, but found that the intravenous mode of injecting salt solution was very good in persons who had lost a great deal of blood, but if a large amount of fluid were introduced into the veins of a patient with septicæmia, he might die of a weakened heart, as the strain on the heart from such injections was too great, the fluid not being absorbed as fast as it was injected. The rectal injections however allowed one to introduce fluids into the system as fast as they were absorbed, and in this way large quantities might be gradually brought into the circulation. The method employed by the author is that of Hegar,—a long rectal tip is connected with the irrigator, and a one-per-cent. solution of common salt is introduced into the bowel through it, the pressure used being slight. If the patient complains of desire to defecate, the jar is lowered, so that a portion of the fluid returns into the jar. The jar is thus lowered and raised several times. Fæcal masses dissolve in the fluid and enter the jar, together with gases, and if the water becomes very dirty, it is poured out and fresh salt solution is introduced into the irrigator. Each infusion must be continued for a long time, not less than an hour. The more slowly the water is injected, the better it is absorbed, and the less desire to defecate is produced. In the first injection there is but little water absorbed, and most of it returns into the irrigator with fæcal masses, but subsequent injections are absorbed much more readily, as the mucosa is cleaned and properly prepared. The effects of this treatment are soon apparent in the distinct amelioration of the general condition of the patient—the tympanites and the abdominal pain grow less marked, and the respirations deepen. The improvement is specially noteworthy in cases in which there has been a peritonitis. If the irrigation is continued for a long time, or if the patient receives two irrigations following closely upon each other, the skin becomes moist, the fever drops, and the general appearance of the patient improves. The urine is markedly increased in quantity. Even if the patients perspire very freely and the temperature falls markedly there are never any signs of collapse. The method is simple, harmless, and agreeable to the patient. It is applicable, not only in septicæmia, but also in the various infectious diseases and in such toxic conditions as eclampsia and uræmia.

The Treatment of Smallpox by Repeated Vaccination. By Dr. P. I. Braslovsky (*Roussky Vrach*, September 14th).—Smallpox is by no means an innocent disease, though the ancient statistics of mortality have been long since done away with. Yet a mortality of from fifteen to eighteen per cent. is not rare, even in vaccinated persons, and various complications are often met with. Hubert (1899) found that repeated vaccination was useful in the treatment of smallpox, but only in the prodromal stages of the disease. Kotowschikoff went further

than this. He found that repeated vaccination, performed daily for a number of days, had a marked significance upon the course of smallpox, not only in the prodromal stages, but also in the beginning of the disease. Since then various authors have written on the subject. In order to test the therapeutic value of repeated vaccination in smallpox, the author tried this mode of treatment in eight cases. The majority of these patients entered with a smallpox rash fully developed—five in the papular stage, one in the purulent stage, and two at the end of the prodromal period. The vaccinations were made twice daily, three scarifications being made each time, and were performed in the two patients that entered during the prodromal period only after the rash had fully set in. The test was therefore directed solely to find the value of repeated vaccinations in the advanced stages of smallpox, not in the early part of the disease. Of the eight patients, two had a mild form of the disease from the start, the others a severe form. In general, the use of repeated vaccinations gave more or less favorable results. In the severer cases the improvement was apparently connected with the use of repeated vaccinations, yet it is difficult to say whether the cases would have taken just such a course if no vaccinations had been made. The author concludes that, in smallpox, repeated vaccinations should be used, the earlier the better, and that the largest usefulness could be expected from this treatment in the earlier stages of the disease. A larger number of cases should be observed to determine its value in the later stages.

Antidiphtheritic Serum in Scarlatinal Angina.

—Dr. Giuseppe Ciaceri (*Gazzetta degli ospedali e delle cliniche*, July 13th) speaks of two cases of scarlatinal croup in which he used antidiphtheritic serum with marked success. In the first case the symptoms of impending suffocation, which were due in a large measure to œdema of the glottis, were quickly improved by the injection of antidiphtheritic serum. In the second case there was a marked scarlatinal angina, which disappeared in a little less than twenty-four hours after the injection of the serum. The author comments on these results by calling attention to the ætiological relations between scarlatinal angina and diphtheria.

Medical Treatment of Tuberculosis.—Dr. Jesse Shoup (*American Medicine*, October 4th) has had good results with creosote in large doses when it does not interfere with the digestion. The dose is increased one drop each day until the tolerance of the stomach is ascertained. There is no doubt, he asserts, that creosote, given in this way, lowers fever, lessens cough, changes the character of the sputum, and often arrests the progress of the disease. Creosote administered in other ways than by the mouth is much less efficient. Guaiacol is less disagreeable to the patient and is preferable to creosote when gastric symptoms are prominent. It should be given as creosote is given—in large doses.

A Case Illustrating the Local and Pulmonary Effects of Abdominal Pressure. By Dr. R. Knox (*Lancet*, October 11th).—The author reports the case of a woman, aged twenty-one years, suffering from tuberculous peritonitis with marked abdominal effusion. She was markedly emaciated and anæmic,

and complained of dyspnoea, there being loss of resonance and other signs of compression at the bases of the lung. Abdominal strapping was advised, and adhesive plaster in strips two inches wide was applied to the abdomen, several layers being used, until a fairly rigid casing was obtained. This treatment was continued for three weeks, the abdomen being restrapped every three or four days, each time a little tighter. The patient steadily improved in health and gained weight, the abdominal effusion disappeared, and the signs of pulmonary pressure disappeared. The strapping helped to restore the power of the lymphatics and to give the necessary support to enable them to deal with an abnormal accumulation of fluid; the abdominal muscles required extra support to enable them to keep up sufficient pressure on the abdominal viscera to restore the temporary loss of functional power caused by the fluid in the cavity. The pressure upon the diaphragm restored the respiratory function of the lung, aided by the hindrance to abdominal respiration furnished by the binding up of the abdominal walls.

The Diet in Typhoid Fever.—Dr. William Egbert Robertson (*Proceedings of the Philadelphia County Medical Society*, October) points out that the objections to free feeding, on the part of those who have never deviated from a liquid diet in their management of typhoid fever, are necessarily theoretical. Judging from published reports, the death rate among the well-fed is a little less than among those on a liquid diet but the prevailing type of the disease must be the chief factor when we see such differences as from ten per cent. or even less, to forty per cent. Osler gives the causes of death in typhoid fever as follows: (1) Asthenia. (2) Intercurrent affections, usually caused by the invasion of the weakened organism by other parasites, as pneumococci, streptococci, etc. (3) Accidents of the lesions, as erosion of a large blood vessel or perforation of an ulcer. The author asserts that free feeding will undoubtedly serve to diminish the number of deaths from the first and second of these causes. As to the third, those who have employed it are unanimous in their opinion that a liberal diet does not increase the liability to these accidents, but on the contrary, tends, by increasing the resistance of the individual, to the opposite result.

The Significance of Abdominal Pain in Typhoid Fever.—Dr. Herman B. Allyn (*Proceedings of the Philadelphia County Medical Society*, October) insists that pain and tenderness are not necessary accompaniments of typhoid fever; on the contrary, they may be signs denoting the approach or the actual onset of a cholecystitis or perforation of the bowel. Pain is therefore a danger signal. It should lead to a more careful study of the case, to more frequent visits, the observations being recorded in writing; and when there is reason to suspect cholecystitis, perforation, or peritonitis, a surgeon should have the opportunity to see the patient early and often. Only in this way can the unfortunate patient with a perforating typhoid ulcer be numbered among the twenty-five per cent. saved by surgical intervention. Also, in regard to cholecystitis it is better and safer in most cases to have surgical advice.

Hæmorrhage in Typhoid Fever.—Dr. Roland G. Curtin (*Proceedings of the Philadelphia Medical Society*, October) has found the usual remedies for hæmorrhage from the bowels to be of more or less value. Ergot is efficacious if the hæmorrhage is caused by a leakage from the mucous membrane. Turpentine, internally and externally, especially in cases in which the hæmorrhage is associated with tympanites, is good. For external application it is best sprinkled upon a piece of flannel. This is better than the stupe, which, by producing warmth, favors bleeding. Opium is of great importance when the bowels are inclined to be loose. In cases in which the stomach will bear it, oil of erigeron given in a capsule has a seemingly good influence. Ice applied to the abdomen externally, or pieces of rounded ice slipped into the bowel, seem to have some efficacy in retarding the flow of blood, but it is essential that the impression made upon the blood vessels be continuous and not intermittent. In applying the ice externally an ice water bag, or some other receptacle that will keep the patient from becoming wet, should be employed. Advantage is to be derived from the use of suprarenal extract in cases in which there is general hæmorrhage. In some severe cases the author has also tried thyroid extract with apparently good results. The head of the patient should be kept lower than the feet. In extreme cases, the placing of ligatures around the limbs during the hæmorrhage will be found beneficial.

Diphtheria With and Without Antitoxine; One Hundred and Fifty-Nine Cases.—Dr. Charles Gilmore Kerley (*Archives of Pediatrics*, October) asserts that the death rate in diphtheria may be reduced to a very small percentage by the early use of full doses of antitoxine, not less than three thousand units, which should be given during the first twenty-four hours if possible. This amount is to be repeated without hesitancy if improvement is not promptly observed. When in doubt intubate; so, when in doubt, inject. About twenty per cent. of the cases develop urticaria which is annoying for a few days. The author would establish the following principles: (1) With visible membrane, inject at once, and take a culture. (2) In croup inject if there is inspiratory and expiratory obstruction. (3) The patients should be seen at twelve hour intervals. (4) Reinject in twelve hours if the patient is not improved or if improvement is not marked. (5) If continued improvement does not follow reinject at twelve hour intervals until the membrane disappears. (6) Dosage, two thousand units for a child under one year. Three thousand units for a child over one year; these amounts to be repeated if necessary.

OBSTETRICS AND DISEASES OF WOMEN.

The Use of Potassium Chlorate in the Treatment of Cases of Habitual Death of the Fœtus in the Later Months of Pregnancy. By Dr. R. Jardine (*British Medical Journal*, October 11th).—Sir James Simpson, fifty years ago, introduced the use of potassium chlorate in the treatment of cases of habitual death of the fœtus in the later months of pregnancy in non-syphilitic cases. In these cases the placenta is degenerated and the purification of the fœtal blood interfered with. He thought that the

chlorate gave up its oxygen. As a matter of fact, it does not do so, but it certainly has a beneficial action on the endometrium. The author reports five cases, in which it was given, in each of which the mother went safely to full term and gave birth to a living child. The drug was given continuously from the time the patients came under observation until delivery was effected. Ten grains were given three times daily after food, and the treatment should begin about the end of the third month.

The Abuse of Mercuric Chloride Solutions in Obstetric Practice. By Dr. C. R. Marshall (*British Medical Journal*, October 11th).—The author calls attention to the danger of indiscriminate douching with mercuric chloride solutions in obstetric cases. Many deaths have been reported from their use and probably many more have occurred. The symptoms of poisoning usually appear the day after the douching, the patient complaining of gradually increasing abdominal pain and diarrhoea. There are tenesmus and bloody movements, the urine is diminished in amount, and the pulse and respiration fail. These symptoms of collapse gradually increase and the patient dies in from two or three to ten days. The strength of solutions inducing such poisoning varies within wide limits. It is not so much the strength of the solution employed as the total amount of mercuric chloride passing through the uterine cavity which is the danger. Weak solutions, if used in large amounts, are harmful. The best plan is to use brief irrigations.

A Series of Eight Cases of Ectopic Pregnancy.—Dr. Horace G. Wetherill (*American Journal of Surgery and Gynecology*, September) records a series of eight cases of ectopic pregnancy in which he operated within a period of eight months. The series embraces periods of pregnancy from three weeks to six months and a half. The general conclusions drawn by Dr. Wetherill are as follows:

(1) For reasons that seem quite sufficient, but chiefly because of the impossibility of controlling hæmorrhage, as in my fatal case, and dealing satisfactorily with adhesions and complications, as in the adherent appendix cases, I operate on all cases of ectopic pregnancy by the abdominal route.

(2) Irrigation of the abdominal cavity for the purpose of washing out clots and blood is unnecessary and undesirable; wiping and sponging is better.

(3) Hot salt solution, intravenously, by hypodermoclysis and in the abdominal cavity for stimulation, and to fill the depleted vessels, is invaluable and will do more to turn the scale in favor of a bloodless patient than any other single remedy.

(4) I should prefer not to operate upon a patient in shock, *i. e.*, with sub-normal temperature, leaky skin, pale face, sighing respiration and bad pulse; but wait—raise the foot of the bed—give morphine and atropine, and perhaps strychnine and suprarenal preparations to promote quiet and stimulate gently and give water by mouth, rectum, hypodermoclysis or intravenously in small amounts.

(5) One should operate only when reaction has taken place; and then have all ready for rapid work and maintenance of body heat, stimulation and salt infusion, etc.

(6) In such cases it should be the rule never to drain for the sake of drainage simply. If there is

uncontrollable oozing or damaged intestine which needs protecting, or an infected area that may need a vent, one may pack with gauze and lead out through the vaginal vault, if practicable.

(7) It is best to use no salts or other purges for a week after operation. Salts deplete and excite peristalsis—two things it is very desirable not to do. Small and frequent enemata may be used to procure rectal evacuations.

Puerperal Eclampsia in the Light of Thyroid Inadequacy and Its Treatment by Thyroid Extract. By Dr. H. O. Nicholson (*British Medical Journal*, October 11th).—The author's conception of the nature of puerperal eclampsia is this: In some pregnant women the supply of iodothyrein in the tissues becomes gradually or suddenly insufficient for the needs of normal metabolism. Coincidentally certain toxic substances (intermediate or imperfectly converted products of nitrogenous metabolism) find their way into the circulation. These toxins, by their special property of contracting the blood vessels, eventually lead to the arrest of the renal secretion. With the suppression of urine, convulsions occur, and these do not seem to differ essentially from the fits of ordinary uræmia. A deficiency of iodothyrein is the primary fault; then the functions of the important metabolic organs are deranged; and, finally, a "vicious circle" becomes established. Two main principles of treatment seem to be clearly indicated. (1) Readjustment of the metabolic processes by rest and a milk diet, together with the use of thyroid extract until symptoms of thyreoidism occur. (2) Reestablishment of the urinary secretion, by relaxing the spasm of the renal arteries. Thyroid extract has an effect in this respect that is almost specific. But it must be given until thyreoidism is produced. The undoubted value of morphine in eclampsia is due to the fact that a large hypodermic dose fully dilates the vessels. But at least half a grain must be used. Saline infusions and tepid baths may also be employed.

Two Conditions Simulating Ectopic Gestation.

—Dr. Edward P. Davis (*American Journal of the Medical Sciences*, October) records two cases which are very suggestive. The diagnosis of ectopic gestation is a subject of constant interest, and one which at times presents considerable difficulty. Aside from the anatomical features of the diagnosis, Weindler, Veit, Martin, Olshausen, and others have drawn attention to the relation between the occurrence of rupture in ectopic gestation and the character of the menstruation shown by the patient. A further study of the subject from this standpoint may assist us in diagnosis. A positive diagnosis can in almost all cases be immediately made by abdominal section. The author believes that so grave a condition justifies abdominal section if this is necessary for accurate diagnosis. Even if the enlarged tube when removed does not prove to be the site of an ectopic gestation, the patient has suffered in no way from the operation. In cases of retroflexion and retroversion of the pregnant womb simulating ectopic gestation, abdominal section and the replacement of the womb are safer from all standpoints than the continuation of the condition. In good hands pregnancy is prolonged and hæmorrhage and septic infection are prevented.

NERVOUS AND MENTAL DISEASES.

Uræmic Aphasia.—Dr. David Riesman (*Journal of the American Medical Association*, October 11th) concludes as follows: (1) Aphasia may occur in uræmia and is at times the sole expression of that state. (2) It may be a precursor of uræmic convulsions or coma. (3) It is frequently associated with right-sided motor paralysis, hemiplegic or monoplegic in character. (4) It is usually of the motor type, but may be sensory. There may be word blindness and word deafness. It may be associated with agraphia, even when there is no paralysis of the limbs. (5) It is comparatively frequent in children, particularly in cases of postscarlatinal nephritis. In adults it may occur in any form of Bright's disease. (6) It is generally transient and has a marked tendency to occur. (7) When paralysis is present the two may disappear simultaneously; the aphasia usually disappears first. (8) The features of uræmic aphasia are, of themselves, not characteristic of the causal condition. (9) The important diagnostic features are the transitoriness of the aphasia and the presence of other uræmic symptoms or of signs of nephritis. (10) In every case of sudden aphasia, the possibility of its being renal in origin should be considered, and careful studies of the urine and of the general system should be made with this thought in mind.

GENITO-URINARY DISEASES.

Varicocele.—Dr. Charles Chassaignac (*Medical Record*, October 18th) summarizes as follows: Varicocele is a common disease, from ten to fifteen per cent. of males above puberty being affected to a noticeable extent. In the majority of instances it causes little or no trouble. In a certain proportion it leads to more or less pronounced symptoms, physical or psychological, direct or reflex. Palliative measures are sufficient when the symptoms are not severe. The only radical cure is by operation. Open scrotal ligation and resection is the operation of choice. Suprapubic ligation and resection may be substituted by those who prefer. Subcutaneous ligation is proper in selected cases.

On Hereditary Immunity to Syphilis and the So-called Law of Profeta. By Dr. M. A. Tchlenoff (*Roussky Vrach*, September 14th) (*Concluded from page 652*).—As regards maternal syphilis as influencing the law of Profeta, Ogilvie found that one must strictly separate condylomatous syphilis of the mother from tertiary and past syphilis in her. The first only can have any bearing upon Profeta's law. Ogilvie notes, in other words, that there is nothing to show that immunity against syphilis is conferred by a mother who bears a child when she is in the non-infectious stage of the disease. The author does not agree with this, for the non-infectiousness and the absence of heredo-immunity of tertiary syphilitic mothers is an undecided question; though it cannot be doubted that in the transmission of heredo-immunity tertiary and "past" play a much less important rôle than secondary or condylomatous syphilis. Children who are born of parents in the tertiary of "past" stages do exhibit immunity for a while, but soon lose it. The author reports two cases in which the children were infected five years and three months, respectively, after birth.

In 1902 there appeared Glücks's article denying entirely Profeta's law, in all its phases. Glück asserts that the exceptions to Profeta's law are very frequent, and that the law itself cannot be demonstrated in practice. He cites a case showing the fallacy of the law.

Summing up all the opinions held regarding Profeta's law, the author says that there is a wide range of notions held regarding this law. It may be safely said, however, that the alleged exceptions to Profeta's law cannot be legitimately laid at Profeta's door, for the authors who report them in most instances do not limit themselves to the text enunciated by Profeta in his conception of the law. His law is simply that mothers who are in the contagious stage of syphilis when they give birth do not infect their healthy offspring by nursing and attending it. But this law, even in this narrow sense, has many exceptions, and in view of the rarity of post-conception syphilis and of healthy children born of syphilitic mothers, it has but little practical significance. The exact scientific explanation of hereditary immunity against syphilis belongs to the future.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

The Undesired and Unexpected Actions of Medicines, including Tolerance and Idiosyncrasy to, or Abnormal Results from, Ordinary Doses. By Sir Lauder Brunton (*British Medical Journal*, October 11th).—Among the interesting facts mentioned by the author are the following: The very purity of drugs may alter their effect for the worse. Artificial sodium salicylate owes its inferiority to natural salicylate to the absence of methyl salicylate, which exists in the natural product. Just so, commercial saltpetre will prove more effective in lessening high arterial tension than pure potassium nitrate, because it contains a small amount of nitrite. Altered effects of drugs may be due to changes taking place in them after being swallowed. A teaspoonful of dry quinine may have but little effect, as there may not be sufficient acid in the stomach to dissolve it. But let several glasses of lemon soda be taken, and the citric acid dissolves the quinine whose full effect is at once manifested to the surprise and discomfort of the patient. Calomel has a comparatively mild action on vegetarians; but where considerable salt is used, more of the calomel is converted into corrosive sublimate, with a corresponding increase in its action. The relationship of medicines to meals is important. A dose of arsenic which causes severe gastric irritation if taken before a meal, may be taken with impunity after meals. A drug may act upon the body at the point of application, upon any organ to which it is carried by the blood, and during its elimination. This is well illustrated by arsenic. Used as a strong caustic paste its action may be entirely local, but when diluted (as in the poisoning by beer in Manchester) it may have no local action, but may affect the mucous membranes, causing diarrhoea, and during its elimination by the skin may produce many cutaneous eruptions. The cumulative action of certain drugs may be due to simple accumulation in the intestinal canal or to a lessened flow of urine caused by the drugs. Excitement of the circulation tends to counteract the effect of a nar-

cotic upon the brain, as is witnessed to by the efficacy of forced exercise in opium poisoning. Non-action of narcotics may be due to this cause: excessive acidity of the stomach may cause such circulatory excitement, and by relieving it with sodium bicarbonate, sleep may be induced. Similarly the reduction of a febrile temperature by means of sponges may permit of the effective action of a hypnotic.

The Action of Iron Preparations in Latent Malaria. By Dr. Cova and Dr. Bono (*Gazzetta degli ospedali e delle cliniche*, July 13th).—During the past year Riva-Rocchi showed that the administration of iron in persons who had been cured of malaria was followed by a fresh attack of the disease, although there were no plasmodia in the blood before the iron was given, and no symptoms of the disease had remained after the preceding treatment with quinine. He explained this occurrence by supposing that there were malarial parasites latent in the liver and spleen, which were dislodged from these organs into the general circulation by the congestion created therein by the iron salts. In order to find out whether this was so, the author studied a series of cases of latent malaria in which iron preparations were given. The author found that malarial parasites reappeared in the blood of three patients in from ten to fourteen days after the beginning of the iron treatment. He agrees with Riva-Rocchi as to the mode in which these latent parasites reach the blood, and calls attention to this clinical observation as a help in the diagnosis of latent malaria. Given a case of suspected latent malaria, the administration of iron in some form that is easily absorbed, will show the presence of parasites within a fortnight.

Severe Burn of the Eye and Face by Nitrite of Amyl, with Loss of the Eye.—Dr. Edward A. Shumway (*Philadelphia Medical Journal*, October 11th) presents a case which indicates that, while the administration of amyl nitrite is ordinarily safe, it is not entirely free from danger, owing to the fact that this medicament, on long keeping in the light, and with access of air, decomposes, with the formation of nitrous and nitric acids.

Brewers' Yeast in Therapeutics.—Dr. Julius Ullman (*American Medicine*, October 11th) from a review of the literature and from experience concludes that brewers' yeast, because of its ferments, nuclein, nucleic acid, and phagocytic action, is a remedy of much value in therapeutics. Its use is not confined to any one disease, but wherever an increased resistance of the organism is required. It has proved itself of value in furunculosis, carbuncles, diabetes, tuberculosis, bronchitis, bronchopneumonia, enteropositis, habitual constipation, cancer, and other affections. Used in cases of advanced tuberculosis, an improvement in symptoms indicative of secondary pyogenic infection was noted.

HYGIENE AND SANITARY SCIENCE.

Notes on the Use of the Photometer in School Hygiene. By Dr. Th. Petruschewsky (*Roussky Vrach*, September 14th).—Twenty years ago, the author constructed a photometer which was adapted for the determination of the illumination of school-rooms. This instrument was provided with a scale

that had been carefully graduated by photometric experiments. The construction was as follows: The photometer consists of a lantern in which a kerosene lamp is placed. In the side of the lantern a metallic tube is attached, and over this tube fits a movable metallic box carrying a piece of cardboard, which is to be illuminated by the lamp. A second tube attached to the lantern serves as a telescope through which the piece of cardboard and a piece of paper placed upon the table whose illumination is to be tested can be seen at the same time. By a special arrangement the amount of light that falls upon the cardboard and upon the paper on the table may be made equal, and this is accomplished by regulating the amount of light that passes through a diaphragm with a peculiarly shaped opening, from the lamp to the cardboard. This is done by rotating the diaphragm so that a larger or smaller amount of light may pass through it. When the two surfaces, the cardboard within the lantern, and the sheet of paper on the table, have the same amount of light, appear of the same color, then the scale on the diaphragm disc is read, i. e., the position of the arrow on that scale is noted. This indicates in terms of candle-power the illumination of the paper outside of the lamp. The unit of power was taken to be the light given by a standard spermaceti candle; but this light varies, and the author resorted to the amyl acetate lamp of Altenek as a standard, and graduated his scales accordingly. The photometer should be tested in a perfectly dark room, and its scale compared with Altenek's lamps. While the accuracy of this simple instrument is not great, it is very practical for school hygiene, on account of the rapidity with which estimations of the illumination of a room may be made with it. The number of units that can be measured with this photometer reaches from twelve to fourteen, but a larger number may be measured by using gray tints or orange colored paper as a test instead of white.

PHYSIOLOGY AND PATHOLOGY.

A Further Contribution to Our Knowledge of the Gastric Mucosa in Pathological Conditions of this Organ.—Dr. Max Einhorn (*American Journal of the Medical Sciences*, October) in a paper of great interest concludes that the secretory functional disturbances of the stomach are not based on a primary change in the mucous membrane of the stomach. They rather produce, if they last for a longer time, lesions of the mucosa of greater or less extent. The diagnosis of carcinoma of the stomach may, under specially favorable conditions, be made from a piece of gastric mucosa, if a direct invasion of the gland substance by epithelial cells can be observed. Therapeutically, attention must be directed principally toward the improvement of the general body state, and only secondarily by means of special measures against any secretory anomalies that may be present.

Immunity in the Light of Recent Investigations.—Dr. D. H. Bergev (*American Medicine*, October 11th) reviews the three suggestions which have been made to overcome the inefficacy of the bactericidal immunizing serums: (1) The simultaneous injection of complement derived from the same species as that furnishing the immunizing serum.

Experience has shown that there is a tendency for the complement to be used in the formation of anti-complement, so that it becomes ineffective for this reason. (2) The employment of a mixture of immunizing serums derived from a number of species of animals, so that in the multiplicity of immunizing serums the human complement may find sufficient receptors with haptophores of like configuration, to bring about the destruction of the invading micro-organisms. (3) The immunization of a species of animals so closely related to man as to yield receptors with haptophores that compare with the complement in human blood. This suggestion appears to offer the most ready solution of the problem, but the question has not yet been decided experimentally.

The Dependence of Malarial Fever upon the Anopheles Mosquito. By Dr. V. V. Favre. (A preliminary communication, *Roussky Vrach*, September 7th).—The author's investigations concern the question as to whether the mosquito theory of malaria finds confirmation in Russia, whether there exist in that country species of mosquitoes capable of transmitting malarial parasites to man, and whether these insects can actually become infected with malarial parasites from man and can transmit the infection to other persons. All these questions, with the exception of the last, he answers in the affirmative. He found the anopheles wherever malaria existed in the Caucasus, along the borders of the Caspian Sea, etc.—the *Anopheles claviger*, Fabr. or *Anopheles maculipennis*, Meig., and occasionally the author found *Anopheles pseudopictus*, Grassi. Among a number of mosquitoes captured in a room in which there were patients with malaria, there was one mosquito in whose body the parasites were found. In a series of experiments with inoculations of mosquitoes with blood containing crescentic bodies, he found that the same cycle of development which was observed in the parasite in human blood was seen in the mosquito. The mosquito theory of malaria may be regarded as demonstrated in Russia.

Gastroschisis in a Twin.—Dr. John Lindsay (*Glasgow Medical Journal*, September) records a case, the chief value of which lies in the evidence which it offers in favor of the truth of Ahlfeld's theory as to the origin of gastroschisis. According to this theory, defective closure of the abdominal walls is due to the resistance of the vitelline duct retaining the bowel outside the body cavity, and so preventing the closing in of the parietes. Up to the beginning of the third month of development, the vitelline duct (stalk of the yolk sac) remains attached to the ileum, and holds a loop of it within the root of the umbilical cord. It ought then to rupture and allow the bowel to slip back into the abdomen. If it does not, umbilical hernia results. But, for the grosser forms of hernia in this region, something more is required. This, according to Ahlfeld, is supplied by the rapid accumulation of the amniotic fluid. Normally, the growth of the amnion tends to press the yolk sac gradually away from the body of the embryo; but if the amniotic fluid accumulates rapidly, and the stalk of the yolk sac is very resistant, the outward thrust may cause the whole of the viscera to be dragged out of the abdomen. Ahlfeld has demonstrated the persistence and large size of the vitelline duct in some cases of this kind.

Clinical Remarks on Some Tumors of the Anterior Abdominal Wall. By F. D. Bird, M. S. (*Lancet*, September 27th).—Though numerous in variety, tumors of the anterior abdominal wall are not common in practice. Their importance is great and their diagnosis often difficult. They frequently simulate sarcoma, and a hopeless prognosis may be given or a mutilating operation performed. In the presence of a firm solid tumor of the abdominal wall the surgeon has to choose between fibroma, carcinoma, sarcoma, and syphiloma. Some of these tumors are markedly malignant but many of them, though of an infiltrating nature, have been removed and no recurrence has taken place. Injury often seems to stand in causal relationship to them. The author thinks that many such tumors are syphilitomatous in character and amenable to treatment. This specific inflammation may be very circumscribed in its margins, suggesting a neoplasm; in other cases the edge is infiltrated and the margin ill defined. The mass of newly formed material poisons the patient, even as a really malignant tumor does. The tumor should be incised and a portion removed for examination and to aid in its absorption if it be a gumma. Incision is wanted to start the reparative process. The author has never seen a gumma of the abdominal wall so far advanced in fibrosis as to resist both incision and medication.

Deviation of the Portal Blood by Joining the Portal Vein with the Vena Cava.—Professor Ignio Tansini (*Centralblatt für Chirurgie*, September 6th) reports his experiments on animals, devised to bring about this result. He performs a termino-lateral anastomosis of the portal vein with the vena cava. The portal vein is exposed and isolated, and a small portion of the vena cava also. For temporary hæmostasis, clamps with rubber ends are used, one on the portal vein, two on the vena cava. The portal vein is then ligated at the hilum of the liver and divided. A small piece of the vena cava is next excised between the clamps, the end of the portal vein is placed in this opening, and the edges united by a continuous silk suture. It is not necessary to avoid the lumen of the vessel in the introduction of the stitches. The blood of the portal vein is then carried into the vena cava. The animals lived in undisturbed health until they were killed for study two and one-half months later, when the vessels were found firmly united.

A New Parasite in the Blood of Frogs in India. By Dr. N. Berestneff (*Archiv Pathologi*, etc., July 31st).—In this article, which appeared also in the *Annales de l'Institut Pasteur*, the author, who was interested in the study of protozoal parasites in cold-blooded animals, describes a new parasite which he found in the blood of frogs during his sojourn in India. The frogs were obtained in the garden and orchard belonging to the plague laboratory in Parel (Bombay), and in the grounds of the Leper Asylum in the neighborhood of Parel. He found, in the first place, that there were very few frogs in the lot examined, 372 in number, that did not show the presence of some parasite. In addition to the known forms, such as *Drepanidium monile*, *Danilevskaya Krusci*, etc., he came across a series of 47 frogs out of 372 that had a new parasite in their blood, which, in its morphology and other characteristics, belonged

somewhere among the class of the parasites named above, and of *Hamogregarina Grassi* and *Hamogregarina Feletti*. The most interesting forms of this parasite were found in the shape of highly refractive bodies enclosed in the red cells of the frog. These bodies were colorless, cylindrical in shape, with a dilated end like the head of a pin, which was bent at an acute angle towards the rest of the body. The length of these capsules was greater than the length of the red cell, and therefore the parasite was disposed in folds in the red cell. The nucleus of the red cell was pushed aside, often divided into two parts. The red cell itself was often enlarged, and less vividly stained than the others. When the red cell is destroyed the parasite escapes, and immediately straightens out, the capsule unfolding and the head resuming a position at right angles with the body. The parasite itself is shaped like a small worm, and is lodged in the capsule just described. The parasite is finely granular in structure, has apparently no nucleus, and adheres to the upper portion of the capsule, not occupying its entire area. After a while the parasite penetrates through the narrowed part of the capsule and escapes into the plasma, where it moves about. Attempts to inoculate frogs with the blood of other frogs containing these parasites were unsuccessful.

Some Reflections on Cases of Acute Intestinal Obstruction.—Dr. H. Beekman-Delattour (*Medical Record*, October 18th) points out that the sudden onset of obstruction of the bowels does not always mean the presence of a recent lesion, especially in those persons at or beyond forty years of age. In many cases the symptoms may point to an attack of appendicular inflammation as the appendix becomes distended by gas or fecal matter. It is best in all cases where a new growth is suspected, or where there is much distention, to first make an artificial anus, and to use the cæcum for this. Always open the intestine immediately, as you need to give relief as soon as possible, and there is no danger of feces leaking back into the abdomen, provided the exist at the anus is not blocked by too tight dressings. Better leave the wound exposed, the nurse being instructed to clean away the fecal matter as it appears. Do not be contented to leave these cases with the artificial opening, unless at the primary operation the tumor has been found immovable and anastomosis impossible, for many patients may live months with the tumor *in situ* if the current of fecal matter is diverted by placing the loop of intestine containing it out of the fecal current.

A Case of Congenital Bronchiectasis in a Patient with Inverted Position of the Viscera. By Dr. A. K. Zivert (*Roussky Vrach*, September 15th).—Both conditions indicated in the title are very rare, and in the present instance they were present in the same individual. The man was twenty-one years of age, and complained of distressing cough, with expectoration of a copious amount of sputum. He gave a history of having coughed since early childhood, several attacks usually occurring every day, and being accompanied by vomiting and by the expectoration of large amounts of purulent sputum. The vomiting ceased when he was about ten years old, but the cough and expectoration of pus continued. Mentally, the patient was somewhat backward, and

physically he showed evidences of malnutrition. On examination he was found to have an inverted arrangement of both the abdominal and the thoracic organs, and his cough was characteristic of bronchiectasis. There was tympany under the left clavicle, a cracked pot sound, and amphoric breathing, showing that a bronchiectasis existed there. The bronchiectasis in this case is probably congenital, and is a defect of development. A few such cases have been previously reported in literature. The coexistence of the inversion of the viscera is only a secondary anomaly of development.

Seventy-one Cases of Tetany, with Six Pathological Examinations. By Dr. R. A. Peters (*Roussky Vrach*, September 14th).—The author reports a series of cases of tetanus, of which 67 per cent. were in boys, and 33 per cent. in girls. There were eight deaths, one of influenza followed by pneumonia, one of whooping cough followed by pneumonia, one of scarlatina followed by pneumonia, and one of a pneumonia of uncertain origin, one of nephritis and eclampsia, and one of exhaustion. In six cases autopsies were performed. The symptoms which were observed in all the cases, and which were used as tests in classing the cases as tetany, were: (1) Contraction of the hands and of the feet. (2) Chvostek's symptom: Percussion with a hammer over the branches of the facial nerves produces a contraction of the facial muscles. (3) Erb's symptom: Increased electroirritability in the peripheral nerves. (4) Trousseau's symptom: Pressure upon the tendon of the biceps produces contractions in the muscles of the upper extremity that are quiet at the time of testing, or the contractions are increased in those muscles that are in activity at the time. (5) A sign which the author calls "jumping-jack" symptom. It consists of motions of the lower extremities resembling those that result from the pulling of the string of a paper "jumping-jack," when the galvanic current is applied to the portions of the spine that correspond to the lumbar and cervical enlargements, the anode being placed on the chest, the cathode on the spine. The strength of the current was from three to four milliamperes. Erb's and Chvostek's symptoms were not found so constantly as the other signs, and were not pathognomonic. The common opinion is that tetany is a functional disease, but the author's clinical observations convince him that it is a disease due to lesions of the roots of the nerves that control the muscles concerned. All the symptoms may be explained by such lesions. The lower cervical and the upper lumbar roots are those most frequently affected, but there are exceptions to this rule. The probable seat of the lesion is in the points of exit from the spinal canal, where the nerve roots are united into distinct functional units.

Recent Studies of Immunity, with Special Reference to their Bearing on Pathology. By Dr. W. H. Welch (*British Medical Journal*, October 11th).—In the Huxley lecture, delivered in London, on the above-mentioned subject, the author gives a most excellent review of the present-day knowledge as to immunity. Beginning with Behring's great discovery of antitoxic immunity, he follows the development of the subject up to the present time, where it culminates in two theories, one the phagocytic theory of Metchnikoff, the other the side-chain

theory of Ehrlich. The author rather favors Ehrlich's theory as a working hypothesis, but states that Metchnikoff has much on his side. The two observers have attacked the problem from different sides.

The most interesting portion of the article is a new hypothesis advanced by the author to explain the source, mode of production, and nature of certain bacterial poisons. In a small group of pathogenic bacteria, represented by the bacilli of tetanus and of diphtheria, powerful soluble toxins are known to be secreted. But a much larger group, containing most of the pathogenic organisms (typhoid, pneumococcus, etc.), do not secrete similar toxins. True, it has been found that these latter contain toxic substances, but these substances are liberated only when the bacteria degenerate and die. How do such organisms exert their toxic action while alive? The author suggests that suitable substances, derived from the host, may stimulate these parasitic organisms through a physiological mechanism similar to that operative in the development of cytolytic immunity, to the production of intermediary bodies, which, if provided with the requisite affinities, have the power to link complements to cellular constituents of the host and thereby to poison the latter. Expressed in terms of Ehrlich's side-chain theory, certain substances of the host of cellular origin, assimilable by the parasites through the possession of haptophore groups with the proper affinities, become anchored to receptors of the parasitic cell, which, if not too much damaged, is thereby stimulated to the overproduction of like receptors; these excessive receptors of the parasite, if cast off into the fluids or the cells of the host, there constitute intermediary bodies, or amboceptors with special affinities for those cellular constituents or derivatives of the host which led to their production, and for others which possess in whole or in part identical receptors.

The Pathogenic Microorganisms in the Potable Water of the City of Kieff.—Dr. M. M. Moscalev (Archiv Patologii, etc., July 31st) says that the drinking water of Kieff is not at all satisfactory from the bacteriological viewpoint. The author performed eleven analyses of this water in March, 1900, and ten analyses in May of the same year. He found no microbes in the water of the artesian wells, but in the water of the wells and of the river, which was unfiltered, he found the following germs: (1) *Staphylococcus pyogenes albus, aureus, and citreus*, the *Bacillus pyocyaneus*, the *Bacillus coli*, and the *Proteus vulgaris*. (2) A number of nonpathogenic microbes. In addition, the author isolated a new pathogenic spirillum which reacted on guinea pigs and liquefied gelatin in from twenty-four to forty-eight hours. In May, the river Dnieper contained 3,444 of these spirilla to the cubic centimetre.

Senile Degeneration of the Heart.—Dr. K. Dehio (Archiv Patologii, Bakteriologii y Khimicheskoy Meditsiny, July 31st) has studied the pathology of senile hearts, and concludes as follows concerning the degenerative changes that take place in such hearts: The ability of the heart to adapt itself to the demands of increased blood supply is lowered in old age. In physical exertion, the senile heart is incapable of supplying the needed increase in blood supply, as it is unable to maintain an increased arterial pressure.

The automatic energy of the heart in old age is lowered, and these deficiencies in compensation to exertion, are the result. As regards changes occurring in senile hearts, the first thing that is noted in the hearts of persons that die in old age, is the fact that the cardiac muscles are hypertrophied. The walls are thicker and the cavities are dilated. This increase in the size of the heart, this dilatation-hypertrophy, arises from the necessity of compensating for the increased demand upon the heart's action in consequence of the arteriosclerosis of old age. A more or less marked arteriosclerosis of the coronary arteries is also noted in these hearts, and often even the most minute branches of these vessels are affected. As regards the microscopic changes in the muscle itself, the first change noted is a gradual atrophy of the cardiac muscle fibres, which is followed by a hypertrophy of the connective tissue stroma, which takes the place of the muscular tissue in the hypertrophied senile heart. This process is diffuse, involving the entire hypertrophied organ, though it may be more marked in places. The senile changes appear first and most markedly in the auricles, *i. e.*, in those portions of the heart that have the smallest amount of muscle tissue.

Rats and Plague. By Dr. G. J. Blackmore (Lancet, October 11th).—In this article the author describes the outbreak of plague in Port Elizabeth, in 1901, and shows that the dissemination of the disease was due to plague-infected rats brought from the River Plate in maize. He gives details of thirty-three cases, an analysis of which shows that where infected rats were found plague cases followed, and in places where there were no infected rats only four cases of plague occurred, and in these cases the direct source of infection could not be traced at all. In no case was there evidence of direct man-to-man infection, and in most cases the possibility of it was definitely excluded. Observations show that it is not necessary for persons to come into actual contact with diseased rats to contract plague. It seems that the disease is communicated by some intermediary agent which can pass from rats to man without actual contact between the two and which is found in warm dead rats and not in cold ones. The rat flea is such an intermediary. Although it is possible that most outbreaks of plague are initiated and carried on up to a certain point by means of rats, it is certain that infection from person to person takes place sooner or later. And here again the presence of an intermediary is apparent, and this agent is probably the human flea. In view of the close connection between plague in rats and in man, it is evident that where a country is threatened with the introduction of plague, it is of vital importance to prevent the importation of infected rats and to exterminate all the rats already in the place, especially in the seaports. The chief measures usually adopted for the destruction of rats are the use of traps, poison, dogs and cats, ferrets, poisonous gases, and the introduction of infectious diseases known to be fatal to rats (inoculation with Danyysz's bacillus). Poison is the measure on which most reliance should be placed for the destruction of rats, but its disadvantages are obvious. Ferrets are useful in the hands of expert rat catchers. Good results have also been obtained from the use of gas, especially in ships' holds and in sewers.

Letters to the Editor.

EYE STRAIN AND WRY NECK.

345 MADISON AVENUE,
NEW YORK, October 15, 1902.

To the Editor of the *New York Medical Journal*.

SIR: In your issue of October 11, 1902 (page 632), an article appears by Dr. George R. Elliott entitled A contribution to the Treatment of spasmodic Wry Neck. It is illustrated by cuts of ingenious mechanical apparatus, designed by the author to hold a head in place. As far as his article states, no cure was obtained—possibly not expected. The honest statements that Dr. Elliott makes in his preface to this contribution regarding the failures of nerve resection, muscle cutting, drugs, massage, hypnotism, electricity, hydrotherapy, and Christian Science in the treatment of wry neck accord with others who have dealt extensively with these pitiful cases of suffering and deformity.

It is, however, pertinent to this subject, I think, to call the attention of the readers of your journal to the two following cases that illustrate these important and omitted facts: 1. That "eye strain" is a common and frequently neglected cause of wry neck. 2. That no case is hopeless until that important factor is examined by modern and scientific instruments of precision. 3. That wry neck is more often a result of reflex spasm than of organic disease. 4. That the eye muscles (when abnormally balanced) can excite it. 5. That a correction of muscular imbalance in the orbit can often cure it. 6. That it is most unfortunate that so important a factor in the causation of wry neck should be omitted by any author who writes upon that condition.

The time has passed when the scientific investigation of eye muscles can be ignored. It is but just now to those who have had the largest experience in that field and who have devoted many years to its patient investigation that the practical results of such work should be given due prominence.

Such results have been constantly reported in detail by me (as well as many others) in various medical journals for the past fifteen years; the clinical records have been, as a rule, unusually full and complete; the names of the physicians who had treated them and who had placed these cases under my care have been invariably given; yet these cases are not prominently quoted as they should be (because the details of treatment are unknown to most neurologists, and because some of the leading oculists still persist in opposing what they refuse to investigate without prejudice or bigotry).

CASE I.—In my work entitled "Eye strain in Health and Disease" (F. A. Davis Co., Philadelphia) I reported the case of a poor factory girl (Miss C., 26 years) who had been exhibited, prior to my treatment of her, before many medical societies in Massachusetts. Dr. O'Connor, of Holyoke, had never been able to get a satisfactory diagnosis of her case. He sent her to me on February 27, 1888, to examine her eyes and eye muscles. Her symptoms had lasted for sixteen years and had been steadily progressive. Her neck, arms, and hands had become markedly stiff and distorted. She had suffered untold agonies and was no longer capable of self-support.

Several photographs of her were taken by me

(during the few months that I had her under my personal observation) to show the remarkable and progressive restoration to health under eye treatment alone. When I first saw her, the deformity of her head was very remarkable. The chin was pushed forward and downward, so that it was held fixedly in close proximity to her chest (about the level of the fourth button of her waist). She could not raise the chin or move the head. Both arms were also horribly distorted. The elbows, wrists and fingers were semiflexed; and any attempts to use them caused excessive trembling. She had not been able to work for some four years. As she entered my office for the first time, she looked like a horribly deformed person in a crouching attitude, with trembling hands and limbs, with eyes looking from under her eyebrows, and with head almost at a right angle to the spine.

Whenever she attempted to speak, or in any way became excited, she would be seized with what she called "choking spells." These would shut off her breath to an alarming degree; and her face would at once become distorted with horrible grimaces, chiefly about the mouth.

There had been for years a severe and almost constant pain in the neck; but no painful points to pressure existed. No impairment of sensation either of touch, pain, or temperature existed. Motility was perfect. There was no incoordination or impairment of the muscular sense. No evidences of an organic spinal lesion could be discovered.

In this girl, three graduated tenotomies were performed by me upon her eye muscles. Over twenty degrees of *esophoria* (a tendency of the eyes to deviate toward the nose) and about three degrees of left hyperphoria (a tendency of the left eye to assume a higher plane in the orbit than its fellow) were satisfactorily relieved by these operations. She had only a very slight refractive error; hence no glasses were ordered.

The result was a steady cessation of her symptoms and a practical cure. She was able to hold her head perfectly erect within a few months; was cured of all pain almost as rapidly; regained the use of her arms and fingers within a year; and became self-supporting again as a factory girl within a year.

The last report I could obtain of this case was sent me a few years ago. The patient had slight choreic movements of the face under excitement but was practically cured. I presume that some further work upon her eye muscles may still be required to establish a perfect equilibrium; but she had never been able to bear the expense of a trip to New York, up to the date of the last report. I still have the photographs that tell their own story more forcibly than words.

CASE II.—A very bright and attractive young lady, Miss R., aged twenty-seven, school teacher, was sent from Pennsylvania in September, 1897, to Dr. Robert T. Morris, the distinguished surgeon of New York, to be operated upon for wry neck. Her condition was so extreme and the symptoms so aggravated that Dr. Morris stated honestly to the patient that operative procedures were not satisfactory. He referred her to me for examination of her eyes to see if any unsuspected eye factor existed that could possibly produce such aggravated symptoms.

The history obtained from this patient by me as follows: Up to twenty years of age she was per-

fectly well and never had a doctor. She had the right ovary removed for a tumor at twenty years of age. After that operation she was perfectly well until eighteen months prior to her visit to my office.

In February, 1896, her head began to twitch, first to one side and then the other. It then gradually twisted toward the right side, with very great rigidity of the left sternomastoid. There was then no acute pain, but a general sense of soreness existed in the neck. She was treated for it by Dr. Doll, of Elmira, with electricity and massage, and improved sufficiently to enable her to return to her profession.

In November, 1896 (ten months prior to her visit to New York), she was suddenly seized at the dining table with severe cramps in the muscles of the left side of her neck. These paroxysms were accompanied by the most intense pain. Her chin became twisted so that it turned over her right shoulder, and the entire head was drawn toward the right shoulder. The muscles of the neck became rigid like bars of iron; and for two weeks she was kept under the influence of heavy doses of opiates.

This condition has persisted without cessation ever since that seizure (ten months previous). She has had to give up all attempts at self-support. She has been unable to sleep without morphine in regular doses. She weighs only one hundred pounds; and can walk but very little on account of weakness and pain. She has carried constantly for many months a pillow between her head and her shoulder in order to support it. Without such support, the pain becomes almost unendurable.

The appearance of this patient on entering my office I shall never forget; an extremely delicate and emaciated girl, with a pillow packed between her occiput and right shoulder, with extreme deformity due to twisting of her head, and with a face indicative of the most acute suffering. Any attempt to straighten her head caused the most acute agony. No amount of manipulation could at first alter the position of the head sufficiently to properly adjust it for eye tests.

Strange as it may seem, she had *suffered during her life with but slight asthenopic symptoms and had used her eyes constantly with average comfort*. She showed (under atropine) only a moderate degree of astigmatism and hypermetropia ($+ 0.50^{\circ} \odot + 0.75^{\circ}$ axis 90°).

An examination of the eye muscles, however, disclosed marked "heterophoria" (maladjustment).

The full details of treatment of this case cannot be given at this time; but it will suffice for me to state here that a full *correction of the refraction by glasses and two graduated tenotomies upon both interni effected a perfect cure*. The duration of treatment was about three months; during which time she gained over twenty pounds in weight and used no drugs. Her pain ceased almost immediately after the first tenotomy.

On June 27, 1902 (about five years after my treatment), this patient dropped unexpectedly into my office. She reported that the cure had remained permanent; and that she had been able to teach and be self-supporting.

The only relapse that she had experienced was during a school period when her glasses had been broken and were sent away for repair. The neck began to

be somewhat painful and stiff at once. This disappeared on resuming her glasses.

The deductions to be drawn from these two remarkable recoveries from apparently a hopeless condition are as follows:

1. That "eye strain" can cause and its relief can cure wry neck.
2. That no case is scientifically investigated until both the eyes and the eye muscles are properly examined by modern instruments of precision and modern methods.
3. That graduated tenotomies upon the eye muscles are a positive surgical step for the relief of reflex symptoms produced by maladjustment of those muscles. These operations are painless, require no surgical dressings, entail no confinement to bed, and produce immediate results.
4. That the condition of wry neck should be regarded as a pure neurosis in most instances; hence the determination of its exciting cause is vitally important as a step toward its cure.
5. That all mechanical treatments of wry neck are but palliative; and apparatuses designed to aid in maintaining the normal head posture, are neither ornamental or curative.

AMBROSE L. RANNEY, M. D.

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Book Notices.

Ophthalmic Myology. A Systematic Treatise on the Ocular Muscles. By G. C. SAVAGE, M. D., Professor of Ophthalmology in the Medical Department of Vanderbilt University, etc. Sixty-one Illustrative Cuts and Six Plates. Nashville, Tennessee: Published by the Author, 1902. Pp. viii+589.

The subject of faulty action of the extrinsic ocular muscles, the reflex symptoms dependent thereon, and the proper correction of the same is one of great interest to ophthalmic surgeons. As yet there is no proper consensus of opinion in regard to it, and such a work as this, in which we are presented with the results of Dr. Savage's studies told carefully, plainly, and with evident sincerity, deserves the highest commendation and a careful, critical scrutiny.

The most interesting and perhaps the most important proposition in the book is the author's restatement of Listing's law as to the rotation of the eye in the following words: "When the line of fixation passes from its primary to any other position, the angle of torsion of the eye in this second position is the same as if the eye had arrived at this second position by turning first about the vertical axis and then about the horizontal axis." Dr. Savage has not only stated this proposition clearly, but has demonstrated it as well and shown the error made by Listing many years ago in his enunciation, which has ever since been accepted as true by the scientific world.

About one half of the book is devoted to orthophoria, the various forms of heterophoria, the tests to detect them, and their treatment when discovered. Due credit is given here to many authors, and the symptoms and tests are discussed at some length. Too little weight is laid on the influence of refractive errors in the production of æsthenopic symptoms, so

that the reader becomes inclined to ascribe such symptoms mainly to muscular conditions, an unfortunate practical error; but it may be responded that this is a work, not on asthenopia, but on myology, and deals with asthenopia only so far as it is connected with that study.

It is very pleasant to read Dr. Savage's strong words favoring non-operative treatment until the possibility of a cure by that means has been eliminated. This is so different from the recommendation sometimes made to develop a "latent" condition by the use of prisms and then operate for that condition.

Cyclophoria, "the tendency of the vertical axes of the eyes to lose parallelism with the median plane of the head," has been for several years a favorite subject of study for the author, and his ideas have been brought elsewhere to the notice of the profession. They are well worthy of diligent study and investigation. The reader who desires "practical results" rather than scientific study will be pleased with the amount of information he can obtain as to the adjustment of cylinders in oblique astigmatism where the correcting lenses produce metamorphopsia, though he who desires scientific study will not be disappointed.

The forms of heterotropia, familiarly known as strabismus or squint, occupy about 100 pages. In esotropia, or concomitant convergent strabismus, the author prefers Landolt's advancement of the externi to any complete tenotomy, but considers the ideal operation to be the addition of a partial tenotomy of the internus on the ground that this muscle is too strong and needs to be weakened. The correctness of this assumption can hardly be said to be demonstrated, and the advisability of the addition of partial tenotomies of the interni to the advancement of the externi is at least doubtful.

To the inexperienced the operative treatment of cyclotropia by partial tenotomies and advancements of the marginal fibres of certain muscles does not commend itself, because of his inability to estimate with exactness the effect which will be produced by the division of a few marginal fibres of a muscle, and his still greater inability to predict the final effect of such a division after the wound has healed and cicatrization has taken place. The statement by the author that cyclotropia probably never exists alone suggests whether it is not usually better to try to remedy it by a correction of the accompanying trouble than by such an extremely delicate surgical interference.

Under paralysis and paresis of the ocular muscles, the reviewer has not noted anything new, but has been much pleased with the brief and clear treatment the subjects received.

The International Medical Annual. A Year-book of the Treatment and Practitioner's Index. By Various Contributors. Twentieth Year. New York: E. B. Treat & Company, 1902. Pp. xi-688.

The *Annual* is now in its twentieth year and continues to remain one of the most popular works of its kind. All the important advances in medical science, particularly those of interest to the general practitioner, are given in detail as heretofore, and the busy physician will find the book a valuable time-saver as a reference work. The article on toxins and antitoxines, by William Murrell and Joseph

McFarland, is particularly interesting and instructive, also that on disorders of metabolism, by Bertram Abrahams. In the brief article on aseptic surgery in New York, McBurney is mentioned repeatedly as "MacBurnie." On the whole, the editorial work is satisfactory, the illustrations are well executed and the index has been carefully prepared.

Klinisches Jahrbuch. Im Auftrage des Königlich Preussischen Herrn Ministers der Geistlichen. Unterrichts- und Medizinal-Angelegenheiten unter Mitwirkung der Herrn Professor Dr. M. KIRCHNER und Dr. NAUMANN. Achter Band. Viertes Heft. Dr. LUDWIG HIRSCH, Entstehung und Verhütung der Blindheit. Jena: Gustav Fischer, 1902. Pp. 489 to 596.

The determination of the proportionate importance of the causes of blindness is not easy. In this monograph Dr. Hirsch presents the results of an investigation in which he has tried to overcome these difficulties, together with prophylactic suggestions. This investigation consisted of an examination into the physical condition of the eyes of 700 children under the age of eighteen, inmates of ten institutions in different parts of Prussia, and of 600 blind adults, a consideration of the personal history of each, and the collection of all possible testimony from the physicians and ophthalmologists who had been consulted as well as from parents and others. It is necessary to assume a certain amount of vision as the maximum compatible with the classification of an eye as blind, because, though scientifically only those are blind who cannot perceive light, all are practically blind who cannot see sufficiently well to make a living. This maximum is assumed as 1/60, which certainly does not exceed the common conception of blindness.

Congenital blindness was present in twenty-five per cent. of the eyes examined. It is largely dependent on heredity, especially the collateral form, in which healthy parents transmit an anomaly which existed in a previous generation.

Of the contagious diseases of the eye, ophthalmia neonatorum is the most important in the production of blindness. Créde's instillation of silver nitrate into the eyes of the new-born, is endorsed as the most efficient prophylactic measure at our command, but it is maintained that it has not reduced the amount of blindness due to this disease as much as was expected, and the author is opposed to legal measures to compel its use in all cases of childbirth, on several grounds. He alleges that under ideal conditions it proves inefficacious in a certain percentage of cases, and that therefore it may reasonably be expected to prove more often inefficacious in the hands of midwives; that the application is not always harmless and that the number of eyes exposed to the disease is too small to justify the compulsory and unreserved use of a precautionary measure which may, and has been known to, injure eyes otherwise safe. He believes the disease to be curable under proper and timely treatment.

The importance ascribed by the author to the acute infectious diseases of children is striking, measles, diphtheria, and scarlet fever being held responsible for nearly a third of all cases of blindness in childhood, measles alone for seven per cent., mostly through keratitis. Most cases of preventable blind-

ness from measles cannot be charged to the doctor, for he is so frequently called too late or not at all. The eyes should be inspected daily, the room should be darkened when there is photophobia, to avoid collections of pus beneath the closed lids, atropine should be instilled and the lids smeared with sublimated vaseline when the conjunctivitis is severe, and as soon as the cornea is affected the treatment for keratitis should be begun. Before the introduction of compulsory vaccination in Prussia, thirty-five per cent. of all cases of blindness was due to smallpox; now Hirsch finds only 0.3 per cent. Attention is called to the fact that in a few cases vaccination may injure the health or the eyes by reduction of the power of resistance, and in one case the eyes were lost through self-infection by the finger.

Accidents cause the loss of one eye much more frequently than blindness, yet 132 of the 1,300 persons examined lost both eyes through injuries or sympathetic inflammation, fifty-one received the primary injury before the age of six, thirty-three between six and ten, thirteen between ten and fifteen, and only thirty-five after that age. Nearly one half of the accidents may be classed as preventable by better care and training of children, and they include wounds of the eyes with scissors, forks, knives, objects thrown in the face, missiles from blow guns, arrows, fireworks, and the results of practical jokes.

Regarding sympathetic inflammation, Dr. Hirsch speaks strongly in favor of a certain compulsion to be exerted when a person with an injured eye refuses to have it removed for the protection of the other. This he would exert through the insurance and sick benefit societies, which should declare all claims upon them forfeited by such a refusal.

The prophylaxis of blindness indicated is, in brief: 1. Stamping out infectious diseases; compulsory vaccination in Prussia has reduced the blindness from smallpox to almost nothing, and the better the boards of health succeed in doing away with other contagious diseases the more will the twenty-eight per cent. of blindness dependent on the infectious diseases of childhood be reduced. 2. Supervision of the children of the poor and enforced rules for the protection of the eyes of artisans. 3. Proper medical treatment of diseased eyes. As the victims of preventable blindness belong almost exclusively to the poorest and least intelligent class of the community, proper care and expert help must not only be free, but easily obtained, and under certain circumstances compulsory treatment may seem to be indicated, as in ophthalmia neonatorum, where a few days' neglect may cause blindness.

Les aveugles à travers les âges. La clinique nationale ophtalmologiques des Quinze-vingts. Avec une statistique sur les causes de la cécité, basée sur 1,000 observations. Par le Docteur CONSTANTIN GOLESCAHO. Préface de M. le Docteur J. V. LABORDE, Membre de l'Académie de médecine. Paris: A. Maloine, 1902. Pp vi-270.

Attention has been directed for several years to the amelioration of the condition of the blind in all countries, and in this work an account is given of what is being done in France along this line. *Les Aveugles à travers les âges* is a brief sketch showing the pitiable condition of the blind in former times

and its gradual improvement from one century to another. For its purpose, that of introducing the asylum for the blind, it is sufficient, yet one could wish that the historical sketch was more amplified, so as to indicate more clearly the underlying factors productive of the gradual amelioration. But such an historical sketch, to be of value, would be obliged to consider the conditions of the blind in other countries as well as France, and would perhaps demand more space than was at the command of the author. Following this is a biographical sketch of M. Pephau and of the Braille school founded by him, with a note on the schools for the blind in the provinces and foreign countries, in which it is pleasant to see a warm commendation of the schools of Philadelphia and New York, with special mention of the one in Boston.

Next follows a description of the clinic, its methods and the disease treated. The most important part of the book, yet one in which great improvement can be made, is that devoted to the causes of blindness. The blind are divided into three classes, the incurable, the probably but not certainly curable, and the curable, each comprising not far from a third of the 2,000 cases tabulated. Uniocular as well as binocular blindness is included. It is evident that the word blindness is not intended to be understood in its scientific meaning of inability to perceive light, because of the inclusion of the class curably blind and of amblyopic eyes in strabismus, but no definite limit of vision seems to be assumed as the boundary line of blindness. This lack of accuracy is surprising and detracts from the value of the statistics. It is also to be regretted that more attention is not paid to the general diseases which are so often the true cause of blindness, and which demand attention, rather than the local lesions through which they work, on the part of those who are endeavoring to reduce the amount of blindness.

Grundriss der pathologischen Anatomie für Studierende und Ärzte. Von Professor Dr. LANGERHANS, Prosector am Städtischen Krankenhaus Moabit in Berlin. Dritte vermehrte und verbesserte Auflage. Mit 231 Abbildungen. Berlin: S. Karger, 1902. Pp. xi-743.

The author of this book has produced a work of marked individuality. There is a peculiar charm about its style, and its diction is superior to that found in most text books. As a book for students, it will not always be found satisfactory, but as a reference work it contains much information of practical value.

The book is divided into general and special pathology, and the chapters dealing with the former subdivisions are by far more useful than the latter. No attempt, however, has been made in the classification of tumors, which are described in the usual familiar style. The parasitic theory is dismissed in a line. Endothelioma receives only one half of a page and is very unsatisfactorily described. The author believes an endothelioma to be an entity, and says that either true sarcomatous or carcinomatous changes may develop therefrom. Altogether, this chapter on tumors is one of the weakest in the book.

The schematic drawings scattered throughout the work are unique, particularly those describing the intestinal lesions of typhoid fever. Diseases of the eye, the ear, and the skin, so frequently omitted in

works of this kind, have been incorporated. An unusual classification is that of placing the adrenal gland diseases in the chapter on peripheral nerves.

The illustrations, mostly original, are far below the standard of recent American publications. A very complete index has wisely been added, and the author has thus materially lightened the labors of the student.

The work, now in its third edition, is dedicated to the late Professor Virchow, in commemoration of his seventieth birthday.

Miscellany.

What Vaccination Has Done for Small-Pox in Puerto Rico.—Major Azel Ames (*Pacific Medical Record*, September) in a paper read recently before the Association of Military Surgeons, at Washington, D. C., gives the following summary, which is thus first hand:

"In October, 1898, small-pox was endemic in Puerto Rico; in December it was epidemic; in January, 1899, it had 'honey-combed' the island; by February there were over 3,000 recent cases, and the disease was spreading at a gallop.

"In February systematic compulsory vaccination, carefully and scientifically conducted and recorded, was begun simultaneously and with pretty equal efficiency in all parts of the island. It was vigorously prosecuted for *four months only*, till July 1st, when 860,000 vaccinations had been made in a population of about 960,000. Of these 87½ per cent. were successful. The work then ceased, because completed; the disease had practically disappeared; the fuel for it to feed upon had been consumed by the 'head-fire' of vaccination. In the two and a half years that have since passed, instead of the former annual average death rate of 621, the mortality from small-pox has been but two per annum in a population of nearly a million. Can any *honest*, intelligent person doubt in face of these indisputable and easily verified facts, *what it was that in four short months drove small-pox from its wide and long-time reign in the island, and has since kept it out? Vaccination alone did it, and will do it effectively, wherever compulsory legislation, properly enforced, secures its benefits to all!*"

The Routine Use of Normal Saline Solution in Abdominal Operations.—Dr. William H. Humiston, in a paper read before the recent meeting of the American Association of Obstetricians and Gynecologists, at Washington, referred to his first publication on this subject in the *American Journal of Obstetrics*, in 1895. In 1897 he first employed the peritoneal cavity as the absorbent surface and his results were so good that he has continued that practice as a routine measure in abdominal operations.

The technics is simple. After partially closing the wound he pours into the cavity through a glass funnel not less than two quarts of normal saline solution at a temperature of 112° F. and quickly ties the few remaining sutures, previously introduced. In a few minutes a marked change is noted in the character of the pulse; its rate is diminished, tension lowered, and fullness increased. The color of the face more nearly approaches the normal, and usually the patient has little or no thirst for the first eighteen

hours, has less pain, and requires no enemata of any kind, and is thus kept absolutely at rest and free from the annoyance of *too much nursing*.

In vaginal cœliotomies where this method can not be employed he begins by having the saline administered subcutaneously. The trocar is entered at the junction of the anterior axillary border with the upper border of the right breast, being plunged downward, backward, and inward, so that the fluid finds the loose tissue in the axilla and backward underneath the scapula rather than under the breast. In this position, with a very little massage, three or four quarts can readily be injected with four feet of pressure.

In emergency work outside of hospitals where assistance is limited and sterile salt solution is not to be had, he has used a hastily prepared non-sterile salt solution during an operation by allowing the sigmoid and colon to be slowly filled with the fluid, which can be easily accomplished with the patient in the Trendelenburg posture and the peritoneal cavity opened to permit of the ready guidance of the tube above the pelvic brim. Large quantities may be used in this way without hindrance in the field of operation and the rapidity of absorption can only be appreciated by actual observation.

Another use of the salt solution has sound theoretical, and proved practical, grounds for its adoption. For a number of years the author has not flushed the cavity or used a drain. He does, however, occasionally make use of the Mickulicz tampon to control general oozing; and in these cases he has found that the filling of the peritoneal cavity after the tampon has been placed tends toward the dissolution of clots and the carrying off of effete material within the pelvis through the capillarity of the tampon. He has never had a bad result from this use of the saline. While there are no certain indications for its use, he is certain that many a case of sepsis, of septic nephritis, and of low cardiac vitality has been saved.

The author here records three cases in which this method was used. The first was the removal of a large widely adherent ovarian cyst. Collapse occurred, but slight recovery took place during the flushing and four quarts of fluid were left in the abdomen. The radial pulse soon reappeared, and rising to 160, dropped to 90 within twenty-four hours. Rapid and uninterrupted recovery.

The second case was an operation for extrauterine pregnancy. As soon as partial anesthesia was induced, the introduction of salt solution beneath the breast was begun, and when the patient was taken from the table two quarts had been given and most of it had already been absorbed. With the checking of the main blood supply the fetus and the various blood clots were removed from the pelvis and the placenta was carefully detached. No attempt was made to clean the general peritoneal cavity, but as much salt solution as the space would contain was poured into it and left when the stitches were tied. The posterior wall of the gestation sac was sewed to the upper portion of the wound in the abdominal wall, and the cavity of the gestation sac was packed with gauze to control the general oozing.

The patient's condition when first placed upon the table was very precarious, but with the absorption of the salt solution beneath the breast and the use of

strychnine sulphate, one-fifth grain, the pulse gradually grew stronger and fuller, and at four P. M. was 140 in rate.

One half-pint of salt solution was given *per rectum* every hour, and one-thirtieth of a grain of strychnine every two hours and four minims of fluid extract of digitalis each four hours, hypodermically.

At 7 P. M. the pulse again began to waver and again a subcutaneous injection of two quarts of salt solution was given, and at midnight the pulse was 160 and rapidly growing stronger and slower. Twenty-four hours after operation it was 128 and never again above this point.

The r..pidity with which this patient responded to the use of submammary injections of salt solution when the conditions seemed most hopeless, and the ease with which the general peritonæum cared for the blood and clots that were left in the cavity, are the two important facts to be deduced.

Case 3 was one of intrauterine gestation with miscarriage followed by septic peritonitis. During operation the rectum was accidentally torn, and about three inches were resected with an end to end anastomosis. Two quarts of saline were given in the axilla during operation with excellent results on the pulse. A Mickulicz tampon was placed in the pelvis to control oozing and to protect the rectum at the junction of anastomosis, and two quarts of saline were placed within the abdominal cavity. The results were excellent.

The Legal Rights of Heirship of the Unborn Child.—The *Lancet* for September 27th, by its Canadian correspondent, says that Mr. Justice Lount, of Toronto, has recently rendered a judgment both unique and interesting. Some few years ago a resident of western Ontario died leaving a widow and four children. Four months after his death a fifth child was born. The case arose over the division of a \$2,000 insurance policy which according to the will was to be equally shared among the widow and children. The administrators applied to the courts for advice as to whether or not the infant child born after the death of the father was entitled to a share in the insurance money. Mr. Justice Lount ruled that a child, although unborn, was still a child in law, and took rank as a child living at the death of its parent. The case is said to be the first of its kind ever tried in Canada.

The Mental and Physical Development of Children.—Dr. Charles A. Mercier, lecturer on insanity at the Westminster Hospital Medical School, in his recently issued *Textbook of Insanity*, makes the following remarks which it would be well for all interested in the care of children to bear in mind: "Close observers of the development of children know that their mental development proceeds, on the whole, alternately with their bodily development; that they have periods in which their bodily growth is stationary, while their minds develop apace, alternating with periods in which their bodily growth is rapid and their mental development ceases, or even seems to retrograde. If, during the latter period, an injudicious attempt is made to force the mental development by close application to mental work, the consequence will be a serious 'nervous breakdown' of the nature of insanity. The demand upon the

energy of the brain is greater than it can supply; it becomes so depleted that it cannot carry on its current function, and the depletion exhibits itself in the form of insanity that is known as stupor. The same condition may result, though more rarely, from excessive addiction to athleticism when the mental development is very active. If the combined effect of concurrent physical and mental development is exhaustive, still more exhaustive is the additional demand upon the energies of the organism which is made by the evolution of the reproductive function at puberty, and when to this is added the further drain of frequent masturbation, we can understand how it is that insanity, or a minor disorder of the same nature, is so frequent in adolescence, and how it is that that is the period of life when stupor and hysteria are most frequent."

The Paralytic Form of Mussel Poisoning.—A Norwegian treatise on poisoning by mussels (*Mytilus edulis*) is reviewed in the *Jahrbuch für Kinderheilkunde*, May, 1892. The *British Medical Journal* for September 6th gives the following abstract: Jørgen Thesen, the author, had seven cases in the summer of 1901; two patients died; one, a man, who had eaten six uncooked mussels, the other a boy who had consumed about forty cooked ones. The other five recovered; they had eaten a large quantity unboiled. The paralysis was of a peripheral nature, and involved the muscles of the limbs, trunk, neck, and face; its onset was rapid. In the fatal cases it extended to the respiratory muscles, and caused death in twelve hours. In two of those who recovered, both adults, it passed off in twenty-four hours. The remaining three cases had intestinal or gastric symptoms; they were in children. Nine persons were found to have partaken of mussels, cooked or uncooked, along with those who suffered from poisoning, but were not themselves affected. In the mucus of the stomach of the patients who died there was a poison which, when extracted and injected into mice, killed them, with curare-like symptoms. Searching for the source of the poison, Thesen discovered that it was only during four weeks in the whole year, namely, in June, that the mussels in the harbor at Christiania became poisonous, and that in a degree directly relative to the contamination of the water at the spot in which they lay. Outside the harbor they were never poisonous. He made several interesting experiments proving that they derived their poison, ready made, from without. Mussels were found to absorb from the water, and concentrate in their bodies, strychnine or curare which had been added to it experimentally. Extracts from such mussels injected into animals killed them either by strychnine or curare poisoning, as the case happened to be. Healthy mussels placed in a tank to which extract of poisonous harbor mussels had been added, took up the poison and concentrated it in their bodies, so that extracts from them killed rats or mice with symptoms of paralysis of the endings of the motor nerves. The poisonous element in mussels appears, therefore, to be derived from without, and stored up in the creature's body in a concentrated condition. It has not been chemically defined, but causes gastrointestinal irritation, and if absorbed has curare-like properties. No specific bacteria were found in the bivalves, nor was the liver more poisonous than the mantle.

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Original Communications.

A CASE OF NECROSIS OF THE MUCOSA OF THE LARGE AND SMALL INTESTINE, WITH HÆMORRHAGE INTO THE TISSUES, PRODUCED BY STREPTOCOCCI (Enterococci).

By H. F. HARRIS, M. D.,
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For many years it has been recognized that under certain conditions the pathogenic cocci are capable of setting up pronounced lesions in the tissues of the gastro-intestinal tract. Thus it has been shown by Ucke ¹ that erysipelas of the face may extend downward through the œsophagus into the stomach, and that a typical erysipelatous process may result in this viscus. Holst ² has also demonstrated the fact that the milk from cows suffering from streptococcal disease of the udder may produce alterations when introduced into the gastrointestinal tract of man. Vincent ³ has shown that streptococci are often present in the lesions of typhoid fever, and that after death they may be widely disseminated in the blood and organs of the body. ⁴ Two cases are reported by de Cernville in which the clinical symptoms were those of typhoid fever, but in the discharges of the patients great numbers of streptococci were found, and the so-called bacilli of typhoid fever were entirely absent. Tavel and Eguet ⁵, Beck ⁶, and Pakes ⁷ have each reported cases in which pronounced lesions of the intestinal tract were apparently caused by streptococci. Tavel considers that there are two forms of the condition,—one in which the ptomaines produced by the organisms are absorbed into the

body through the intestinal walls, and another in which there occurs an actual invasion of the tissues of the gut by these bacteria; in the former the symptoms resemble very much those of cholera, while in the latter the disease presents the clinical picture usually seen in typhoid fever. It is clear, however, that this classification does not always hold, inasmuch as in the case reported by Beck the patient suffered with choleralike symptoms and survived only three days, but on post mortem examination marked alterations were found in the mucosa of the duodenum, and streptococci were demonstrated in the walls of the intestine, and in the blood and internal organs. Pakes's case was an almost exact duplicate of the one reported by Beck. Kruse and Pasquale ⁸ found streptococci in the fæces of one half of the cases of amœbic dysentery that were investigated by them in Egypt. Hirsch ⁹, Escherich ¹⁰, Booker ¹¹, Libman ¹², and others have called attention to the frequent presence of streptococci in the fæcal discharges of infants suffering with diarrhoeal conditions, and there seems but little doubt that these diseases are not uncommonly the result of infection by the bacteria in question. The organism, as described by these writers, generally presents the appearance of a diplococcus, but chains are not uncommon. This bacterium is present constantly in the fæces of children, only occasionally becoming pathogenic. Escherich calls them *enterococci*.

It is of interest to note that the patient in the instance which I now report was suffering from Bright's disease, and it seems highly probable that the condition of lowered resistance of the body that resulted from this disease was in a large measure responsible for the pronounced character of the changes observed in the intestine.

For the clinical notes I am indebted to Professor E. T. Davis, of the Jefferson Medical College, to whom I wish to express my thanks for his kindness in this matter.

¹ Ucke. Ein Fall von Erysipelas Ventriculi. *Centralblatt für Pathologie*, p. 473, Bd. v, 1894.

² Holst. Om Kjædekøkken og yverbetaendelser hos kyor som Aarsag til Akut mavetarmkatarrh hos mennesker. *Feskr. Prof. Keibergs*. Kristiania, 1895, 113-136.

³ Vincent. Etude sur les résultats de l'association du streptocoque et du bacille typhique chez l'homme et chez les animaux. *Annales de l'Institut Pasteur*, 1893.

⁴ De Cernville. Contribution à l'étude clinique de l'entérite à streptococcus à forme typhoïde. *Annales suisses des sciences médicales*, 1895.

⁵ Tavel et Eguet. L'Entérite à streptocoque. *Annales suisses des sciences médicales*. Série II, 1895, livra 11.

⁶ Beck. Ueber einen durch Streptokokken hervorgerufene "Cholera-verdächtige" Fall. *Deutsche medicinsche Wochenschrift*, 1892, No. 40.

⁷ Pakes. A Case of Streptococcal Enteritis. *British Medical Journal*, 1898, 1, 1578.

⁸ Kruse u. Pasquale. Untersuchungen über Dysenterie und Leberabscess. *Zeitschrift für Hygiene*, 1894. Bd. xvi.

⁹ Hirsch. Ein Fall von Streptokokken Enteritis im Säuglingsalter. *Centralblatt für Bakteriologie*, xxii, 1897.

¹⁰ Escherich. Ueber spezifische Krankheitserreger der Säuglingsdiarrhoe (Streptokokkenenteritis). *Wiener klinische Wochenschrift*, 1898, No. 40.—Id., Ueber Streptokokkenenteritis im Säuglingsalter. *Jahrbuch für Kinderheilkunde*, xlix, 1898, p. 137.

¹¹ Booker. *Johns Hopkins Hospital Reports*, vol. vi.

¹² Libman. Weitere Mittheilungen über die Streptokokken-Enteritis bei Säuglingen. *Centralblatt für Bakteriologie*, xxii, 1897.

CASE.—Clinical History. Mrs. E. K., a primipara, was admitted to the Jefferson Maternity in an eclamptic condition on October 26, 1899. When a child she had suffered from tuberculous disease of the right hip, for which she had been operated on some ten years previously to her admission to the hospital. Since the operation an open sinus had persisted. There was a family history of tuberculosis. During her pregnancy she had been much annoyed by nausea, frontal headache, and diarrhoea.

On admission the abdomen was found to be greatly distended by gas, which obscured the diagnosis of the period of pregnancy and the position of the fetus; it was, however, estimated that the patient was not more than seven months advanced. As she was in eclampsia, a specimen of the urine was obtained; and was examined with the following results: Specific gravity, 1.010; reaction acid; albumin present; no sugar; urea, 67 of 1 per cent. The house staff at once instituted treatment with the object of relieving the toxæmia which was evidently present. She was given hot packs, and an endeavor was made to empty the intestine by lavage. The stomach was washed out, calomel and soda were administered by the stomach tube, and normal salt solution by hypodermoclysis. Although the convulsions were controlled the patient did not improve, and passed quickly into a condition of coma. At this time respiration was very difficult, which seemed to be greatly aggravated by the distention of the abdomen, making the movements of the diaphragm very limited. On vaginal examination the pelvis was found so highly contracted that the child could not be removed by craniotomy. The abdominal distention made it impossible to diagnose accurately the life or death of the fetus, and it was accordingly determined to perform a Cæsarean section. The abdomen was opened, and a dead child 37.5 centimetres long was readily extracted. The uterus and abdomen were closed in the usual manner. It was noticed during the operation that the intestines were greatly distended, that the peritoneal coat was of a dark red color, and that a considerable amount of serous fluid was present in the abdomen. The patient improved remarkably after the operation. She became conscious in a short time, took liquid food in abundance, and the abdominal wound began healing without any apparent complication. Under repeated lavage she had abundant liquid stools of a peculiar dark and offensive nature. The improvement continued, however, only a short time. Her tongue and face became oedematous and she swallowed with great difficulty. Between two and three days after the operation she died, this being apparently the result of exhaustion.

Post Mortem.—The post mortem was made two hours after death. The body is that of a fairly well nourished woman. Face slightly puffy, and its skin shiny. No oedema elsewhere. Rigor mortis not yet perceptible. Abdomen distended and tympanitic. In the middle line of the abdominal wall, below the umbilicus, there is a recent abdominal wound one inch long; the edges of this wound are firmly united.

Upon opening the abdominal cavity intestines are found greatly distended. Quite a collection of clear, yellow fluid is present in the peritoneal cavity; there are about 200 cubic centimetres of this liquid. On each side of the abdominal wound the tissues are

ecchymotic. In the right mammary line the liver extends from between the third and fourth ribs to the lower border of the ribs.

Lungs.—At the apex of the right lung there are several old adhesions. Left plural cavity normal. **Heart**, very small; pericardial cavity normal; valves and endocardium normal; heart substance normal. **Spleen** adherent posteriorly, slightly larger than normal, capsule wrinkled. Both **suprarenals** normal. **Left kidney**: Outline of surface irregular and slightly granular; kidney smaller than normal; capsule slightly adherent; cortical substance thin; outline of pyramids indistinct, blending with cortical substance; substance tough; weight, 140 grammes. **Kidneys**: Right small. Upper and outer portion contains a cyst one inch and a half in diameter, in which there is a clear fluid containing whitish flakes. There is a small cyst in the upper portion of the kidney; cysts are distinctly encapsulated. **Bladder** and **ureters** normal. **Uterus** much enlarged. Wound in anterior portion two inches and a half long, partly healed. Uterus is slightly adherent to abdominal wall along either side of this incision. Weight, 315 grammes. **Stomach** and **duodenum** normal. **Liver** small, normal in color and consistence. Weight, 1,175 grammes.

Upon opening the large intestine the mucous membrane from the caput coli to the transverse colon is found to be intensely ecchymotic. The ileum is normal from the ileocecal valve to twelve inches above this point, but the remainder is in a condition similar to that of the large intestine. The lower part of the jejunum is also involved. The part of the intestine which is thus affected is much thickened, of a dark dun color, and very friable. Where the pathological condition is most intense the depression between the valvula conniventes is less marked than in health, on account of swelling of the intervening mucous membrane. That portion of the colon involved in this hemorrhagic condition is covered with what seems to be numerous enlarged lymph follicles; these are not apparent in the small intestines.

In cultures from the intestine colon bacilli, staphylococci, and streptococci were obtained.

Microscopical Examination.—The tissues were fixed in Heidenhain's mercury bichloride solution, and sections were stained in hæmatoxylin and eosin, carmalum and picric acid, acid orcein, carbol-toluidin blue alone and with eosin, by Gram's method, and by iodine-green for amyloid.

Kidneys. The capsules of the kidneys are thickened, and from their under surfaces innumerable more or less wedge-shaped masses of newly formed fibrous tissue pass down into the kidney substance. These masses largely replace the normal kidney structures where they occur. Independently of these fibrous bands there are scattered through the kidney substance small localized masses of newly formed fibrous tissue, and both with these and alone, collections of small round cells. The result of this state of affairs is that probably one third of the kidney substance is replaced, and consequently rendered functionless. The walls of the blood vessels are moderately thickened. The Malpighian bodies are in many cases entirely replaced by fibrous tissue; all degrees of this condition are seen. The parenchyma of the organ shows a moderate degree of catarrhal

change; this is, however, obviously secondary to the changes in the interstitial substance.

Intestine. As the changes in both the small and large intestines were entirely similar the description that follows applies to both.

On microscopical examination it is found that the mucosa, as might have been expected from the nature of the gross lesion, has suffered greatly. The changes are most marked on the apices of the valvulae conniventes in the small, and the rugae in the large intestine, but the intervening depressions have also suffered considerably. In none of the sections examined is the mucosa entirely normal. Even in those portions that are best preserved, the cells in the free ends of the crypts of Lieberkühn and the epithelial cells forming the lining proper of the intestine, show decided change. The nuclei no longer take the basic stain, or do so very faintly, and the remaining parts of the cells exhibit very marked oxyphilic affinities; the cells are decidedly swollen and are granular. Although there are here and there crypts that contain an excess of mucin, there is on the whole a notable absence of this substance in these structures. The connective tissue network that supports the crypts is greatly swollen. The connective tissue fibrils take Unna's acid orcein very faintly and are evidently in a more or less degenerate state. Between the fibrils there are found numerous red blood cells, a considerable number of large swollen connective cells, a few lymphocytes and mast cells, and an occasional multinuclear leucocyte. All these cells are practically in a normal condition, except the connective tissue cells, which are generally swollen and are often quite granular. The blood vessels are greatly dilated and are packed with red and white cells; there are proportionately more leucocytes present than is the case in normal blood. These changes are generally those which are found between the valvulae conniventes. As the apices of these structures are approached, the mucosa becomes more and more altered until on their crests only vestiges of this coat are found. The mucosa is here represented by a layer of necrotic tissue which is granular and takes the acid stain almost uniformly, there being very few basophilic structures present. This layer of necrotic tissue contains no fibrin. In some instances the membrane has an almost uniform appearance, and closely resembles the hyaline structures that are sometimes found in similar situations in amebic dysentery. The necrotic tissue contains an enormous number of red blood cells, which are, curiously, generally in a very good state of preservation. In the vicinity of the juncture of this tissue with the submucosa a considerable number of multinuclear leucocytes are generally present, the number increasing as this point is approached. In some cases the necrotic tissue is partially separated from the underlying submucosa; the point of separation is always along the outer layer of the muscularis mucosae. It is thus seen, as is so often the case in other diseases of the intestines, that the muscularis in this instance acts more or less as a shield to the tissue beneath. Except they be actually included in the lesions the lymph follicles show practically no change. In sections stained by Weigert's method enormous numbers of bacteria are found in the necrotic areas. Some of these are long, rather thick bacilli, but by far the greater number of vegetable

forms present in the tissues consist of diplococci; in some instances they form short chains of from three to eight individuals. Where the organisms are particularly numerous they form zoogloea masses. These bacteria correspond in every way with those described by Escherich as enterococci. Along the surface of the gut there are multitudes of colon bacilli.

As is almost universally the case in intestinal affections, the submucosa is greatly altered. As a rule, the necrotic tissues are limited, as has just been mentioned, by the muscularis, but in those situations where the pathological processes are most pronounced the tissues of this coat are likewise implicated. Nor does the necrosis limit itself always to the muscularis, but even extends deeply into the submucosa in some instances. The necrotic tissue in these cases does not form a distinct line of demarcation, but gradually merges into the more or less normal tissues beneath. In the intermediate zone thus formed the tissues take acid dyes as a whole, but many nuclei still retain their power of absorbing the basic stain. In these areas there is much intensely acidophilic granular material, which undoubtedly represents disintegrating red blood cells. The process of breaking up of these cells, in some places, has even progressed further, for there are found here and there small collections of altered blood pigment. The elastic tissue in these situations is still fairly well preserved, but the bands of collagenous tissue are widely separated from each other, and have, in a large measure, lost their fibrillated appearance, the tissues appearing to have run together. The blood vessels which are not destroyed are dilated and filled with blood. As the partially normal tissues are approached the nuclei of the cells are better and better stained, until finally all of them stain in a normal way. Just at the edges of the nearly normal tissues, and forming a kind of border for them, there is almost universally an enormous collection of cells, which, in most instances, consists practically of multinuclear leucocytes. In addition to these cells there are, however, quite a number of lymphocytes and a few swollen connective tissue cells; these cells, especially the swollen connective tissue cells, become more numerous as the normal tissues are approached. In these situations there are here and there large cells, apparently of connective tissue origin, in which numerous bacteria are found in specimens stained by carbol-toluidin blue alone, or with eosin; the protoplasm of these cells is faintly oxyphilic, and the nuclei do not stain at all. Other cells greatly resembling these are also here and there found, the nuclei of which still stain well, but the protoplasm is intensely acidophilic. It is notable that great masses of bacteria are always present in and around the areas where the multinuclear leucocytes occur. In other situations the mass of cells bordering the seminormal tissues consists almost entirely of lymphocytes, with a few connective tissue cells and a few multinuclear leucocytes. In all of these collections of cells eosinophilic leucocytes are occasionally observed. The changes found in the tissues beneath the points where the greatest alterations occur, and below these places where the pathological process does not extend deeper than the muscularis, are identical, and will, therefore, be described

together. As in the tissues where more profound changes have occurred, the elastic fibres are here fairly well preserved, and the bands of white fibrous tissue are widely separated; it is likewise noticeable that the fibrous tissue in the regions where consid-

coats of all the vessels in or near the areas of greatest change appear swollen, and the tissues of which they are composed have undergone such alterations that their real character can no longer be determined; the nuclei in these tissues stain very faintly or not

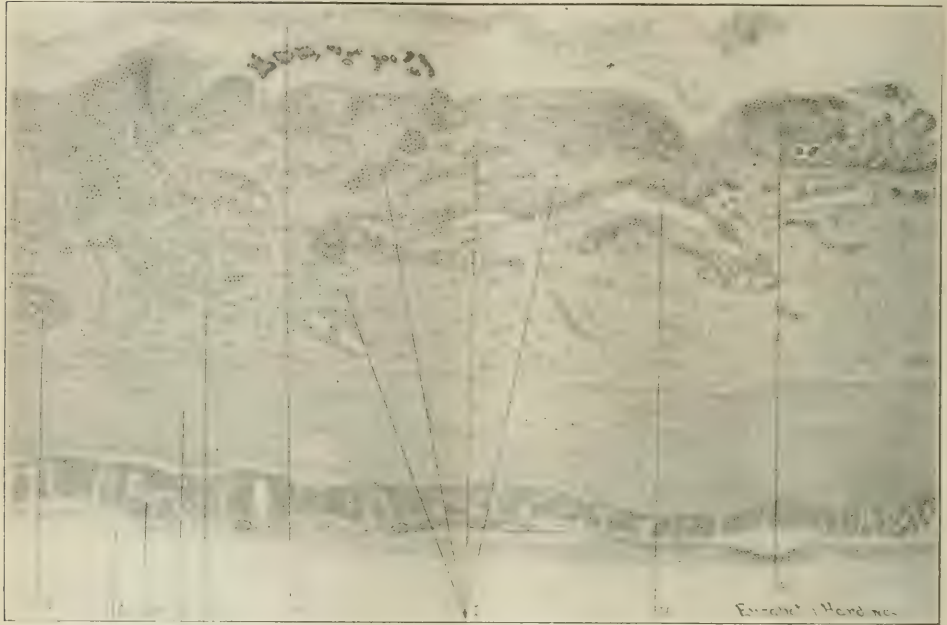


FIG. 1. Specimen from the large intestine. The tissues were fixed in Hochenbaum's mercuric bichloride solution, and stained with hemalum and eosin. Beck 1 inch, Oc. 1 inch. A, serous coat; B, greatly swollen submucosa, containing numerous red and white blood cells (1); E, remains of the mucosa; F, slough entirely detached from the surface of the gut; G, small artery the epithelial lining of which is detached; H, small vein with necrotic walls.

erable alterations are present does not present its usual fibrillated appearance, the bands having apparently coalesced. Between the connective tissues there are in most situations great quantities of red blood cells, but areas exist where the swelling is evidently due to other cells combined with serum. Mixed with the red-cells there are, of course, some leucocytes, but they are present in comparatively small numbers. In the interspaces of the tissues there are also found many swollen connective tissue cells; these cells are from 9 to 7 μ in diameter, and are round or oblong; their nuclei stain very faintly with basic dyes, and their protoplasm is intensely oxyphilic. In many sections there are numerous beautiful examples of typical mast-cells. There are also present, mostly in small collections here and there around bloodvessels, quite a number of lymphocytes, mixed with which there are always a few plasma cells; the protoplasm of some of the plasma cells is quite homogeneous, while in other cases it is very granular. In some situations—generally near the necrotic areas—there are small collections of multinuclear leucocytes in addition to the cells already referred to; in these places there are always bacteria in greater or less numbers.

By far the most interesting alterations are those observed in the blood vessels. The outer and middle

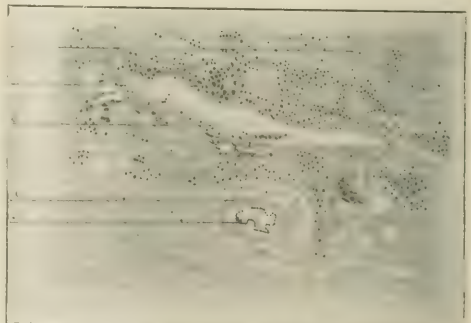


FIG. 2. Higher shows the artery at G and the vein at H in Fig. 1, more highly magnified. Beck 1 inch, Oc. 1 inch. a, collection of red blood cells; b, necrotic wall of vein (c); d, hyaline wall of artery; e, swollen epithelial cells lying detached within the lumen of the vessel.

at all, and the other tissues are intensely oxyphilic. In many instances, these coats appear hyaline. The internal elastic lamina,—and the external, as well, when present—shows no alteration. All the tissues within the internal elastic lamina, are in most in-

stances torn more or less completely away from this membrane and lie curled up in the lamina of the vessels. Notwithstanding that these tissues are thus torn away from their attachments they are almost always in a better state of preservation than are those of the outer coats of the vessels; the nuclei of the endothelial cells stain, as a rule, fairly well, and the protoplasmic structures in the vicinity do not show such extensive changes as occur in the tissues of the external coats. In some instances, the inner coat is only partially torn away; when this occurs the greatest degree of separation is always at that point of the vessel which is nearest the seat of greatest pathological change. In those instances where the vessel wall is not so greatly altered, the intima is usually attached, but oftentimes many of the nuclei of the muscular walls and of the endothelial cells fail to stain properly, thus showing that the walls are not entirely normal. Many of these vessels are almost empty, there being only a few red blood cells present. In others more blood is found, but in no instance has there been found a distinct clot. The changes were probably so rapid that time was not allowed for clotting to occur.

The lymph spaces are greatly dilated. Within the lumina of some of these spaces there are collections of cells which do not appear to be the progeny of the endothelial cells that originally lined them, but they seem to belong mostly to the group of lymphoid cells that have doubtless been collected here as a result of the altered condition of the cells lining the spaces, precisely in the same way that a like result is brought about from injury to the walls of the blood-vessels. In other words, do not the lymphoid cells adhere to the walls of the lymph spaces and channels where these are injured just as (under like circumstances) they do to the walls of the bloodvessels, which are practically identical with them? This seems to me to be the most probable explanation of the collections of the small uninuclear cells so frequently seen in inflammatory conditions. In the present instance, the protoplasm of many of these cells is increased in amount and shows basophilic affinities; the cells thus approach closely to, if they are not identical with, plasma cells. In the muscular walls the number of cells with distinctly staining nuclei is increased. In some cases the cells show the reaction of mast cells. The blood vessels are in some instances dilated, and within the lymphatics there are small collections of cells resembling those found in these vessels in the submucosa.

The peritoneal and subperitoneal tissues are normal. No amyloid material can be found in the tissue of the intestine, although carefully searched for. This result would seem in a measure to contradict the recently expressed view of Petrone (*Recherches sur la dégénérescence amyloïde expérimentale. Archives de médecine expérimentelles et d'anatomie pathologique*, t. x. 1898, 5) that amyloid material is caused by the infiltration of blood pigment into the tissues; the findings in this case are, however, in keeping with the views of Schepilewski (*Experiment. Beiträge zur Frage der amyloiden Degeneration. Centralblatt für Bakteriologie*, Bd. xxv, 1899, 26).

There can be no doubt that the intestinal lesions in this case were the immediate cause of death, and,

after an examination of the sections, one can hardly avoid the conclusion that those alterations have been produced by the multitude of bacteria that are present; the profound kidney alterations should not, however, be overlooked, for in them we find an explanation of that lowered vitality of the tissues which has made them so susceptible to mycotic invasion. Of the bacteria present the streptococcus is probably of most moment, as the virulence of this organism is known to be very great, and the observations of the authors cited in this paper leave no reasonable doubt of the frequency of infection of the intestinal walls—with the production of profound alterations in the tissues—by these vegetable forms.

The gross lesions in this case greatly resemble those that have been heretofore thought to be caused by mercurial poisoning, and, inasmuch as the patient had been given calomel, the possibility of the alterations being due to this drug should not be overlooked. Unfortunately, there is no way to determine definitely just how far the changes have been influenced by this medicament, but the enormous number of bacteria present makes it extremely probable that any such action must have been at most of a predisposing kind. It is, moreover, true that the microscopic alterations are such as would be expected as a result of bacterial invasion, and do not at all correspond to the changes I have found¹³ in the intestines of dogs poisoned by calomel.

ROTARY CURVATURE OF THE SPINE; A REPLY TO DR. LOVETT.

By A. B. JUDSON, M. D.,
NEW YORK.

I find myself unable to see how rotation in lateral curvature can be influenced by anteroposterior variations in the attitude of the spine, and desire to reproduce the photographs taken by O. G. Mason, of Bellevue Hospital. The object was held before the camera on the points of needles set firmly in the background. Fig. 1 shows a stick of sponge rubber, which Dr. Robert W. Lovett has suggested as an imitation of the spine. His view, based on the same experiments, is presented in the *Journal* for October 4, 1902, pp. 573-575. Mine is expressed in the following words: "In Fig. 2 there is a plain lateral curve. The heads only of the pins are seen, showing the absence of flexion, extension, and rotation. In Fig. 3 flexion is added, as is shown by the inclination of the pins, and the absence of rotation is shown by the fact that the head only of the middle pin is visible, while all the pinheads are in the middle of the curved

¹³ Harris, *Alterations Produced in the Large Intestines of Dogs by the Anaba Culi, by Heat, and by Various Chemic Substances*, p. 130-137. Hatfield Prize Essay of the College of Physicians of Philadelphia, 1901.

column. In Fig. 4 extension takes the place of flexion and the pinheads remain as before, with the exception of a slight deviation, due to the careless placing of the object before the camera, which has brought into view the shaft as well as the head of the middle pin."

It seems that the two sets of photographs, Dr. Lovett's and mine, sustain diametrically opposite views, which reminds one of a saying of Dr. T. G. Thomas's in a discussion which took place some years ago at a stated meeting of the New York Academy of Medicine: "If there is anything more misleading than figures, it is facts." Both views cannot be correct, and each observer, of those who care to encounter interesting propositions in mechanics, will come to his own conclusions.

"In Figs. 3 and 4 the curve, at the first glance,

FIG. 1.

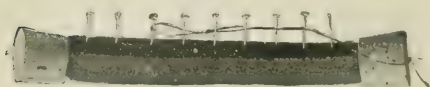


FIG. 2.

FIG. 3.

FIG. 4.

seems to be made up of two, one lateral and the other anteroposterior, but further thought reveals it as really a simple curve, produced by a simple force, the resultant of two forces, one lateral and the other anteroposterior. Viewed thus, as a simple curve, it can no more influence rotation than any other simple curve."

If, indeed, extension impeded the usual rotation, then enforced and continued extension, or lordosis, would be the logical treatment. For many years the idea that extension, as opposed to flexion, should be employed as a therapeutic attitude has been entertained, not on the ground that it checks rotation, a theory which cannot as yet be considered as established, but because extension takes pressure from the errant bodies and puts it on the retarded processes. This would be in accordance with the correct theory of the mechanism of rotation. "A rod or flexible

column cannot, of itself, rotate when curved. The spine, however, is a flexible column a part of which,

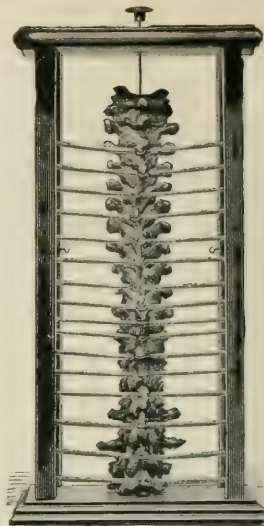


FIG. 5.

made up of vertebral bodies, has wide displacement (or extra flexibility) in the cavity of the trunk, while another part, composed of processes, is prevented from displacement (or has less flexibility) from

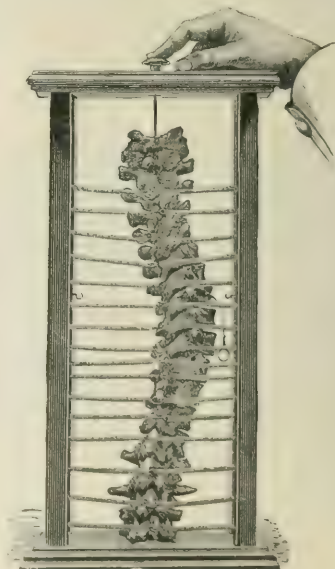


FIG. 6.

being a part of the wall. It therefore rotates, must rotate, when curved, as shown in the common prep-

aration, Figs. 5 and 6, in which the processes are restrained by spiral springs, while the bodies exhibit rotation."

At the risk of being classed with the laggards, I will venture the opinion that very strenuous efforts to cure this affection are unnecessary, because it is impossible to correct a severe curvature, while one that is not severe is but an unimportant departure from symmetry, and neither variety is a menace to health and longevity. Braces conceal deformity and in some cases support a drooping figure, while a combination of general rest with special attitudes and exercises seems to furnish security against an aggravation of the trouble.

THE MODERN BASIS OF DIETETIC TREATMENT IN THE URIC ACID DIATHESIS.

By ALFRED C. CROFTAN, M. D.,
CHICAGO.

Neither is the misconduct of ordinary humanity, as now existing, to be remedied by upholding a standard of abnegation beyond human achievement.—Herbert Spencer.

Of the primary cause of the uric acid diathesis we know nothing. Theoretically, I place myself without equivocation upon the neurohumoral standpoint so ably defined by Duckworth in the following words: "It is incumbent, I believe, to invoke not only a chemical and a physical basis for gouty disease, but to include also in a comprehensive review the marked determining influence of the nervous factor in the problem."

The *neural element*, while apparent, is vague and intangible, essentially hereditary and probably not remediable in one generation. The perversions of the *uric acid chemism* are more definite and are amenable to considerable modification and to correction by dietetic treatment.

There is much confusion in this field. The adherents of different theories have each formulated certain "rational" methods of dietetic therapy; practical bedside experience has, however, failed to strengthen any one of these views. This may be due to the facts that the course of typical gout is *per se* irregular and subject to fluctuations, and that a typical gout (goutiness) presents so protean a syndrome of functional disorders, involving almost every organ, that the doors are thrown wide open to subjective misinterpretation.

In seeking for a basis of treatment the fundamental perversions characteristic of the uric acid diathesis must be determined; they are the following:

1. The uric acid of the blood is increased.
2. Crystalline deposits of sodium urate are found in certain necrotic tissues.

I. *The Increase of Uric Acid in the Blood.*—This may be due to:

- (a) Increased formation of uric acid,
- (b) Decreased destruction of uric acid,
- (c) Retention of uric acid, or to several of these factors combined.

(a) *The Increased Formation of Uric Acid.*—The *synthetic* formation of uric acid *i. e.*, the building up of the uric acid molecule from simpler compounds occurs *in vitro* and in the lower animals; in man it is not proved excepting in the case of certain bodies that are chemically related to uric acid (the alloxuric bases); the latter, when given by the mouth, are apparently converted into uric acid and excreted as such.

The *analytical* formation of uric acid, *i. e.*, the genesis of uric acid from the disassimilation of more complex compounds, is the common mode of formation in man. The old view is that uric acid is an oxidation product of albumin and an intermediary product in the formation of urea; the new view is that uric acid is a specific metabolic product of a special kind of albumin, *viz.*: nuclein.

Nucleins are the chief constituent of all cell nuclei and are hence contained in many articles of food and also in the tissues of our own body; uric acid may therefore be derived from either. As a matter of fact, the administration of nuclein or of nuclein-containing foods by the mouth is followed by an increase in the excretion of uric acid in the urine. On the other hand, a subject fed for a long time on a diet containing no nucleins (see below) or a subject after a prolonged period of fasting still excretes appreciable quantities of uric acid. In the former instance the increase of uric acid was derived from the food nucleins; in the latter the excreted uric acid was derived from the tissue nucleins.

The formation of uric acid from the food nucleins we can control; the formation of uric acid from our tissue nucleins we cannot control. Whereas the former factor is constant and independent of the individual, in the sense, namely, that a definite quantity of food nuclein invariably leads to the excretion of a definite and calculable quantity of uric acid, the latter factor is inconstant, varies in different individuals, and cannot be calculated in advance.

The theory has been advanced and has been supported by some evidence that in subjects suffering from the uric acid diathesis the individual catabolism of nucleins is high; the adherents of this view consider the diathesis a "*nucleolytic autointoxication*"; this proposition is difficult to prove.

(b) *The Decreased Destruction of Uric Acid.*—Uric acid is normally in part destroyed or transformed in the mammalian organism. Extracts made from liver, muscle, and kidney in certain lower animals possess the power of converting uric acid into

more highly oxidized and more soluble nitrogenous bodies. The author has shown that the same applies to human liver, kidney, muscle, and blood (unpublished research).

We also know that only a portion of the calculated amount of uric acid is excreted after feeding with nucleins or uric acid, and that a part of the nitrogen appears in the urine in other forms. I am inclined to believe that non-destruction is a more prolific cause of uric acid accumulation than overproduction.

(c) *The Retention of Uric Acid.*—Whether or not uric acid is retained in the uric acid diathesis cannot, I believe, be definitely ascertained until we gain more comprehensive data in regard to the uric acid excretion before, during, and after attacks of gout and in regard to the average uric acid excretion in those cases that never progress to the stage of gouty seizures.

We have only recently learned to understand the influence of diet on the uric acid excretion and above all the influence of the food nucleins on this function. It is clear that uric acid determinations are of value only if the patient is kept on a diet free from nucleins during the time of observations or of at least the exact nuclein content of the food is known; in addition, the individual uric acid excretion must be known. Failure to comply with these fundamental postulates must be made responsible for the colossal confusion obtaining in regard to the plus or minus excretion of uric acid in this disease.

In that small minority of cases of gout in which there is distinct granular atrophy of the kidneys some retention may occur. I am also inclined to believe that renal insufficiency obtains in a much larger proportion of gouty cases than is usually assumed. I refer to those patients in whom we find increased arterial pressure with an accentuated second aortic sound and signs, of cardiac hypertrophy, together with certain retinal changes, nitrogen retention without increase of bodily weight, and a deficient methylene blue test; these cases appear to me to be cases of "latent" nephritis, and the absence of albumin from the urine does not necessarily militate against this diagnosis.

In all these cases of renal involvement we may assume that some retention of uric acid occurs.

II. *The Deposit of Crystalline Sodium Urate in Necrotic Tissues.*—Urate deposits are a characteristic finding in the uric acid diathesis, even though cases of gout occur in which no urate deposits are found post mortem and though urate deposits are occasionally discovered on autopsy without a history of gouty seizures during life.

It appears that urate concretions can only occur if the blood contains an excess of uric acid in solution; the reverse is not true, for in many other states (leucæmia, pneumonia, lead nephritis, etc.) in which the

blood contains abnormal quantities of uric acid no concretions develop.

Definite factors must therefore be operative in the uric acid diathesis that not only favor the deposit of urates, but also determine certain definite points of predilection for the precipitation of sodium urate crystals. These locations are the joints, the tendon sheaths, the muscle fasciæ, the kidneys, the external ear, and the bone marrow.

These factors must of necessity be local. It is very probable that the poor vascularization of the parts can largely be made responsible for the deposit of concretions in these particular places.

Much has been written in regard to the influence of reduced alkalinity of the blood. It does not appear, however, from recent exact determinations that the alkalinity of the blood is abnormally low in the uric acid diathesis.

A much more important factor are changes in the relative proportion of salts (chiefly mono- and disodium phosphate) in solution in the serum. If several salts are present in a solution, the more soluble salt will precipitate the less soluble one even if the solution is not saturated with the latter. Given, therefore, an increase of urates in the blood, with local stasis of blood and lymph, and a slow interchange between two relatively concentrated solutions occurs, followed by the precipitation of the least soluble salts, the urates.

Senile cartilages are relatively rich in salts, and the circulation in these tissues is particularly poor; hence possibly the tendency of older subjects to uratic deposits in the joints.

The significance of the necrosis found in the vicinity of urate concretions is still obscure. Either the urates produce the necrosis or the necrosis is the primary event and prepares a suitable nidus for the secondary deposit of urates; the cause of the necrosis in the latter event would remain unexplained; it may be trophoneurotic or may be due to the action of the alloxuric bases, chemical congeners of uric acid. (See Croftan, *New York Medical Journal*, August, 1900, etc.)

THE DIETETIC TREATMENT.

General Considerations.—As the primary cause of the uric acid diathesis is unknown and as the neural element that enters into its pathogenesis is intangible, we are limited in our treatment to a correction of the perversions of the uric acid economy that we have outlined above.

We find ourselves here in a similar position as in the treatment of diabetes and of obesity, for in these diseases, too, we are limited in our endeavors to the removal of excessive sugar and fat and to a correction of the secondary disorders that follow the abnormal accumulation of these products. Unfortun-

nately, we have in the uric acid diathesis no such definite index of the progress of the disease and the success of our treatment as the disappearance of sugar from the urine or changes in the contour of the patient.

The two chief indications for the dietetic treatment are:

1. To prevent the increase of uric acid in the blood; this accomplished, the precipitation of urates as we have seen is rendered impossible.

2. To promote the solubility of uric acid either in the blood or in the concretions that have already formed; in this way precipitation may be prevented

I. Dietetic Regulations Directed toward Preventing the Accumulation of Uric Acid in the Blood.

As the accumulation of uric acid may be due to increased formation, decreased destruction, or retention, dietetic treatment should be directed towards (a) reducing the production of uric acid, (b) increasing its destruction, and (c) accelerating its elimination.

(a) To reduce the production of uric acid is one of the most important and at the same time one of the most feasible tasks of dietetic treatment. We know that uric acid is chiefly formed from disintegrating cell nuclei and that the restriction of articles of food containing many cell nuclei or nuclein or uric acid or its chemical congeners, the alloxuric bases (purin bodies), must needs decrease the formation of uric acid. And even should it be shown that the accumulation of uric acid is due to retention or to non-destruction, and not to overproduction, the limited use of uric-acid-forming foods must nevertheless be considered altogether rational.

Here again we proceed as in diabetes and obesity; we know that sugar and fat are not formed in excess, but that *per contra*, they are not transformed and utilized in a proper manner and consequently accumulate; nevertheless we treat these cases, *quasi* symptomatically, by restricting the use of all those articles of diet that contain sugar or fat or can directly lead to the building up of sugar or fat within the organism.

(b) We know too little of the normal mechanism or uric acid destruction to enable us satisfactorily to regulate this process. What means we possess to accomplish this end are not dietetic, but belong to the field of organotherapy and pharmacotherapy, so that we will not discuss them in this place.

The withdrawal of articles of food that are more readily oxidized in the body than uric acid was at one time considered to be good practice, for it was argued that in this way the oxidizing powers of the organism would not be directed toward a destruction of these articles, but to the destruction of accumulat-

ing uric acid instead. Since it has been shown, however, that uric acid is not destroyed by a proper process of combustion, but by a more delicate process of intracellular disassimilation (probably fermentative in character), this argument has been rendered altogether invalid.

(c) Certain dietetic regulations can directly and indirectly aid in the elimination of uric acid; directly, by exercising an effect on the circulation and the renal excretion, indirectly, by sparing the heart and kidneys and enabling them to perform their function in a normal manner. As the latter organs are frequently involved in the uric acid diathesis, it is particularly important that the diet should contain nothing that can injure them.

Dietetic Regulations Directed towards Promoting the Solubility of Uric Acid.

Whether or not alkalis administered by the mouth are capable of influencing the alkalinity of the blood and thus enhancing the solubility of urates is more than uncertain; at all events, however, there is a popular prejudice to this effect, and without entering into the merits or demerits of this proposition, we may recognize that certain articles of food are capable of increasing the alkalinity of the blood while others are capable of reducing it. The latter should be avoided, the former should be given.

Thus, many foods contain alkaline salts, others contain certain acid salts of organic acids that are converted into carbonates in the body, and both impart an alkaline reaction to the urine.

On the other hand, all albumins contain sulphur and many of them phosphorus; these two elements are oxidized to sulphuric and phosphoric acids and in this way reduce the alkalinity of the blood.

Aside from the alkalis, we possess certain organic uric acid solvents, among them urea. Whether or not these bodies are capable of dissolving uric acid in the blood stream as well as in the test tube remains to be determined.

At all events, it seems hardly rational to give gouty subjects large quantities of meat for the sake of the urea that is thereby formed and thrown into the circulation! Some authors actually advise this practice.

Basing on the pathogenesis and the general indications for dietetic treatment that I have sketched, the following *special* rules can be evolved in regard to the employment and the non-employment of certain articles of food in the treatment of the uric acid diathesis:

Meat.

There is much disagreement and misunderstanding in regard to the use of meat. One group of extremists interdicts the use of meat altogether; an-

other makes artificial distinctions between dark and red meats; and a third insists on a diet consisting almost exclusively of red meat ("Salisbury diet"). In this country the red and dark meat fad is particularly rampant. I see the matter as follows: The use of a moderate amount of meat is not only permissible, but necessary. Some care must be exercised in selecting the kind of meat and in determining its quantity and its mode of preparation.

The administration of nuclein or extractives (uric acid and the alloxuric bases) should be reduced; hence all meats containing many cell nuclei, *i. e.*, all internal organs (liver, kidneys, sweetbreads, brain, thymus) should be rigorously excluded. All meat extracts, broths, sauces, and gravies contain the extractives and are consequently bad. Raw meats, smoked and cured meats, sausage, etc., because they still contain the extractives, should also be limited.

To exclude the flesh of fowl because birds produce more uric acid than mammals is based on the erroneous conclusion that consequently their muscles are also particularly rich in uric acid. There is no reason to exclude poultry.

It has also been shown by exact analyses that there is no difference in regard to uric acid content between the dark and the white meat of birds. This distinction is therefore also unnecessary.

Boiled meat is better than roast or fried meat, because the extractives have been removed from the former.

Some writers maintain that the quantities of extractives introduced with meat are so small that they cannot possibly exercise an appreciable effect; there is, however, some evidence to show that these bodies, administered in small quantities for a long time, may exercise a cumulative effect. It is safer therefore to adhere to the foregoing rules until evidence to the contrary is forthcoming.

We are unable, of course, to directly control the nuclein economy of the organism proper by restricting the use of nucleins, for the body is capable of building up its nucleins from any proteid- and phosphorus-containing pabulum. We know, for instance, that whole peoples live on a vegetarian diet free from nucleins (these by the way are remarkably free from gout!).

The albumin of the meat exercises no direct effect on the excretion of uric acid and may therefore be considered an essentially indifferent constituent of flesh as far as the uric acid economy is concerned. The quantity of meat should, however, be limited, although not reduced too much. The organism requires a definite quantity of nitrogenous material, and while it is possible to supply all the nitrogen required in articles of food other than meat, this procedure necessitates feeding the patient with large quantities of bulky material leaving much residue

and taxing the digestive apparatus very severely. It is more natural and more rational to supply a portion of the nitrogen in meat, especially as the withdrawal of meat constitutes a great hardship to many patients and it would be unnecessarily cruel to stop its use. One pound of meat, moreover, contains as much nitrogen as several pounds of most other articles of food.

Unless the caloric value of the diet is carefully calculated (and few practitioners find the time to do this), there is always danger of underfeeding the patients when meat is withdrawn. This is a dangerous possibility, for it favors the development of gouty cachexia, lowers the tone, and therewith reduces the activity of the oxygenation powers of the body.

If nitrogen is deficient, the organism, moreover, compensates for this deficiency by increased catabolism of its own (nuclein-containing) tissues.

On the other hand, too much meat is certainly bad, for, in the first place, meat produces a distinct digestion leucocytosis followed by the disintegration of leucocytic nuclei; in the second place, meat reduces the alkalinity of the blood owing to the sulphur and phosphorus it contains; these elements, as we have seen, are oxidized to sulphuric and phosphoric acids, and as the bases (potassium, sodium, calcium, and magnesium) liberated from the meat at the same time are incapable of completely neutralizing these acids, acidulation of the bodily fluids occurs; this is manifested by an increased excretion of ammonia after a meat diet. Corned beef is particularly bad in this respect because all the basic salts are leached out in process of manufacture and replaced by neutral sodium chloride; in the third place, meat taxes the eliminatory powers of the kidneys very much—and these organs must be spared and protected in the uric acid diathesis. The fact that meat produces increased diuresis is simply an indication that it irritates the kidneys.

I need hardly mention, finally, that the digestibility of certain kinds of meat and of meat prepared in certain ways must be included in the calculation and that idiosyncrasies must always be considered. In this sense "high" game, fat fish or meats, fried foods, crustacea, etc., should be restricted.

Eggs.

Eggs in moderation may be permitted. True, the yolk of egg contains abundant nuclein (vitellin), but this nuclein is different chemically from the nucleins of meat and cannot split off uric acid. Nevertheless, I restrict the use of yolk of egg. The white of the egg exercises no effect on the uric acid excretion even when given in very large quantities; of course, it, too, like meat albumin, can reduce the blood alkalinity. Where it is well borne, it is, how-

ever, a very convenient form in which to supply nitrogen.

Milk.

An exclusive milk diet, as advised by some, is always bad, particularly in old people; the ingestion of large quantities of water incident to abundant milk drinking must needs overtax the heart, the arteries, and the kidneys.

Milk as an addition to a mixed diet is good if it can be borne; here we must individualize. The nucleins it contains are paranucleins and do not produce uric acid.

Milk slightly reduces the alkalinity of the blood, owing possibly to the generation of lactic acid and to the oxidation of its proteids.

All these theoretical advantages are however overcompensated by its highly nutritious character and its power to stimulate diuresis.

Cheese.

In the manufacture of cheese the basic alkali salts contained in the milk are dissolved in the whey; hence cheese is poor in these salts. The same objections can therefore be formulated against its use as in the case of corned beef (see above), viz.: that it acidulates the blood owing to the formation and incomplete neutralization of sulphuric and phosphoric acids; in addition, the free fatty acids that cheese contains may enforce this effect. As a matter of fact the urinary acidity increases after a cheese diet. Empirically, cheese has been known to precipitate gouty attacks, and in certain regions of Germany where much cheese is eaten urinary calculi are said to be very frequent.

I usually exclude cheese from the dietary, although there is no compelling scientific reason for doing so.

Fat.

It has been argued that fat should be omitted from the diet in uratic cases because it is so readily oxidized and hence prevents the oxidation of the nucleins. Withdrawal of fat does not, however, exercise any effect on nuclein catabolism nor on uric acid excretion. Excessive feeding with fat has, on the other hand, been known to cause an increased excretion of uric acid.

Paradoxical as it may sound, fat is particularly indicated in those cases that are inclined to obesity; for if fat is added to the diet, the appetite is more rapidly appeased, the patients consequently do not eat so much, and are above all not so apt to gormandize.

As uric acid patients should be instructed to take much physical exercise, the addition of some fat to the diet is almost indispensable to maintain full nutrition.

If, therefore, certain individual idiosyncrasies and

also the state of the digestive apparatus are duly considered, there is no valid objection to the use of fat in moderation.

Sweets, Cereals, Bread, etc.

Carbohydrates exercise no appreciable effect on the uric acid excretion, nor do they irritate the kidneys. They do, however, favor the development of dyspeptic disorders, because they readily undergo fermentation and because they are so bulky.

As all carbohydrates are quite soluble and are easily absorbed, patients living on a carbohydrate diet are very apt to ingest too much nutriment. Many persons, for instance, could without difficulty master 1,000 grammes of carbohydrate in the form of bread, cake, potato, etc., a day, whereas no one would be tempted to eat an equivalent quantity of fat (440 grammes) or of albuminous food (1,000 grammes).

Carbohydrates, moreover, favor alimentary glycosuria and, indirectly, the development of diabetes and obesity, both complications that are not infrequently seen together with the uric acid diathesis.

Carbohydrates should therefore be restricted; in cases complicated with diabetes or obesity they should be forbidden altogether or replaced by fat. In patients suffering from dyspeptic complications or in persons inclined to overeat, their use should also be restricted.

Vegetables and Fruits.

Certain of the bulbous vegetables, potatoes, cabbage, etc., contain a very large percentage of carbohydrate and very little proteid; as they therefore possess all the disadvantages of carbohydrate foods and only very slight nutritive value in proportion to their bulk, they should be used sparingly in the uric acid diathesis. They are also apt to undergo fermentation and to produce dyspeptic disorders.

Salads and all green vegetables, on the other hand (with the exception of young germinating plants, such as asparagus, that contain much nuclein), may be given freely. They contain relatively little carbohydrate and a large proportion of salts. The large residue of cellulose they leave in the digestive tracts stimulates peristalsis and aids in keeping the bowels open; this is a desideratum in gouty cases. Celery and onions are to be forbidden on account of the irritating oils they contain; tomatoes on account of the acids they incorporate.

All *spices and condiments* should be avoided; they irritate the digestive tract and the kidneys and above all stimulate the appetite and in this way encourage overeating.

All fruits, either deciduous or citrous, may be permitted. The acid salts they contain are converted into carbonates and render the urine alkaline; they contain very little carbohydrate. Empirically, too,

we know that they act beneficially in the uric acid diathesis (so called "fruit cures"). Fruit acids exercise no distinct effect on the excretion of uric acid with the exception of tannic acid, that seems to decrease it.

Beverages.

Water should be the chief beverage. Forced water drinking, however, is unnecessary, even harmful, although it is advised by some authors. Excessive water drinking does not increase the excretion of uric acid; increased diuresis does not always signify increased excretion of urinary solids. Water in a sense is a distinct irritant of renal epithelium; in gouty nephritis therefore and in cases of beginning renal insufficiency water in excess may do harm. Where there is much arteriosclerosis with a weak heart muscle, the flooding of the circulation with water can only be detrimental.

On the other hand, the amount of water should not be reduced too much, for we know from clinical experience that such a practice favors the formation of urinary calculi. A uric acid patient should therefore drink from 1 to 2 litres of water a day, not more and not less.

It is better to order the frequent drinking of small quantities than the drinking of large quantities at long intervals. It is a good plan to have the patient drink $\frac{1}{4}$ of a litre of warm water immediately before going to bed; this practice occasionally, I believe, prevents the occurrence of nocturnal attacks of gout. In fact, owing to the frequency with which gouty seizures appear in the night, I advise patients as a routine measure to eat a frugal evening meal and to drink warm water before going to bed.

The favorable effects that are said to be derived from the use of numerous well advertised *mineral waters* are probably due to the water, and not to the salt in solution; the so called uric-acid-solvent virtues of many of these salts seem highly problematical to me.

Tea, Coffee, Cocoa.—These beverages are usually considered bad. I think their use should be greatly restricted in uric acid cases. They contain certain members of the group of alloxuric bases (caffeine, theine, theobromine, adenine, etc.), these bodies are direct precursors of uric acid and some of them are presumably in part converted into uric acid in the organism; at all events the excretion of uric acid is increased after some of these substances are given by the mouth. There is, moreover, some evidence to show that these compounds may directly irritate the kidneys and the circulatory apparatus, also the digestive tract.

While excessive tea or coffee drinking is therefore to be absolutely condemned, the moderate use of thin tea or coffee is, I think, permissible, particularly in

persons who crave these beverages. Tea is by all means preferable to coffee, for it stimulates diuresis and is not so indigestible. In patients accustomed to alcohol it is also much easier to limit or stop the use of the latter if little tea or coffee is allowed.

Alcohol.—Alcohol drinking has always been considered one of the chief causes of gout. In view of the almost universal prevalence of the alcohol habit, however, this proposition is difficult to prove. There can be no doubt that an alcoholic debauch may occasionally precipitate a gouty attack in a predisposed subject, and that sufferers from gout as a rule feel better if they abstain from alcohol. Alcohol is a direct irritant of the digestive tract, of the circulatory apparatus, and of the kidneys. No distinct and uniform effect of alcohol on the excretion of uric acid has so far been determined, notwithstanding the fact that a veritable flood of investigations has been published on this question.

Alcohol, chiefly on empirical grounds, is, therefore, as a rule to be forbidden. At the same time we occasionally encounter a patient who does better if a small quantity of some alcoholic beverage is permitted. Champagne, sweet wines, cider, liquors, and malted liquors are to be absolutely avoided; dilute Rhine or Mosel wine or claret or whiskey with water, all in very small doses, may at times be allowed.

As in all the other dietary regulations that I have outlined, the previous habits of the patient, his temperament and character, must be carefully considered.

It is frequently easier to enforce rigid rules in one direction if a little latitude is allowed in another, and if certain cravings and tastes—call them abnormal—are satisfied. By association with rules that cannot be obeyed, rules that can be obeyed lose their authority.

100 STATE STREET.

THE MEDICAL TREATMENT AND MANAGEMENT OF ACUTE AND CHRONIC CHOLELITHIASIS.*

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The late Willard Parker, of this city, equally great as physician and surgeon in his day, in a short communication published in the *Medical Record*, in 1866, showed the profession that perityphlitis had better be diagnosed "appendicitis," forming abscess by perforation, and that by timely operation on such abscess lives might be saved. This was a masterly thought bearing great and blessed fruit in the course

* Being Part of a Discussion of the Subject Before the Medical Association of the Greater City of New York, October 14, 1901.

of time; and a monument ought to be raised to the memory of Willard Parker as a public benefactor.

It took us well-nigh sixteen years to arrive at a correct pathological understanding in the matter and to recognize that appendicitis was, in the vast majority of cases, a surgical disease, and required operation by a surgeon well trained in abdominal surgery. Even so, American surgeons easily took the lead in this branch of surgery and maintained it for ten years and more to show others the way.

In the medical treatment of *cholelithiasis*, the subject before us for discussion to-night, we physicians always could and can do a great deal for the relief and even cure of our patients. But see how much more can be done now to save lives in cases not amenable to medical treatment since the surgeons have joined their efforts with ours, and are ready to operate for gall stone disease after the late German surgeon, Langenbuch, in 1883, showed the way to incise the gall bladder and clear it, as well as the gall ducts, of gall stones.

The acute and often severe attack of gall stone colic which is medically manageable is generally caused by the temporary impaction of a small calculus in, and its passing through, the cystic and common ducts. It more often occurs two or three hours after a full meal than at other times, and requires for immediate relief a hypodermic of morphine (less than one quarter of a grain has scarcely ever served me); a hot linseed poultice over the upper abdomen, which is preferable to a hot water bag because much less heavy; a large enema to relieve and empty the rectum; later on, when nausea and vomiting have ceased, calomel or compound cathartic pills, for thorough cleansing of the intestinal tract.

Of the favorable influence of olive oil by the mouth, an ancient remedy which has recently been revived, I have not been able to satisfy myself; but for some years I have been in the habit of following up an acute attack of gall stone colic for a week or so by enemata of from four to six ounces of warm olive oil, carried high up by a long rectal tube, to be retained over night and followed by copious flushing of the colon with warm water the next morning. I mean plain warm water and not soapsuds, because the latter are irritating to the mucous membrane of the colon when frequently used. If the sweet oil is placed in the lower rectum the patient will not be comfortable during the night, because its presence there will interfere with the passage of flatus. By removing the stagnating feces and thoroughly cleansing the intestinal tract, these large irrigations of the lower bowel improve the circulation and increase the flow of bile. The olive oil put into the colon in the manner described does not make the patient uncomfortable, and seems in some way or other to contribute towards his relief. But I am

quite certain that olive oil, no matter how applied, will have no power to dissolve large calculi or to remove them, and is in that respect no better than any other special remedies in vogue from time to time.

These severe attacks of gall stone colic repeat themselves, with or without icterus, according to the seat of impaction of the calculus in the cystic or choledochus ducts. They are sometimes accompanied by high fever—I have seen it as high as 105° F., though there may be neither cholangitis nor cholecystitis demonstrable in the case. Temporary swelling and tenderness of the liver may be present, and much biliary coloring matter may get into the blood and urine. The above described palliative treatment will not disappoint us so long as there is no manifestation of firm incarceration of one or more big calculi in the ducts or viscus, and no empyema of the gall bladder.

The paroxysm being over and the patient himself again, and the conviction established in my mind that the case is one of small concretions in the gall bladder, one or more of which are known to have passed, I then put him on a proper diet, excluding all food rich in lime and magnesia salts, particularly peas, beans, and certain cereals; because it is not cholesterol alone that the gall stone is composed of, but the lime and magnesia salts go to make up and increase its hardness. The patient must stop gorging himself with food, eat *spare* instead of *square* meals; be very moderate in the use of alcoholic beverages, keep his bowels extremely regular by magnesium sulphate or sodium phosphate or rhubarb, and drink twice daily half a pint of hot Carlsbad water before eating. The Carlsbad waters have been used for many years by patients suffering from cholelithiasis, and often with advantage. They do not dissolve gall stones, to be sure, neither can they help a man who has one or more large calculi firmly lodged in the ducts or crowding and tormenting his gall bladder. Here we want the surgeon, who thoroughly understands how to perform a relieving and saving operation upon our patient. But the Carlsbad cures made abroad or followed out at home have helped a number of medical cases, as I may be permitted to call them, of which I have personal knowledge, to pass numerous calculi during and immediately after the use of the waters. These waters do increase the flow of bile, they are apt to relieve cholangitis, they are effective in removing catarrhal conditions of the gastrointestinal tract, obesity, and other disorders which are often associated with cholelithiasis. I know also of two cases in which cholecystotomy was performed and many stones removed, yet some more of them made their presence felt three months after operation and passed away during a subsequent Carlsbad cure. In the ætiology of gall

stone disease we find frequent disturbance of abdominal circulation by pregnancy, obesity, and chronic constipation; the infectious diseases, particularly typhoid, also malaria, etc., act as important factors, and we also know that these disorders and the sequelae of all of them are greatly benefited by the alkaline magnesium sulphate or sodium sulphate waters in conjunction with proper diet and a regular mode of living. To be sure, wise discrimination in the selection of your cases is necessary. Send cases which can possibly be benefited, but do not submit to a Carlsbad or any other medical cure cases which belong to the surgeon only. Massage of the gall bladder in the interval has also been recommended with a view of perhaps reducing some of the large stones to coarse detritus, I suppose, and forcing others through the ducts. All I have to say as to this suggestion is: a look at the anatomy of the viscus and the ducts and at their situation ought to suffice to stigmatize such a procedure as injudicious and fraught with mischief.

Woman is particularly prone to chronic gall stone disease with its insidious and often doubtful signs, and we are wont to smile at so absurd a diagnosis as "gastralgia," as it was made in years gone by, but the percentage of this disease for man must be put somewhat higher than we find it given in the text books; that is at least what my experience has taught me during the last ten years.

Of chronic cases I have seen quite a few in both sexes.

1. Cases of solitary or a few large calculi in the gall bladder without enlargement of it, without icterus, but with chronic ailment, and loss of health and vigor, almost approaching cachexia. Very difficult to arrive at a correct diagnosis. No icterus. Medical treatment of no avail.

2. Cases of rather large stones in the gall bladder; one or more of them are forced into the gradually enlarged cystic duct, but not to the common duct. Discomfort more or less always and occasional suffering when the stones are crowding each other or pressing forward. No icterus. Frequent examination necessary, diagnosis certain when temporary or permanent enlargement of bladder can be felt. Medical treatment can do no good.

Two cases, both in men, who suffered for ten and twelve years respectively and were out of health until cured by operation. Three large stones in the bladder; in one case fifteen or more large stones, both in the gall bladder and the enlarged cystic duct, were removed. Recovery in both cases good and uneventful.

3. Cases of large calculus or calculi in the chole-dochus. Icterus and more or less severe general suffering are always present. Here I remember one particularly severe case in a married woman of thirty-six. The trouble commenced two years after

typhoid fever. The diagnosis was eventually easy, after excluding all other possibilities. The medical treatment was of no avail; the operation, very difficult and protracted, could not be finished at the first sitting, but was successful at the second sitting; one large calculus only was removed from the common duct, and the patient finally made a good and, up to the present time, perfect recovery.

- IV. A case of hydrops of the gall bladder in a married woman was observed by me two years ago. It caused but little pain, showed slight transient icterus, and was complicated with right floating kidney. After prolonged Carlsbad cure and adjustment of the floating kidney by abdominal supporter with kidney pad, the gall bladder tumor gradually disappeared. There has been no return of the symptoms up to the present time.

- V. All chronic gall stone diseases—medical, as I named them—which never have severe attacks, or at least moderate relapses only after the first severe seizure, require careful supervision and chronic treatment, if I may say so; that is, I invariably advise them to use the alkaline waters and the diet as above described at least twice a year and for four weeks at a time. To these are added suitable hydrotherapeutic procedures, such, for instance, as the Turkish bath, or the alternate hot and cold douche for the vigorous and the tepid or cool sponge or rain bath for the weaker patients.

I am by no means of the opinion that everything needful has been done after the surgeon is through with the case and the patient has made a good recovery. His gall bladder, when not excised, is certainly not normal, nor can the bile itself be the physiological liquid that it ought to be. What holds good in medical treatment for chronic cases without operation, as I have just related, will hold good also for the cases after operation, when they come back to us.

25 WEST FORTY-SIXTH STREET.

Marriage on the Hire-Purchase System.—According to the *Cadicée*, the (*Journal médical de Bruxelles*, October 2nd) Thais-Lus, a Chinese race, only marry when, after some months' cohabitation sanctioned by the parents, the young couple are assured of offspring. A corresponding practice, save for the parents' consent, exists, according to the writer, in a certain part of France. Noting, some twenty years ago, how few illegitimate children there were in that neighborhood, he instanced it to the mayor of a village who came to be his neighbor at a banquet, as an evidence of the high moral tone of the district. The latter smiled and said: "You are altogether wrong. Hereabouts a woman is sampled before she is married. If she remains sterile, it's all off; but if she becomes pregnant, she is married, and promptly, too."

THE EFFECT OF CLIMATE ON LARYNGEAL TUBERCULOSIS, WITH SPECIAL REFERENCE TO HIGH ALTITUDES.*

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The climatic treatment of tuberculosis always has been and still is a subject of much interest as well as discussion. It must be admitted that no definite conclusions have as yet been arrived at, and that the advocates of the home treatment, the sanatorium treatment, and the treatment by removal to high altitudes or to sea level have presented many convincing arguments in favor of each.

Comparatively few writers have devoted their attention to the climatic treatment of laryngeal tuberculosis. The most notable articles are those of Solly (1), Philip Schech (2), Clinton Wagner (3), and Derscheid (4). In speaking of the treatment of this affection many men incidentally make short references to change of climate. Among these we may specially mention Ingals (5). Those who have considered the subject but scantily are almost unanimous in hastily condemning high altitudes, while those who have given the subject more thought, corroborating their opinion by careful personal investigation, find high altitudes not deleterious, to say the least, but even beneficial. Many good observers have been prejudiced by former writers, by superficial investigators, and have never allowed themselves to alter an impression based upon erroneous opinions.

With a view of throwing some light upon this important subject I began a careful analysis of a series of 205 cases, full records of which have been carefully taken and preserved. My purpose was not to laud Colorado as a Mecca for laryngeal tuberculosis, nor did a preconceived optimism prejudice my conclusions. In fact, I did not know when beginning this paper where the analysis would land me. It is true, the general impression which has prevailed in my mind as a result of observing and treating many cases has been one less pessimistic than is usually expressed by those in other localities.

After careful study of my records, I find so many questions requiring accurate decision, so many modifying conditions demanding recognition, that I am obliged in the present paper to confine myself to

generalities rather than to details. This paper, therefore, partakes largely of the nature of a preliminary note, for which I ask your indulgence.

One naturally asks what peculiarities in climate are demanded for the treatment of tuberculosis of the upper air passages. It is a well recognized fact that altitude alone is comparatively of little importance. There are other climatic influences which need to be taken into account. Primary among these are temperature, sunshine, humidity, dryness, pure air, irritating air, dust-laden air, etc. All of these are important, but it seems to me that the one great desideratum here, as in the treatment of phthisis generally, is pure air. Weber says: "The most important point of all good climates for phthisis is purity of air. This is to be found, first, in elevated regions, second, in the desert, and, third, on the sea." Unquestionably the other points must play a part in various forms of the disease and therefore one cannot disregard the injurious effect of an excessive local irritation upon highly inflamed mucous surfaces. But dry air is not necessarily dust-laden air, while, according to Solly, it improves relaxed catarrhal conditions. The general pathological picture of laryngeal tuberculosis is one of depressed vitality, relaxation, and anæmia, not inflammatory in nature. This latter condition may incidentally supervene and is especially seen in acute cases which assume the rapidly progressing miliary type. These, with their high temperature and great activity, present all the conditions for which high altitudes, with their dry air, are contraindicated (6).

Classifying the 205 cases in a manner best suited for the purposes of this report, it is found that in certain cases pulmonary and laryngeal lesions develop before the patients come to Colorado, in climates widely different; in others both lung and throat lesions developed in Colorado or similar regions; and in others throat lesions developed in Colorado or similar climates, while the pulmonary trouble began elsewhere. Again, certain cases presented no determinable lung affection whatever, being primary laryngeal cases, and of these, very few in number, one originated in Colorado, the remainder having been contracted elsewhere. The following is an accurate record of this classification:

1. Cases having both lung and throat lesions. (a) Number originating in Colorado or allied climates, 11. (b) Number originating elsewhere, 152. (c) Number in which lung lesion originated elsewhere, throat lesion in Colorado, 37.

2. Cases having only throat lesions. (a) Number originating in Colorado, 1. (b) Number originating elsewhere, 4. Total, 205.

These statistics, however, give but an indefinite idea of the effect of climate upon the development of laryngeal phthisis. We know that fully 30 per cent.

* Read before the American Laryngological, Rhinological, and Otological Society, at Washington, June 2, 1902.

of all cases of pulmonary tuberculosis sooner or later show signs of laryngeal involvement. I am not aware that anyone has ever attempted to determine when in the course of the disease this occurs, nor what may be the effect of climate upon its development. It is safe to say, as is generally conceded, that laryngeal manifestations may show themselves early or late, more often, however, late, of course always having in mind the occasional though undoubted cases of primary laryngeal tuberculosis.

If it can be shown that throat lesions develop more rapidly in high altitudes than elsewhere, the opinion of some that these localities are injurious would be borne out. Let us see what my records prove.

Average duration of lung lesions:

(a) Of cases in which lung and throat lesions developed in Colorado, 134.8 weeks.

(b) Of cases in which lung and throat lesions developed elsewhere, 110.8 weeks.

(c) Of cases in which lung lesions developed elsewhere, throat lesions in Colorado, 118.8 weeks.

Average duration of throat lesion:

(a) Of cases in which lung and throat lesions developed in Colorado, 51.4 weeks.

(b) Of cases in which lung and throat lesions developed elsewhere, 75.4 weeks.

(c) Of cases in which lung lesion developed elsewhere, throat lesion in Colorado, 21.1 weeks.

Average length of residence in Colorado:

Class a. 352.5 weeks.

" b. 25.8 "

" c. 82.0 "

These figures may be compared by placing them in a table as follows:

Class.	Average Duration of		Average difference in time between development of lung and throat lesion.	Average length of residence in Colorado.
	Lung Lesion.	Throat Lesion.		
(a)	134.8 weeks	51.4 weeks	83.4 weeks	352.5 weeks
(b)	110.8 weeks	75.4 weeks	35.4 weeks	25.8 weeks
(c)	118.8 weeks	21.1 weeks	97.7 weeks	82.0 weeks

This table shows:

1. That in cases in which both lung and throat lesion develop in Colorado the throat lesion manifests itself 48 weeks later than in those originating elsewhere.

2. That in cases in which lung lesions develop elsewhere and throat lesion in Colorado, the throat lesion manifests itself 62.3 weeks later than in those originating elsewhere.

It would, therefore, seem that, so far as the development of laryngeal tuberculosis is concerned, the effect of high altitudes is to retard it by more than

one year, notwithstanding the natural tendency for the occurrence of this very common complication of pulmonary tuberculosis. So far as the direct therapeutic influence of high altitudes is concerned, the results indicated in a previous paper (7) may be referred to.

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THE BURKE FOUNDATION, AND A PLEA FOR PROPER HOMES FOR THE CONVALESCENT POOR OF LARGE CITIES.

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To the physician practising among the poor, as well as to the physician of the public hospital, the problem of the care of patients during the state of convalescence, has always been a serious one, yet every physician and surgeon knows the importance of a careful and sometimes much prolonged after treatment during the convalescent stage.

France has realized the importance of public homes for its convalescent poor since 1650, when the first institution of that kind was erected near Paris. One must have frequented the public Parisian hospitals and come in close contact with the patients to appreciate fully the benefit and value of these institutions. The patients themselves await with impatience the time of their transportation to the convalescent homes, for they fully realize that when once there they will be completely cured and in a relatively short time be able to resume their vocations. The two most popular institutions now existing near the French capital, which are part of the general public hospital system, under the direction of the *Assistance Publique*, are the one at Vincennes, with 400 beds, and the one at Vesinet, with 330 beds. Thousands of convalescent patients pass through these institutions annually. The two smaller con-

valescent homes near Paris are at Roche-Guyon and Garches. Besides six other similar public establishments in other large French cities, there are a few institutions maintained by private charity, yet the authorities are not satisfied with the existing number. Very justly the French consider that the care of the sick poor should be extended to the regaining of the working capacity of every individual. A circular has recently been issued by the authorities enjoining this point of view on the hospitals and physicians employed to look after the sick poor. The large country hospitals are to provide a convalescent home and the smaller ones to set apart a ward for the purpose. The expense is to be shared by the local and national boards as soon as the necessary legislation is completed.

Germany has only recently realized the importance of convalescent homes and introduced a number of so-called *Genesungsanstalten*. In the United States we are likewise behind France in this respect. There are at the present time a few convalescent homes in New York doing good work, but they are, of course, far too small and not numerous enough to take care of the thousands of our convalescent poor which our public hospitals, owing to lack of room, must discharge far too early for the patients' physical good and their chances for again earning a livelihood.

Thanks to the generosity of one of our noble fellow citizens, the venerable Mr. John M. Burke, this urgent need for homes for the New York convalescent poor will soon be met. A deed was filed at Mardhall, October 2nd, whereby Mr. John M. Burke conveys to the Winfield-Masterson-Burke Relief Foundation \$4,000,000 worth of real and personal property, to be used as an endowment for a hospital for convalescents. To our great regret there is not a single physician among the committee chosen by Mr. Burke to advise on the establishment of the projected institution.

The object of the present communication to one of our leading American medical journals is twofold: The writer desires, first, to point out the general importance of such institutions for every large city; and, secondly, to express his deep appreciation of Mr. Burke's gift, at the same time venturing some suggestions as to the uses to which the Burke fund might be put, with a view to obtaining the greatest possible good to the largest number of people.

Among the well-to-do it is a relatively easy matter to urge upon the convalescent typhoid patient to refrain from partaking of unsuitable food; upon the pneumonic to avoid exertion and the inhaling of irritating substances; upon the gripe patient not to expose himself to fatiguing work or to frequent unsanitary places. How different is it with the poor convalescent, who, as we have said, is often obliged to

leave the public hospital long before his recovery is completed, or a poor private patient obliged to resume work much too early for his physical good, but not at all too early for his depleted pocketbook. The physician practising among the poor knows only too well how frequently he meets just such cases where the bread winner of the family must rise from his sick bed only partially recovered, because the little ones cry for bread. Homes for all classes of convalescent poor are as much needed as the hospitals and sanatoria for the treatment of the sick poor.

Coming back to the Burke foundation I would suggest that instead of one institution for the convalescent poor there should be four, and since four million dollars are at the disposal of the committee, the four homes should have a million dollars each. First, there should be a home for patients convalescing from nervous diseases. Among the many charity institutions that exist in New York there is not a single home for the poor recovering from such troubles. Yet among the poor there are many nervous sufferers, particularly working girls and women. Because our hospitals are always overcrowded these nervous patients are never kept long enough during their convalescent stage, and relapses are most frequent, the trouble often becoming more serious and finally chronic.

Next I would suggest a convalescent home for patients discharged from our surgical and obstetrical wards. The laboring man or woman who has met with an accident which made his or her reception and treatment in a public hospital imperative, must often, for lack of room, leave the surgical ward as soon as the wounds are healed, but while he is still enfeebled and not nearly strong enough to take up again his usual vocation. The same is true of the poor working woman leaving our confinement hospitals.

The third institution needed is a home for convalescent typhoid, pneumonia, grippe, rheumatic invalids, etc. Patients who have been afflicted with any of these or with other grave acute diseases, must often, for want of room, leave our hospitals far too soon for their own good or for that of the community. If these classes of patients have relapses they often develop chronic afflictions, such as tuberculosis, for example, and ultimately become constant burdens to the community.

The fourth institution for convalescents should be consecrated to the most numerous class of sufferers, namely the convalescent consumptives. Through State and city appropriation and private philanthropy there is some prospect that we shall soon have a number of sanatoria (though by no means enough) for the treatment of incipient, that is to say, early and curable cases among the consumptive poor. Now, the most difficult task in the solution of the tuberculosis problem is to prevent the cured consumptive

from a relapse. If he returns to the unsanitary dreary tenement, begins to work again in sweatshop or factory, or owing to his feeble health cannot yet earn enough to secure ample and nutritious food, the time and money spent for sanatorium treatment will all have been in vain, for he will surely relapse into the old condition and thus greatly endanger his chances for a lasting recovery. What can be done for him? For the recently recovered consumptive who is rarely able to take up his former work immediately, we would establish a special farm in a good healthy locality where he could do light outdoor work and remain until he has grown vigorous enough to take up his old vocation or acquired sufficient liking for outdoor work to continue in it. Such an agricultural colony or farm would seem to me the ideal home for the patient recovering from pulmonary tuberculosis. It would not only prove a blessing to thousands of pulmonary invalids but would constitute a strong factor in the combat of tuberculosis viewed as a disease of the masses. Agricultural colonies for the convalescent consumptive poor seem certainly as essential as special hospitals and sanatoria for the actual treatment of the disease. Agricultural colonies for convalescent consumptives have proved in a large measure self-supporting wherever the experiment has been tried.

All four institutions should be in different localities and at some distance from each other, for the aggregation of too large a number of people would prove injurious to no matter what class of convalescent patients. If at all practicable, each home should have a division for convalescent children, for there is, with the exception of a few small homes for children, no institution of this kind in or near our city.

There is but one more suggestion I would venture, and that is in regard to the selection of cases to be admitted to the various homes for convalescents. Not only cases discharged from our public hospitals, but also those from private practice among the poorer classes who pay their physicians whatever they can, should share in the benefit of Mr. Burke's foundation.

May the noble example of Mr. Burke find many emulators among our large-hearted and wealthy fellow citizens everywhere in the United States.

16 WEST NINETY-FIFTH STREET.

Phototherapy in the Fourteenth Century.—According to the *Policlinique* for October 1st, John of Gaddesden, author of the treatise *Rosa Medicinæ*, who died in 1361, treated the son of King Edward I for variola, by enveloping him in a scarlet robe and placing him in a bed with scarlet curtains in a room also curtained in scarlet. The patient recovered without any marks of smallpox.

THE DEPENDENCE OF SKIN AFFECTIONS UPON NUTRITIVE DISTURBANCES.

By W. R. INGE DALTON, M. D.,

NEW YORK.

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When I stated before the American Medical Association over a year ago that "skin affections are due to nutritive disturbances—a defective degenerative metabolism, * * producing a lethargic condition of the skin, an inefficient stimulation of the nerve twigs, supplying the sudoriferous glands, that bacterial agencies cause septic and putrefactive changes in the alimentary canal, and that inanimate toxins maintain selective affinities for the tissues, exerting their action upon the primordial protoplasmic group of cells," I was surprised that my paper was so widely commented on, and that it was published in so many foreign languages. Since then I have based my line of treatment on that theory, and "*Hic est mucro thesis mea*"; the chyme passing in a hyperacid condition from the stomach, through the pylorus, into the duodenum, entails such increased labor upon the second stomach, that its contents can not be rendered sufficiently alkaline for physiological metabolism. This starting point, this acid dyscrasia, is the inevitable *fons et origo* of the pathological lesions; the nidus is here furnished for the elaboration of the pabulum upon which the microorganisms feed and propagate, thereby favoring organic fermentative changes throughout the ileum and large intestine, culminating in stasis of cellular action, cutaneous obstruction, and peripheral atrophy—visceral, pulmonary and cardiac lesions.

The chyle is emulsified while undergoing pancreatic digestion in the alimentary tract. These minutely divided products transport the pathogenic germs immediately though the lacteals, without causing infection locally, into the vena cava; the lymph, with the organisms enveloped in the chyle, goes directly through the thoracic duct into the left innominate vein, thence into the venous circulation, through the right heart to the lungs, setting up infection there by retarding oxidation; or the organisms pass on with the blood, to find access to the cutaneous system, where, if they find suitable culture media (the pabulum upon which they feed), their deleterious action commences, leading to aberrant cellular activity, changes in contiguous surrounding fluids, preventing osmosis, and throwing an impossible task upon the phagocytes, which would otherwise devour them.

Since proclaiming my theory at Atlantic City, three years ago, I have diligently pursued the line of

treatment then mapped out, and in over 11,000 patients treated in private practice and clinics, have met with phenomenal success.

I always insist that the patients have the bowel emptied every day; that they abstain from alcoholic or malt beverages; that no sweets *whatever* be taken, and no meat for six weeks, though fish and eggs are permitted; that they drink copiously of water, especially before breakfast. I have received so many letters from my professional brethren, inquiring as to my tablets that I give the formula again (as I gave it at Atlantic City, June 5, 1900):

R Naphthalin I grain;
 Ipecac ½ grain;
 Charcoal (willow) 1½ grain;
 Calomel }
 Strychnine } aa. I-100 of a grain.
 Pilocarpine }

M. ft. tabella vel. capsula i.

The naphthalin causes antiseptis and inhibits the action of microorganisms through the ileum and large intestine, thereby arresting organic fermentative changes; the charcoal, besides its splendid antiseptic properties, converts the anærobic condition of putrefaction into compounds which are not destructive to the tissues; the mercury destroys the bacterial forms in the duodenum and jejunum, and lowers the blood pressure, thereby accelerating capillary circulation, favoring digestion, and obviating putrefaction, the pilocarpine and ipecac influence the sweat glands and lymphatics, and the strychnine tones up the vasomotors, together with the entire nervous system. My whole aim is to alter the environment of the pathogenic organisms by lessening their virulent activities. This I achieve, and this I want, religiously desire, to impress upon the whole world or my professional brethren. I only insist that the *stomach* be kept in proper condition, and suitable diet enjoined, for no matter how specific any remedy may be, if the *sympathetic nerve centres governing metabolic processes, standing for assimilation*, are held in check through ptomaine intoxication, no good effects can follow from any line of treatment. And I insist, also, upon preventing obstipation of the bowels, because of its tending to the formation of urates. Uric acid accumulates in the blood (as proved by Horbacewski and Weinrand), it is formed wherever living matter exists by the dissimulation of albuminoids, and (Kossel) passes through the intermediate stages, nuclein, xanthin to uric acid.

101 CONVENT AVENUE.

ON THE IMMEDIATE REPAIR OF CERVIX LACERATIONS.

By ANNA F. DONOGHUE, M. D.,
 NEW YORK.

It is a much disputed question whether a torn cervix should be immediately repaired. My opinion is that in a practice among the middle and lower classes it always should be, if the tear is at all extensive.

The reasons in its favor are the following:

I. A cervical tear of any extent is usually followed by profuse and often dangerous hæmorrhage. This depletes the patient and retards her early return to her normal health.

II. While one hears and reads a great deal about the spontaneous healing of the cervical tears, physicians who examine many cases must acknowledge that in women who have borne children is not only the normal cervix comparatively rare, but on the contrary an inflamed and eroded os is extremely common.

III. Among all but the upper classes secondary operations, except where marked pelvic symptoms drive the women to the surgeon, are extremely rare.

When a woman discovers that a secondary operation is necessary, she usually blames the physician who attended her in confinement for not making the repair immediately.

The arguments used against the immediate repair are:

I. That considerable skill is necessary to place the stitches properly.

II. That the necessary instruments are rarely found in the general practitioner's bag.

III. The old one that cervical tears heal spontaneously.

IV. That it may interfere with free drainage of the uterus if the repair is too complete.

In my opinion all these objections are too easily overcome to weigh in the balance with the great benefit that comes to the patient who gets up from her confinement with her uterus and vagina in a normal condition.

Whenever there has been a precipitate delivery; when, before the os has been completely dilated, there has been a forcible extraction of the child with forceps or by version; when there has been an abnormal rigidity of the os—a badly lacerated cervix and vagina is sure to be the result.

A digital examination informs the physician of the condition of the cervix and vagina, and should always be made. If there is no cervical tear and the perineal rent is small, chromicized catgut sutures may be placed in the perinæum and left untied while waiting for the detachment of the placenta, as the patient is still more or less under the influence of the chloroform.

The Richmond, Va., Academy of Medicine and Surgery.—At the last meeting, held on Tuesday, October 28th, the subject for discussion was *Acne Vulgaris; Its Causes and Treatment*. The discussion was opened by Dr. S. H. Beadles.

The operation for the immediate repair of cervical tears is not the difficult one some surgeons would have us think. No anæsthetic is necessary. The patient is placed in the dorsal position, well over the edge of the table or bed. The perinaum should be retracted with a large posterior retractor, and the anterior wall of the vagina held out of the way by another retractor if necessary.

The anterior and posterior lips should then be caught by two tenacula and the cervix pulled into view. By separating the tenacula the tears are made to gape. Chromicized catgut is used for sutures the same as in secondary operations, although silkworm gut or silver wire may be used, but necessitate removal.

The first suture should be placed above the upper angle of the tear and tied. If properly placed, this suture completely controls the bleeding. The other sutures are then placed as in secondary operations, until as much of the laceration is closed as is deemed advisable, care being taken not to interfere with the free drainage from the uterus.

Unless excessive hæmorrhage calls for immediate operation, very excellent results may be obtained by operating at the end of twenty-four hours or as late as two weeks, so that the patient recovers from the operation and childbirth in one convalescence.

During the last twelve months I have performed this operation immediately following or during the lying-in period in eight cases. In one case no union took place, undoubtedly due to the fact that the stitches were not tied tight enough. The anterior lip had for many hours been impacted between the head and symphysis, and was consequently enormously swollen, so that at the end of twenty-four hours the stitches probably did not close the tear. In another case the patient died from hæmorrhage and shock, as the bleeding had been so profuse before and during the time the stitches were being placed that, notwithstanding the fact that the hæmorrhage stopped after tying the sutures, symptoms of extensive blood loss rapidly developed, and syncope, convulsions, and death followed.

In the six other cases examined subsequently at my office the results were everything that could be desired.

152 WEST FIFTY-SEVENTH STREET.

Lectures and Addresses.

THE SERVICE OF THE SICK.*

By J. LEONARD CORNING, M. D., LL.D.,
NEW YORK.

MR. CHAIRMAN, LADIES AND GENTLEMEN: When your distinguished townsman, Dr. St. John, acting in concurrence with my eminent friend, Senator Johnson, asked me hither to address you on this auspicious occasion, he was actuated, I am sure, by an amiable waft of friendship rather than a deliberate conviction of the speaker's fitness either to edify or to entertain. Medicine, if not altogether, is largely a profession of private life; and its followers, accustomed to a silent warfare with disease, are but ill provided with those rhetorical adjuncts so indispensable to success in the arena of public speech. Forget, I pray you, the temerity which has brought me before you to-night; remember the substance of the occasion rather than my inadequate celebration of it; and be assured that he who addresses you will be grateful for your indulgence, though he cannot hope to deserve your lavish commendation.

We are flocked to-night to pay our meed of tribute and wish a Godspeed to those who are about to dedicate their lives to a high and useful calling—to tend the sick and the infirm, the sorely afflicted in heart, in body, or in mind. 'Tis a noble work! You who are about to give practical effect to the benevolence of the heart may hold up your heads. Be assured that your professions are not lost upon dull ears. Yours is no cramped espousal; the thing which you have set yourself to do is as broad as human nature itself. To bolster life, to encourage fittingly, to mitigate, to console—what can be nobler?

And you are well prepared. For many and long months, under favorable auspices, amid the invaluable opportunities of a considerable and well appointed hospital, carefully led on by a corps of accomplished instructors, and solicitously followed in your undertakings by a sympathetic sentiment—for many long and arduous months you have unflaggingly pursued that bedside discipline that alone could enable you skilfully and intelligently to carry on the campaign of the sick room under the generalship of the attending physician.

And now, in the ripeness of time and your own exertions, you are about to step into the more considerable world beyond the pale of the hospital—into that world of strong contrasts, of shabby compromises, of ideals half smouldered, flickering up despairingly amid the smother of unbridled selfishness. If perchance your own ideals flutter affluctively at the discovery that all the flowers of earth are not

Action of Alcohol on Human Metabolism.—Dr. A. Clopatt (*Berliner klinische Wochenschrift*, September 29th) adopts the results of former investigators which show that the ingestion of alcohol interferes with oxygenation of the tissues and hence possesses a value as nutriment. In experiments upon himself, Clopatt was able to reaffirm this position, although he could not prove that the alcohol had any influence upon the intestinal absorption of foods.

* Address, delivered by request, to the Commencement Exercises of the Hackensack Hospital Training School.

endued with fragrance, do not let them fold their wings for long. Consider how men have gone forth to battle and women have braved the pestilence to staunch their wounds; how hungry scholars achieved master-works in garrets; how moss grows on a rock, and orchids sprout in air. Consider the public library and the hospital of this city—all kindness and beauty—consider how their walls rose at the sovereign touch of high devotion. Truly, there is great good in some places and some almost everywhere.

My experience has taught me that there exists much diversity of talent among nurses. Thus, Miss S., whose services I was fortunate in securing, was very systematic in everything she did. Coming one day to a patient, Mrs. A., who had long been a sufferer from melancholy, I found her, to my surprise, in the greatest good humor.

"How's this?" I inquired. "How's what?" says she. "These smiles," said I. "Oh, really, it's too funny," she laughed. "Miss S. has been reciting texts in my right ear and telling funny stories in my left—sheep an' goats' you know—she's afraid I'll mix 'em."

I have had the good offices of another nurse, whose pseudonym shall be Miss B. Mr. H., a sufferer from nervous disease, was very dutifully cared for by Miss B., who by nature is an invincible optimist. This peculiarity of temperament, most desirable in itself, led in her case, however, to a remarkable gush of language, both of the tongue and of the pen. Her clinical records reflected this pleasing bias. In fact, to put it blandly, the hue of her reports was not the color of her facts. Coming in one day, I found an entry in the clinical record of which this is a *paraphrase*:

"9 a. m.—Patient tumbled out of bed and struck head. Eyes crossed; unconscious.

"9.10 a. m.—Vomits freely, and lies out straight; all right.

"9.30 a. m.—Has come to; asked if I should give him a drink. Said 'no, gimme a rest.' All right.

"10.30 a. m.—Hypodermic of strychnine; clam broth and egg. Bandage to cut on head; has lost about a pint of blood; all right. Goes to sleep and mutters a good deal; seems out of his head. All right.

"11.40 and ¼ a. m.—Bumped mouth, swallowed wisdom tooth. All right. Family frightened, but told 'em it was all right, and he'd be as good as new in a few hours."

"Miss B.," said I, when I had read this, "Miss B.," in a chiding voice, "this sounds like fiction; have you ever tried it?"

"No, no," says she—"no, indeed—never."

"Very good," said I. "I have; and if there's any more lying to be done, I'll do it myself."

A sportive humor, an ability to enjoy the little dis-

crepancies of human nature, is a great assistance in most situations and is invaluable in the sick room. To be without this faculty is to miss those breaks in serious discipline, those vacations from the strenuous, so necessary to the preservation of serenity and poise. Consider that the planets will roll whether you smile or sigh, and that even the man in the moon prefers a laugh. You will be faithful—no doubt of that. Remembering always the high impulse that led you to embrace an altruistic calling, you will hold firmly to your ideals, turning cold eyes upon the sordid and the selfish.

To the physician, upon whom devolves the generalship of the sick room, you will bring unalterable fidelity; to the patient, your skill, your tact, your hopefulness. In this you will show yourselves real soldiers, faithful to discipline, faithful to the cause.

History shows that the disposition of a nation, like that of an individual, is subject to the vicissitudes of change. Contrast the exalted moods of Greece under Pericles with the crawling humors of her decline; think of Rome the republic and Rome the plaything of the Cæsars. Ours is a day of material expediency. We think by boarding the trolley to pass poetry by, forgetting that she has wings. Just now convenience holds the sceptre. The uncouth elements of earth—her ores, her ledges, her unreckoned hoard of latent usefulness—these, one and all, tower higher than the loftiest belfry at the behest of the hammer, the chisel, and the forge. Great business, certainly; but is it all? Shall we miss the lesson of Egypt the great builder—Egypt the material, the haughty, the voluptuous? Shall we forget those grewsome relics of a vanity projected beyond the tomb—those spiced mummies, as dead as on the day when, swathed and decked, they were laid aside, mute denizens of a hollow luxury? What a dismal monument of despairing self-deception!—this postponed rottenness, this sparkle of jewels on withered fingers, this dried laughter of a thousand years, of a death's head coffined round by porphyry!

Even flowers wither to earth; their perfumes only are raised upon the ether. To stand on the summit of the Great Pyramid is not to come very close to the zenith; yet an astronomer by looking up may know the secrets of the stars. Matter is changeful; those who feast do but pander to her fickleness. Kindness alone shall mollify the ages—kindness, like the inconceivable reaches of infinite space—kindness, the immortal!

It is when brought low by a severe sickness that we feel these things the most. Ambition, zest, hope—all the desires and passions that in health we most tenaciously hold by—flee then, leaving naught behind but a poignant emptiness. At such a time Beauty herself has lost her power, and the arts, aware of their inability to affect us, troop off des-

pairingly. Then it is that the nothingness of human achievement waits in upon our consciousness. All the works of the hands and the intellect are as nothing. A crushing sense of unreality conquers us completely; we seem mere phantoms, errant apparitions flitting in the wake of some *ignis fatuus* of the churchyard.

To this all save those who are killed in battle or suddenly by accident—to this we all of us must come. And this—the great tragedy of life—is your opportunity. If your hearts have been well kept; if you have faithfully observed a rigid hygiene of the soul; if you have studiously sought to whet insight and league yourselves with wisdom—if you have felt and striven in this fashion, yours shall be the privilege of springing to the rescue, of setting against the maleficent moods of Nature your skill and your constancy.

It is an arduous service, this which you have undertaken. Night and day, be the outlook what it may, you must stand prepared, alert for any treachery. Your foes are more redoubtable than any who ever held the sword. 'Tis a sin unpardonable to sleep on post while death lurks just without the campfire.

During the long watches of the night and the drooping vigils of the early morning, when the tick of the clock sounds like the drop of leaden water, and a false twilight blends a spectral illumination with the boding hush—at that fainting hour of hope, when the pulse runs low and clammy fingers clutch the heart, turn your eyes to the east and know that presently the orb of comfort shall rise above the edges of the horizon to lay a halo of gold upon the head of one who has softened the suffering of the night.

And now, may success attend you! May your efforts be crowned by that richest of all rewards—the consciousness of having carried a light into the dark places of the world. In moments of misgiving—and we all have them—summon, I pray you, from the realms of memory some pinched and saddened face, some mask of hopelessness turned suddenly to happiness at the touch of your devotion.

Explosive Eructations.—Dr. Antony A. Martin (*Lancet*, October 11th) reports that an elderly man under his care has been suffering for some weeks from severe atonic dyspepsia. A marked feature of his case is fermentative decomposition of the contents of the dilated stomach, with frequent eructations of foul gas which he says "tastes like rotten eggs." On September 10th, two hours after a light breakfast, he was obliged to eructate just as he was lighting his pipe with a match; instantly there were a blinding flash and a slight report due to ignition of the gases released from the stomach. The patient's beard and eyebrows were thoroughly singed but no further damage was done.

The author wishes to know whether this dangerous complication of dyspepsia is at all common.

Therapeutical Notes.

For Chronic Bronchitis.—According to *Rivista medica* for August, in chronic bronchitis with emphysema, Robin prescribes first of all an emetic:

R Powdered ipecacuanha.....1.05 gramme (22 grains);
Potassio-tartrate of antimony. 0.05 gramme ($\frac{3}{4}$ grain).

M. To be given at several times, dissolved in water.

When the expectoration has become more abundant and fluid, the following is useful:

R White oxide of antimony.0.50 gramme ($\frac{7}{8}$ grains);
Syrup of ipecacuanha.....10 grammes (150 minims);
Terpin hydrate.....0.20 gramme (3 grains);
Dionine.....0.01 gramme (15/100 grain);
Mucilaginous mixture.....140 grammes ($\frac{4}{5}$ ounces).

M. To be taken in tablespoonful doses.

For Cholelithiasis somewhat Subsequent to the Hepatic Colic.—Knapp (*Prayer medicinishe Wochenschrift*, September 4th; *Gazzetta medica lombarda*, September 25th) gives the following:

To aid the expression of the biliary secretions:

R Sublimed calomel..0.50 gramme ($\frac{7}{8}$ grains);
Podophyllin.....} of each 0.25 gramme ($\frac{3}{4}$ grains);
Euonymin.....}
Extract of belladonna..0.15 gramme ($\frac{2}{4}$ grains);
Licorice powder... enough to make 10 pills.

M. Ft. pil X.

One pill to be taken every morning. After five days the treatment is stopped for a short while, after which the other five pills are taken, one every evening as before. The treatment may be repeated once or twice with intervals of two weeks.

For icterus from angeocolitis or cholecystitis:

R Insipissated ox gall.....10 grammes (150 grains);
Gum tragacanth..... of each 1.50 gramme
Extract of gentian..... (22½ grains);
Extract of belladonna..... 0.20 gramme (3 grains);
Distilled water..... enough to make 100 pills.

M. ft. pil 100.

Five pills to be taken before each of the two principal meals.

The Treatment of Ingrowing Toenails by Lead Nitrate.—Dr. Blanc (*Journal des praticiens; Arte medica*, July 27th) adopts the following plan: With a series of prolonged foot baths the end of the digit is thoroughly cleansed and the vegetations softened. Then with a spatula there is introduced between the nail and the fungosities down to the bottom of the perionychial sulcus a strand of cotton sufficiently large to cover with its free part the sound portion of the nail. The fungosities are then covered with powdered lead nitrate, reflecting the portion of cotton from the nail over them, and over this is placed another layer of cotton and a piece of moist gauze. This dressing is to be renewed daily until the sanious parts disappear, that is to say, until the fleshy margin of the nail can be clearly seen. Three or four treatments may suffice for this. Subsequently for one or two occasions the margin should be raised by the insertion beneath it of a pledget of cotton. This method, described by Monprofit in 1808, is said by Blanc to have the advantage of being not costly, easy of application without necessitating the patient's lying up, but little painful, and infallible.

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METADIPHTHERITIC PARALYSIS AND THE ANTITOXINE TREATMENT.

In the progress of medical observation and opinion it not infrequently happens that a new idea grows quietly into conviction among a goodly number of observers, but meets with no open recognition until somebody takes the trouble to give a systematic presentment of the facts bearing on the matter. Something like this seems to have happened at the recent meeting of the Rocky Mountain Interstate Medical Society, held in Cheyenne, Wyoming, when Dr. J. E. Courtney, of Denver, presented a most admirable paper entitled Does Antitoxine Diminish Diphtheritic Paralysis? Dr. Courtney's paper is published in the October number of the *Denver Medical Times*. He marshalled a very telling array of facts pointing to an affirmative answer to the question, and quoted from letters from two well known New York neurologists, Dr. Sachs and Dr. Collins, in further support of such an answer. Those of his auditors who took part in the discussion, with one exception, acceded to the conclusion that the antitoxine treatment was particularly efficacious in preventing the neuritic troubles that are recognized sequelæ of diphtheria. The exception was in the case of Dr. Wyman, of Cheyenne, whose experience had led him to the impression that that region was particularly liable to the occurrence of paralytic complications. "The heart complications, that have not been referred to particularly," he said, "have in a number of cases in Cheyenne, I know, been fatal, and these complications have almost always been preceded by symptoms of paralysis of the muscles of deglutition, as shown by the regurgitation of fluids."

The predilection of the diphtheritic poison for the nervous system is justly put forward by Dr. Courtney as an *a priori* argument in favor of a like selection on the part of its antitoxine, and he also adduces an inference that it appears difficult to escape, that, namely, that the very reduction of the diphtheria mortality by the antitoxine treatment ought, but for such a special selective action, to increase the frequency of metadiphtheritic paralysis, "since more than five times as many live to risk having it." Dr. Courtney cites Gowers, in as late an edition as that of 1889 of his *Diseases of the Nervous System*, as estimating that a quarter of the cases of diphtheria are followed by some degree of palsy, and says that "to-day there cannot possibly be anything like such a percentage," and in this he is undoubtedly correct.

But it is not alone for the cogency with which Dr. Courtney urges his main contention that we have called attention to his paper; he gives us some admirable specimens of condensed yet lucid statements, and he generalizes in an equally convincing style. As exemplifying both these features of his article, we quote as follows: "Diphtheritic polyneuritis presents readily recognized and characteristic phenomena—briefly, paralysis of the palate with regurgitation of liquids, difficulty in speech, diplopia for near objects, and, later and more lasting and troublesome, numbness, tingling, weakness, and impaired sensations in the limbs, and loss of knee jerk. The latter symptom is frequent even without the others. It is stated in most authorities that the strong are equally affected with the weak by the diphtheritic poison. While this seems true as regards the local and even general constitutional effects, it is certain that an inherited weakness or instability of the nervous system renders one more liable to subsequent neuritis. It seems, then, a mistake to say without qualification that the severity of infection has no determining influence on the likelihood of paralysis." Such a statement, he goes on to say, "probably grew out of the idea that the local manifestation in the throat was a sure index of the degree of infection, whereas it is known that many cases which appear mild locally and show scant membrane present disproportionately severe constitutional symptoms and are followed by paralysis." We know not which the more to admire, the soundness of Dr. Courtney's views or the perspicuousness with which he states them.

A HOSPITAL'S BAD EXAMPLE.

We naturally expect to meet with great difficulty in prevailing upon people in general not to expectorate indiscriminately in public places, but surely it is not unreasonable to look to the hospitals to insist scrupulously upon all the precautions dictated by hygiene. We therefore regret exceedingly to learn that there is one hospital, the Hôtel-Dieu, of Lyons, in which these requirements are persistently ignored, and that, too, in spite of the fact that a year has elapsed since one of the physicians of the Lyons hospitals, Dr. Courmont, who is also professor of hygiene in the Lyons faculty, called attention to the neglect in the *Province médicale*. In *Lyon médical* for October 12th Dr. Courmont complains again of the carelessness, to use no severer term, displayed by the authorities of the Hôtel-Dieu in the matter of the disposal of sputum. He quotes from his former description of the condition of things in that hospital. Carefully disposed in a row on the floor of the lobbies, he says, there is a series of zinc foot baths filled with sawdust, into which the patients are to expectorate. The sputa promptly dry and are disseminated in all directions by the continual draughts of air in the long corridors, in the form of virulent dust. Patients, visitors, doctors, and employees inhale this dust all day long, and if the weather is windy, the food carried to the internes gets its full share of it. He plainly intimates that no adequate rejoinder can be made to those of the general public who, when besought not to expectorate indiscriminately, exclaim: "Why these pocket *crachoirs*? Why these antiseptics? We do as they do at the Hôtel-Dieu; we spit into sawdust!"

Dr. Courmont's original complaint was perhaps not sufficiently public, but it was supplemented, though not until June of the present year by an official letter from the commission of hygiene of the medicosurgical committee to the president of the council of administration. Nevertheless, the zinc spittoons continue to scatter tuberculous disease broadcast in the lobbies of the Hôtel-Dieu, the most central and the most frequented of all the hospitals of Lyons. Professor of hygiene that he is, Dr. Courmont feels it particularly incumbent on him not to keep silence in view of the plain demands of the hygienic science of the present day and of the constantly increasing dissemination of tuberculous disease.

Perhaps the worst feature of the situation is the

apparent indifference of the committee of hygiene recently created within the body of the administration. When this committee was formed, Dr. Courmont felt gratified, he says, for he looked for cooperation between it and the medicosurgical committee's commission, but he adds that some of his colleagues smiled when he expressed his hopes in that direction and predicted that the new committee would content itself with justifying the present condition on the ground that it was consecrated by medical custom. He still declines to share in this incredulity, but it is to be feared that his colleagues were right. It certainly should take no great effort on the part of the administration's committee to consign to speedy oblivion the old zinc foot baths filled with sawdust, provided, indeed, they were at all in earnest in the cause of preventive medicine. It is to be hoped that the Hôtel-Dieu of Lyons is the only great hospital in the civilized world in which one of the simplest requirements of hygiene is persistently ignored, and it is also to be hoped that that institution will not long maintain its exceptional attitude.

POISONING WITH HYDRASTIS.

It is well known that in large doses hydrastis is poisonous, but Friedeberg (*Centralblatt für innere Medicin*, October 18th), who reports a case of severe poisoning with the drug that lately came under his observation, cites von Jaksch as stating that no fatal case has thus far been recorded. Poisonous doses of the chief alkaloid of hydrastis, hydrastine, give rise to tonic muscular spasm comparable to that caused by strychnine, but, to judge by Friedeberg's case, that result is not necessarily present in poisoning with the fluid extract of the plant. A woman, twenty-two years old, complained of uterine hæmorrhage, and a physician to whom she applied ordered her half an ounce of the fluid extract, of which he directed her to take twenty-five drops three times a day. After taking the medicine for two days according to these directions, she perceived no effect from it, and she then took at one dose, in the evening, what there was left of it in the bottle, estimated to be rather more than half the original amount. She immediately felt a sensation of burning in the stomach, and that was followed by nausea, giddiness, and faintness of brief duration. She was very restless

during the night, and had severe headache, visual hallucinations, a sense of pressure in the region of the heart, and dyspnoea. Toward morning she several times vomited a dull-green, viscid fluid. The author saw her at about noon on the following day. At that time her face was pale, her lips were slightly cyanotic, and she was very much prostrated. She was shivering, her voice was feeble, her tongue was coated, and her temperature was 97° F. The respiration was superficial; the pulse was 46, weak and irregular; and the cardiac sounds were feeble, with a slight hum over the aorta. The lungs were normal. There was moderate bleeding from the vagina. The uterus was enlarged and sensitive to pressure, and the os uteri was slightly open. The reflexes were present and the pupils, which were dilated, reacted to light. The urine was normal.

Friedeberg injected a drachm and a half of camphorated oil, one to four (subcutaneously, it is to be presumed), and ordered an enema of warm water, also plenty of warm bed covers and strong coffee and Hungarian wine. In the evening the feebleness was less pronounced, the pulse was 60 and regular, the temperature was 98.4°, the breathing was deeper, and there was slight diarrhoea. The uterine hæmorrhage was unchanged, and the patient confessed that she had aborted after missing one menstruation. On the following day the woman was still better, but remained somewhat anæmic; the uterus was curetted. On the fifth day she was discharged, being then quite well.

Instances of poisoning with hydrastis are not frequently encountered, and on this account reports of individual cases are of all the more interest. Friedeberg's case serves him as a text for the remark that one should avoid ordering an unnecessarily large amount of such a drug, since its good effects, if they are to occur, will be manifested within a short time, and if they are not exerted, a change of treatment is desirable. This caution should be observed oftener than it is; still, it is to be doubted if the fluid extract of hydrastis is generally ordered in smaller quantities than half an ounce.

DEATH FROM THE REMOTE EFFECTS OF CHLOROFORM.

Mikulicz's view that death following somewhat remotely upon anæsthetization with chloroform is likely to be occasioned by a condition of the liver intermediate between simple fatty degeneration and

acute yellow atrophy is to some extent supported by a case recently put on record by M. Cohn (*Deutsche Zeitschrift für Chirurgie*, ixiv; *Centralblatt für Chirurgie*, October 18th). The patient was a woman, twenty-one years old, on whom laparotomy was performed for bilateral disease of the uterine appendages in an interval between febrile exacerbations. The operation lasted an hour, and the whole amount of chloroform used was between four and five ounces. At the end of two days jaundice appeared and the urinary signs pointed to acute renal disease. No fever showed itself, but there were disturbances of the intellect, paroxysms of screaming and of mania, which lapsed into coma. The heart's action became very weak, the pulse was 150, the breathing grew stertorous, and death took place on the fifth day. At the necropsy, cloudy swelling was prominent in the heart, the kidneys, and the liver. In the kidneys there was pronounced necrosis of the epithelium of the convoluted tubules. In gross appearance the liver was of the icteric nutmeg variety; there was fatty degeneration of the cells, and there was an abundance of golden-yellow pigment in the acini. As regards this condition of the liver, it is remarked that the patient, being a barmaid, was probably given to drink.

KOCH'S DEFENSE OF HIS VIEWS ON THE TRANSMISSION OF ANIMAL TUBERCULOSIS TO MAN.

At the Congress of Tuberculosis, held recently in Berlin, Professor Koch replied to the strictures which have been passed on all sides upon his thesis of the nontransmissibility of animal tuberculosis to man. One of his arguments in relation to tuberculous milk and meat, however, strikes us as being singularly lacking in perspicacity. Professor Koch is reported to have pointed out that, when poisoned meat is eaten in a community widespread effects follow; and to have asked why no general infection follows the eating of tuberculous meat or the drinking of milk from a tuberculous cow. Surely, the fact that in the case of poisonous meat the immediateness and simultaneity of the effects at once direct the physician's attention to the search for a common source, while, in the case of tuberculous milk or meat, the effects are insidious in their onset, and do not culminate with that *éclat* that marks the other condition, is sufficient answer to Dr. Koch's question.

THE INFLUENCE OF A SACCHARINE DIET ON GASTRIC ACIDITY.

A diet consisting largely of saccharine substances is commonly supposed to favor acidity of the stomach, but from certain experiments made by W. G. Morgan (*Archiv für Verdauungskrankheiten*, viii, 1, 2; *Centralblatt für innere Medicin*, October 11th) it

seems probable that such acidity is not due to an actual increase of the amount of hydrochloric acid in the gastric juice; indeed, quite the opposite effect was observed. A healthy workman took for five days, together with his usual food, large quantities of sugar, between two and three ounces of cane sugar and twice that amount of maple syrup. The total acidity of his gastric juice fell from 50 to 25, and the free hydrochloric acid from 40 to 12.5. Acting on the knowledge thus acquired, Morgan has employed sugar successfully in the treatment of hyperchlorhydria.

THE DISCOVERY OF A UNIVERSAL VIRUS DISCLAIMED.

A report has been widely disseminated through the secular press that Dr. John A. Wyeth made a statement to some newspaper reporters that Professor William H. Welch had professed the discovery of a universal virus or remedy which would immunize the human race from all forms of infection. Dr. Wyeth has requested us to say that no such statement was made by Professor Welch nor has such statement been authorized by himself. The absurdity of such an allegation should have been sufficient to condemn the report as careless, and it hardly needs an express disclaimer from Dr. Wyeth to prove that he made no such statement. We had not supposed it possible that any physician could have given credence to such a newspaper report, but when we see the matter seriously discussed by physicians in interviews published in the lay press it would seem that after all a disclaimer is not out of place. Surely it is high time that the members of the medical profession refrained from adverse criticisms of each other based solely on newspaper stories.

MENTAL AFFECTIONS AND INJURIES TO THE HEAD.

The occasional connection, in the way of cause and effect, that may exist between injuries of the head and mental impairment is an interesting subject of inquiry. Werner (*Vierteljahrsschrift für gerichtliche Medicin*, xxiii; *Berliner klinische Wochenschrift*, September 15th) remarks that such injuries may act either in a purely psychical way or mechanically—psychically only in those predisposed to mental disturbance, but mechanically in perfectly healthy persons, the mechanical action being by extensive effusion of blood or by concussion of the brain. Among the effects are cerebral asthenia and such organic changes as give rise to idiocy, epilepsy, and dementia. Injuries do not cause progressive paralysis, except in persons predisposed to it.

News Items.

Society Meetings for the Coming Week:

MONDAY, November 3d.—New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., Medical Society; South Pittsburgh, Pa., Medical Society; Chicago Medical Society.

TUESDAY, November 4th.—New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Syracuse, N. Y., Academy of Medicine; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, November 5th.—New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

THURSDAY, November 6th.—New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-Psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of the City Hospital Alumni, St. Louis; Atlanta, Ga., Society of Medicine.

FRIDAY, November 7th.—Practitioners Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, November 8th.—Manhattan Medical and Surgical Society, New York (private); Miller's River, Mass., Medical Society.

Changes of Address.—Dr. Lucius W. Hotchkiss, to No. 37 West Forty-eighth Street, New York; Dr. Herman F. Nordeman, to No. 106 West Forty-seventh Street, New York; Dr. Francis F. Root, to No. 138 West Forty-eighth Street, New York; Dr. John J. O'Sullivan, to No. 127 West Ninety-sixth Street, New York.

The New York Metropolitan Hospital and Dispensary.—Dr. T. D. Crothers, of Hartford, Conn., has been elected consulting surgeon by the board of trustees.

Yellow Fever and Smallpox at Colon.—It is reported that both yellow fever and smallpox have appeared among the troops of the Colombian government at Colon.

A Serum for Whooping Cough.—According to a cable dispatch to the *New York Sun* a young physician of Brussels named Leureaux has discovered a serum which will effect a cure of whooping cough within eight to ten days after its injection.

Bequest to the Boston City Hospital.—By a codicil of the will of the late Lamont G. Burnham, of Boston, the hospital is to receive the sum of \$150,000 for a building, to be known as the Lamont G. Burnham Ward. The will gave that sum to Harvard College for the establishment in Boston of a veterinary hospital, but the codicil revoked the gift in favor of the City Hospital.

State Registration for Nurses.—The New York State Association of Nurses held its quarterly meeting in Rochester during the third week of October. A committee was appointed to agitate for the legal registration of nurses in this country.

Health Certificates required before Marriage in Spain.—According to a news dispatch from Paris a regulation has gone into effect in Spain requiring the presentation of a certificate of good health by both parties to a marriage before a marriage license will be issued.

Investigating Smallpox.—The city of Cleveland, Ohio, has appropriated the sum of \$4,000 to be expended in an effort to isolate the bacteria of smallpox. The investigation will be carried on under the direction of Dr. W. T. Howard, Jr., city bacteriologist.

Indicted for Grave Robbery.—According to press dispatches twenty-five men have been indicted by the Grand Jury at Indianapolis on the charge of robbing graves. It is charged that the bodies exhumed have been sold to medical colleges at Louisville, Cincinnati and Chicago. Several physicians are among those indicted.

A Post-graduate Medical School for Washington, D. C.—A meeting of prominent physicians was held in Washington at the residence of Surgeon-General Sternberg on October 7th to take steps toward the formation of a post-graduate medical school in that city. The matter was generally discussed, and another meeting will be held shortly.

The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, will hold its nineteenth annual meeting at Memphis on Tuesday, Wednesday and Thursday, November 10th, 11th and 12th. The programme includes thirty-seven papers and the meeting promises to be a very interesting one.

The Jewett Training School for Nurses held its graduating exercises at the Bushwick Avenue Congregational Church, in Brooklyn, on Tuesday, October 14th. The graduating class consisted of four young women, upon whom Dr. Charles Jewett, president of the board of directors, conferred diplomas. The school is connected with the Bushwick Central Hospital.

The New York Academy of Medicine.—At the anniversary meeting to be held on Thursday evening, November 6th, Dr. Andrew H. Smith will deliver the anniversary discourse on *The Past, Present and Future of the New York Academy of Medicine*, and Major W. C. Gorgas, U. S. Army, chief surgeon at Havana, will read a paper on *The Disappearance of Yellow Fever from Havana*.

Action for X-Ray Burn.—A suit has been entered in the Supreme Court of Queens County to recover \$50,000 against a physician of the Post-Graduate Hospital for a burn alleged to have been caused by the use of the x rays. It is stated, however, that the professor warned the patient of liability to x ray burns, yet in spite of that the patient had two skiagraphs taken.

Cholera Spreading in the Philippines.—A cable to the *New York Herald* dated Manila, October 26, states that cholera is gaining a strong foothold in the island of Mindanao. It is expected to spread there as it has elsewhere in the islands. The disease continues to be bad in the province of Iloilo, island of Panay, but it is light elsewhere. It has disappeared from Manila. The cases reported up to date exceed one hundred thousand.

A New Hospital for Immigrants on Ellis Island.—For the last few years the surplus of the afflicted aliens arriving in New York City who could not be accommodated in the regular hospital at Ellis Island have been sent to the various hospitals of the city. The city authorities recently notified the department that they would be unable to continue this custom. An effort was made to get the War Department to cede some land near the quarantine station on which to build a hospital, but Secretary Root decided that he could not let any of that land go. Now it has about been determined to erect an addition to the present immigrant hospital on Ellis Island. Congress must pass an act giving authority for the expenditure before anything can be done.

The Mississippi Valley Medical Association.—At the twenty-eighth annual meeting, held at Kansas City, Missouri, on Wednesday, Thursday and Friday, October 15, 16 and 17, 1902, the following officers were elected for the ensuing year: President, Dr. Edwin Walker, of Evansville, Ind.; first vice-president, Dr. Hugh T. Patrick, of Chicago; second vice-president, Dr. William Britt Burns of Memphis, Tenn.; secretary, Dr. Henry E. Os Tuley (re-elected), of Louisville, Ky.; treasurer, Dr. Thomas Hunt Stucky (re-elected), of Louisville, Ky. Memphis, Tenn., was decided upon as the next place of meeting, October 7, 8 and 9, 1903.

A Child Dies under "Christian Science" Treatment.—The coroner had laid before the Grand Jury of Westchester County the evidence in the case of Esther F. Quimby, a child of seven who died recently of diphtheria in White Plains, tending to show that her death was due to negligence in failing to provide proper medical attendance and in entrusting the case to a Christian Science "healer." It is expected that an indictment will be found both against the "healer" and the mother of the child. In addition to possible responsibility for the death of the child the "healer" has transgressed the law in having visited a family which was in quarantine, there being three cases of diphtheria in the house.

The Serumtherapy of Scarlatina.—According to the *Gazette médicale de Paris* for October 11th one of the most interesting communications to the Carlsbad Congress was a paper by a professor of Vienna, Dr. Moser, who believes that he has discovered "the serum of scarlatina," and who reported numerous cures by its use. The discovery is said to have been made at the Institute of Serumtherapy of Vienna, and the serum was taken from the blood of the horse. He has had about ninety per cent. of cures at the hospital where clinical trial of it was made. The government has given intimation that it would place a considerable sum at the disposition of the laboratory for the continuance of the researches.

An Antituberculosis Agitation in Missouri.—

The Missouri State Society for the Prevention of Tuberculosis has decided to hold a public meeting for the purpose of furthering the aims of the society, on the evening of November 18. The meeting will be held in the auditorium of the Central High School at Kansas City. The society has also decided to have printed for free distribution 10,000 copies of a pamphlet treating of the prevention and regulation of consumption.

Dr. Adolf Lorenz, whose operation on the daughter of Mr. Armour was described in full in our last issue, will arrive in this city about November 5th and expects to spend about a week here. While his plans have not been definitely matured it is understood that he will hold public clinics at the Hospital for the Ruptured and Crippled and at other hospitals in this city. After leaving Chicago Dr. Lorenz visited Denver, Salt Lake City and San Francisco. He also expected to visit St. Louis on his return from the Pacific Coast and to spend a day or two in Washington before coming to New York City. Dr. Dexter W. Ashley, who was associated with Dr. Lorenz in his work at Chicago, is now in the city and it is reported will take up his residence here.

The Status of Women Doctors in England.—

The London Medical Graduates' College has decided, though women are not eligible as members, to admit them to the systematic course of lectures. In its organ, the *Polyclinic*, for October, this explanation is given:

"By the constitution of the college women are not eligible as members. Their attendance, however, at certain lectures, is another matter. Here none of the inconveniences which are inseparable from mixed classes and clinical demonstrations will be encountered. These inconveniences are, we believe, insuperable. There is no probability whatever that any steps will be taken towards change, in reference to the general work of the college, beyond the courses of lectures mentioned. There need be neither fear on the one side, nor expectation on the other."

Cholera.—The chief quarantine officer of Manila has made a report on cholera which has just been received at the office of the surgeon general of the Marine Hospital and Public Health Service. He makes a conservative estimate that 75,000 cases of cholera have occurred in the Philippine Islands since March 20th last, with a mortality of seventy-five per cent. He says under date of September 19th that the disease has disappeared from those provinces first infected, but those most recently infected are suffering severely. The Province of Iloilo and the adjacent Island of Negros are badly infected, and the situation is alarming. Some of the towns in these provinces have lost ten per cent. of their population, and the epidemic continues elsewhere. In Japan the latest advices show that there have been 4,329 cases and 1,650 deaths from cholera. In China the Provinces of Hunan and Shansi are most affected. The disease is epidemic at Nanking, which reports 40,000 deaths; at Shoo-Yanghsien, with 3,000 cases a day, and a number of other cities. In Hongkong since the beginning of the outbreak there have been 459 cases and 396 deaths, but the local au-

thorities declare the colony free from plague infection. Surgeon General O'Reilly, of the United States Army, has received a report from Lieutenant W. J. L. Lyster, of the medical department, who is attached to the United States Legation Guard at Peking, from which it appears that the American soldiers are the only foreigners who have escaped the epidemic of cholera up to date. According to a report of the director general of the Egyptian Department of Health, the cholera epidemic continues to claim a large number of victims. The number of cases registered during the week ending September 15th amounted to 9,467, with 8,278 deaths. Of the 28,520 cases of cholera registered between July 15th and August 15th 23,681 were fatal. In Alexandria during the week ending September 15th 64 cases of cholera occurred among Europeans, with 41 deaths, and during the following five days 35 cases and 25 deaths were recorded.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending October 25, 1902:

DISEASES.	Week end'g Oct. 18.		Week end'g Oct. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.	130	22	154	24
Scarlet fever.	93	8	118	8
Cerebro-spinal meningitis ..	0	0	0	0
Measles.	43	2	53	3
Diphtheria and Croup ..	261	31	285	32
Small-pox.	2	0	3	0
Tuberculosis.	244	151	212	143

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy, for the week ending October 25, 1902:

- MARSTELLER, E. H., Surgeon. Ordered to Newark, N. J., October 27, for duty in connection with recruiting.
- BELL, W. L., Passed Assistant Surgeon. Commissioned passed assistant surgeon, with rank of lieutenant (junior grade), from November 16, 1901.
- GARTON, M. W., Passed Assistant Surgeon. Detached from the *Columbia* and ordered to the Naval Hospital, Yokohama, Japan, sailing from San Francisco, Cal., November 7, 1902.
- JOHNSON, M. K., Passed Assistant Surgeon. Ordered to the Naval Academy.
- TAYLOR, J. S., Assistant Surgeon. Detached from the Naval Hospital, Yokohama, Japan, and ordered home and to wait orders.
- BACHMANN, R. A., Assistant Surgeon. Detached from the Naval Academy and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C., October 31.
- HOLLOWAY, J. H., Assistant Surgeon. Detached from the Naval Hospital, Chelsea, Mass., and ordered to duty at the Museum of Hygiene and Medical School, Washington, D. C.
- HOYT, R. E., Assistant Surgeon. Detached from the Naval Academy and ordered to the Museum of Hygiene and Medical School, Washington, D. C., on October 31.
- MICHEL, R. H. and NELSON, J. L., Assistant Surgeons. Ordered to the Museum of Hygiene and Medical School, Washington, D. C., on October 31.

SHAW, H., and JENNESS, B. F., Acting Assistant Surgeons. Ordered to the Museum of Hygiene and Medical School, Washington, D. C., October 31.

(Orders issued by Commander-in-Chief of Asiatic Station.)

GARDNER, J. E., Surgeon. Detached from the Naval Hospital, Yokohama, Japan, and ordered to the Kentucky.

LUMSDEN, G. P., Surgeon. Ordered to the *New York*. Passed Assistant Surgeon M. S. ELLIOTT, detached from the Kentucky and ordered to the *New York*.

ASSERSON, F. A., Assistant Surgeon. Detached from the *New York* and ordered to the Kentucky.

HIGH, W. E., Assistant Surgeon. Detached from the Glacier and ordered home.

MURPHY, J. F., Assistant Surgeon. Detached from the Naval Station, Cavite, P. I., and ordered home.

Public Health and Marine-Hospital Service:

Official list of the Changes of Station and Duties of Commissioner and Non-commissioned Officers of the Public Health and Marine Hospital Service for the Seven Days ending October 23, 1902:

PORTER, N. D., Surgeon. Leave of absence for one day under paragraph 179 of the regulations.

BANKS, C. E., Surgeon. Granted one day's extension of leave of absence, October 11.

OAKLEY, J. H., Passed Assistant Surgeon. Granted leave of absence for one day.

MATHEWSON, H. S., Passed Assistant Surgeon. Upon being relieved by Assistant Surgeon W. W. KING, to proceed to Detroit, Mich., and report to medical officer in command for duty and assignment to quarters.

KING, W. W., Assistant Surgeon. Upon being relieved by Assistant Surgeon JOSEPH GOLDBERGER, to proceed to San Juan, Porto Rico, relieving Passed Assistant Surgeon H. S. MATHEWSON and assume the duties of Quarantine Officer of the island of Porto Rico.

GOLDBERGER, JOSEPH, Assistant Surgeon. Relieved from duty at Tampico, Mexico, and directed to proceed to Ponce, Porto Rico, relieving Assistant Surgeon W. W. KING and assume command of the service at that port.

BACKUS, S. H., Acting Assistant Surgeon. Relieved from duty in the office of the U. S. Consul at Porto Cortez, Honduras.

CASSON, W. H., Acting Assistant Surgeon. Relieved from duty in the office of the U. S. Consul at Port Limon, Costa Rica.

FRICK, JOHN, Acting Assistant Surgeon. To proceed to Matanzas, Cuba, and assume temporary charge of the service at that port during the absence, on leave, of Assistant Surgeon R. H. von EZDORF.

GOODMAN, D. W., Acting Assistant Surgeon. Relieved from duty in the office of the U. S. Consul at Bluefields, Nicaragua.

OSTERHOUT, PAUL, Acting Assistant Surgeon. Relieved from duty in the office of the U. S. Consul at Bocas del Toro, Colombia.

PETERS, R. H., Acting Assistant Surgeon. Relieved from duty in the office of the U. S. Consul at Belize, British Honduras.

ROBERTSON, W. B., Acting Assistant Surgeon. Relieved from duty in the office of the U. S. Consul at Ceiba, Honduras.

MACDOWELL, W. F., Senior Pharmacist and Chemist. To report at Bureau for temporary duty.

Board Convened.

Board convened to meet at Washington, D. C., October 23, 1902, for the physical examination of cadets recently appointed in the Revenue Cutter Service. Detail for the board: Assistant Surgeon General W. J. FETTUS, chairman; Assistant Surgeon B. S. WARREN, Recorder.

Promotion.

Passed Assistant Surgeon J. B. STONER promoted to be surgeon and to rank as such from September 16.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending October 25, 1902:

Smallpox—United States.

California.....	Sacramento.....	Oct. 11-18.....	3 cases.	
"	San Francisco.....	Oct. 9-12.....	6 cases.	
Illinois.....	Chicago.....	Oct. 11-18.....	3 cases.	
"	Freeport.....	Oct. 11-18.....	12 cases.	
Indiana.....	South Bend.....	Oct. 11-18.....	2 cases.	
Kentucky.....	Covington.....	Oct. 11-18.....	21 cases.	
Massachusetts.....	Boston.....	Oct. 11-18.....	6 cases.	3 deaths.
"	Cambridge.....	Sept. 13-Oct. 4.....	1 case.	1 death.
"	Everett.....	Oct. 11-18.....	1 case.	
"	Malden.....	Oct. 11-18.....	2 cases.	
Michigan.....	Detroit.....	Oct. 11-18.....	13 cases.	
Missouri.....	St. Louis.....	Oct. 12-19.....	5 cases.	
N. Hampshire.....	Nashua.....	Oct. 11-18.....	25 cases.	
New Jersey.....	Newark.....	Oct. 4-18.....	3 cases.	
New York.....	New York.....	Oct. 11-18.....	2 cases.	
Ohio.....	Cincinnati.....	Oct. 10-17.....	2 cases.	
"	Cleveland.....	Oct. 11-18.....	34 cases.	5 deaths.
"	Dayton.....	Oct. 11-18.....	1 case.	
"	Hamilton.....	Oct. 11-18.....	2 cases.	
Pennsylvania.....	Altoona.....	Oct. 11-18.....	1 case.	
"	Erie.....	Oct. 11-18.....	2 cases.	
"	Johnstown.....	Oct. 11-18.....	13 cases.	1 death.
"	McKeesport.....	Oct. 11-18.....	1 case.	
"	Philadelphia.....	Oct. 11-18.....	2 cases.	
"	Pittsburgh.....	Oct. 4-18.....	37 cases.	5 deaths.
"	Reading.....	Oct. 6-13.....	1 case.	
S. Dakota.....	Sioux Falls.....	Oct. 11-18.....	1 case.	
Utah.....	Salt Lake City.....	Sept. 27-Oct. 4.....	2 cases.	
Washington.....	Tacoma.....	Oct. 5-12.....	1 case.	
Wisconsin.....	Milwaukee.....	Oct. 11-18.....	22 cases.	

Smallpox—Foreign.

Brazil.....	Pernambuco.....	Aug. 15-31.....	9 deaths.	
"	Rio de Janeiro.....	Sept. 21-28.....	16 deaths.	
Canada.....	Amherstburg.....	Oct. 11-18.....	2 cases.	
China.....	Hongkong.....	Sept. 6-13.....	1 death.	
Ecuador.....	Guayaquil.....	Sept. 27-Oct. 4.....	2 deaths.	
France.....	Marseille.....	Sept. 1-30.....	18 deaths.	
Gt. Britain.....	Leeds.....	Oct. 4-11.....	1 case.	
"	London.....	Sept. 27-Oct. 4.....	4 cases.	
India.....	Bombay.....	Sept. 16-23.....	5 deaths.	
"	Calcutta.....	Sept. 13-20.....	2 deaths.	
Italy.....	Palermo.....	Sept. 20-27.....	1 death.	
Russia.....	Moscow.....	Sept. 20-27.....	1 death.	
"	Odessa.....	Sept. 27-Oct. 4.....	1 case.	

Yellow Fever.

Brazil.....	Rio de Janeiro.....	Sept. 21-28.....	6 deaths.	
Colombia.....	Panama.....	Oct. 6-13.....	8 cases.	
"	Port Limon.....	Oct. 2-9.....	3 cases.	
Ecuador.....	Guayaquil.....	Sept. 27-Oct. 4.....	2 deaths.	
Mexico.....	Cotacacalcos.....	Oct. 4-11.....	1 death.	
"	Veracruz.....	Oct. 11-18.....	4 deaths.	

Cholera—Insular.

Philippine Islands.....	Manila.....	To Sept. 13.....	3,074 c's.	2,094 d'ths.
"	Provinces.....	To Sept. 13.....	54,173 c.	37,713 d'ths.

Cholera—Foreign.

Arabia.....	Hodeidah.....	Sept. 10-12.....	9 deaths.	
China.....	Hongkong.....	Sept. 6-13.....	1 death.	
Egypt.....	Alexandria.....	Sept. 6-13.....	7,132 d'ths.	
"	Cairo.....	Sept. 13-20.....	82 cases.	208 deaths.
"	Damietta.....	Sept. 13-20.....	52 cases.	182 deaths.
"	Ismaïlia.....	Sept. 13-20.....	5 cases.	8 deaths.
"	Port Said.....	Sept. 13-20.....	1 case.	3 deaths.
"	Suez.....	Sept. 13-20.....	31 cases.	41 deaths.
India.....	Calcutta.....	Sept. 13-20.....	12 deaths.	
"	Madras.....	Aug. 23-Sept. 12.....	1 death.	
Japan.....	Yokohama.....	To Sept. 22.....	1,042 c's.	646 deaths.
"	Hiroshima Ken.....	To Sept. 22.....	706 cases.	
"	Kagawa Ken.....	To Sept. 22.....	2,344 cases.	
"	Nagasaki.....	Sept. 11-20.....	52 cases.	34 deaths.
"	Okayama Ken.....	Sept. 11-20.....	2,140 c's.	1,455 d'ths.
"	Osaka.....	Sept. 20-27.....	45 cases.	28 deaths.

Plague—Insular.

Hawaii.....	Honolulu.....	Oct. 14.....	1 death.	
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Plague—Foreign.

Africa.....	C. Peninsula.....	To Aug. 9.....	745 cases.	362 deaths.
"	P. Elizabeth.....	To Aug. 9.....	135 cases.	66 deaths.
"	Mosses Bay.....	To Aug. 9.....	13 cases.	4 deaths.
"	Other Places.....	To Aug. 9.....	14 cases.	6 deaths.
Australia.....	New Castle.....	Aug. 1-31.....	1 case.	1 death.
Brazil.....	Rio de Janeiro.....	Sept. 21-28.....	11 deaths.	
China.....	Hongkong.....	Sept. 6-13.....	1 case.	
India.....	Bombay.....	Sept. 16-23.....	55 deaths.	
"	Calcutta.....	Sept. 13-20.....	8 deaths.	
"	Karachi.....	Sept. 12-21.....	22 cases.	14 deaths.
"	Madrass.....	Aug. 23-Sept. 12.....	1 death.	
Russia.....	Odessa.....	June 7-Oct. 4.....	43 cases.	14 deaths.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending October 25, 1902.

CHIDESTER, WALTER C., First Lieutenant and Assistant Surgeon, will report in person to the commanding general, Department of California, for temporary duty in that department.

FLETCHER, RICHARD M., JR., Contract Surgeon, is relieved from duty at Fort Mead, and will proceed to Fort Niobrara, Neb.

FORD, CLYDE S., Lieutenant and Assistant Surgeon, relieved from further duty at Fort Hancock, N. Y., and directed to proceed to Fort Wadsworth, N. Y.

GIRARD, JOSEPH B., Colonel and Assistant Surgeon General, upon his arrival at San Francisco, will proceed to Omaha, Neb., for duty as chief surgeon of that department.

GORGES, WILLIAM C., Major and Surgeon, is detailed to represent the Medical Department of the Army at the First Egyptian Medical Congress, to be convened at Cairo, Egypt, in December, 1902, and will proceed at the proper time to that place via London, Eng.

HAVARD, VALERY, Colonel and Deputy Surgeon General, is relieved from duty at Fort Monroe, Va., and ordered to West Point, N. Y., for duty, to relieve Major JAMES D. GLENNAN, Surgeon, who will proceed to Fort Meyer, Va., for duty, to relieve Major WILLIAM B. DAVIS, Surgeon. Major DAVIS will proceed to Honolulu, H. I., to relieve EDWIN W. RICH, First Lieutenant and Assistant Surgeon, who will proceed to San Francisco.

KENNEDY, JAMES M., Major and Surgeon, will report for temporary duty at the U. S. General Hospital at San Francisco.

MARROW, CHARLES E., Lieutenant and Assistant Surgeon, is detailed as a member of the examining board convened at Fort Sheridan, Ill., vice-Contract Surgeon HENRY L. BROWN, U. S. A., relieved.

RAYMOND, THOMAS U., Major and Surgeon, in charge of the office of Chief Surgeon, Department of the Lakes, is relieved from the duty of visiting temporary recruiting stations to which he was assigned.

Relieved from duty at Chicago, Ill., and ordered to Jefferson Barracks, Missouri, to relieve Captain FRANCIS A. WINTER, Assistant Surgeon, who will proceed to St. Louis, Mo.

ROBBINS, CHANDLER P., Lieutenant and Assistant Surgeon, is granted leave of absence for one month.

SHORTIDGE, EDMUND D., First Lieutenant and Assistant Surgeon, will proceed to the Army General Hospital, Presidio of San Francisco, Cal., for temporary duty.

WOODBURY, FRANK T., First Lieutenant and Assistant Surgeon, now at San Francisco, Cal., will proceed to Plattsburg Barracks, N. Y., for duty.

USHER, FRANCIS M. C., First Lieutenant and Assistant Surgeon, is relieved from duty at San Francisco, Cal., and is ordered to Fort Yellowstone, Wyo., to relieve Major EDWARD A. MEARNES, Surgeon, who will proceed to Fort Snelling, Minn.

Births, Marriages, and Deaths.

Born.

DAVIDSON.—In Brooklyn, N. Y., on Thursday, October 23d, to Dr. and Mrs. David Davidson, a daughter.

O'SULLIVAN.—In New York City, on Friday, October 3d, to Dr. and Mrs. John J. O'Sullivan, a daughter.

Married.

BASSETT—BOYD.—In St. Louis, Mo., on Thursday, October 16th, Dr. Samuel T. Bassett and Miss Martha L. Boyd.

BEALL—STUART.—In Washington, on Thursday, October 16th, Dr. Robert S. Beall and Miss Sophie Clarkson Stuart.

BULLARD—RIKER.—In New York, on Wednesday, October 29th, Dr. W. Duff Bullard and Miss Anna Mary Riker.

COSSITT—BURNS.—In Littleton, N. J., on Wednesday, October 22d, Dr. Harry Austin Cossitt, of Morris Plains, N. J., and Miss Pauline Calvin Burns, of New York.

MONMONIER—BURR.—In Washington, on Wednesday, October 22d, Dr. J. Carroll Monmonier, Jr., of Baltimore, and Miss Helen Fenwick Burr, of Florida.

SCHAFHIRT—NORRIS.—In Buffalo, on Thursday, October 16th, Dr. Jesse B. Schafhirt and Miss Minerva Whitney Norris.

SCHOENENBERGER—DONNELLY.—In New York, on Wednesday, October 22d, Dr. Frederick J. Schoenenberger and Miss Mayme Gertrude Donnelly.

SCHWARTZ—HUEBARD.—In St. Paul, Minn., on Wednesday, October 15th, Dr. West J. Schwartz and Miss Edna Davis Hubbard.

Died.

BARROWS.—In Albany, N. Y., on Sunday, October 12th, Dr. Lorenzo P. Barrows, in the eighty-third year of his age.

BREWSTER.—In Pittsfield, Mass., on Wednesday, October 15th, Dr. John Milton Brewster, in the eighty-fifth year of his age.

CARPENTER.—In Columbus, Ohio, on Sunday, October 19th, Dr. Eugene G. Carpenter, in the forty-fourth year of his age.

CAYLEY.—In Butte, Mont., on Saturday, October 25th, Dr. H. A. Cayley.

GREGGSON.—In Denver, on Wednesday, October 15th, Dr. Rangwald Jason Greggson, in the forty-first year of his age.

HUGHES.—In Philadelphia, on Tuesday, October 28th, Dr. Daniel E. Hughes, chief resident physician at the Philadelphia Hospital, in the fifty-second year of his age.

MARTINDALE.—In Port Richmond, Staten Island, on Sunday, October 26th, Dr. Frank E. Martindale, in the seventy-second year of his age.

MECUEN.—In Boston, on Wednesday, October 22d, George E. Mecuen, in the fifty-ninth year of his age.

MERRILL.—In Washington, on Monday, October 27th, Dr. James C. Merrill, major and surgeon in the U. S. Army.

NORDMANN.—In Baltimore, on Wednesday, October 22d, Dr. Frederick Roland Nordmann, in the forty-second year of his age.

SCHNETZLER.—In Toledo, Ohio, on Friday, October 17th, Dr. H. M. Schnetzler.

YOUNG.—In Cold Spring-on-the-Hudson, N. Y., on Sunday, October 26th, Dr. William Young in the eighty-third year of his age.

WATFUL.—In Kansas City, Mo., on Friday, October 17th, Dr. C. C. Watful, of Mason, Mo., in the thirtieth year of his age.

OBITUARY NOTES.

WILLIAM YOUNG, M. D., eighty-two years old, died on October 26th at Cold Spring-on-the-Hudson of heart disease. He was the last surviving charter member of the Academy of Medicine of New York and was well known among the older physicians of New York County. Dr. Young was born in Corttalonone, Ireland, in 1820, and his family came to this country in 1822. In 1842 he went to Scotland for his higher education, graduated from the University of Glasgow and then studied medicine in Dublin University and in Vienna. For a time after coming back to the United States Dr. Young practised in this city, but eventually went to Cold Spring, where his family had first settled. He was twice married, his first wife being Miss Anna Weir, of Philadelphia, and his second, who survives him, Miss Elizabeth Hawley, of that city. He leaves one daughter, Mrs. John T. Fillebrown, of Cold Spring.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Spastic Constipation.—Dr. von Sohlern (*Berliner klinische Wochenschrift*, September 20th) says that the principal symptoms of this condition are constipation and the spasms. During and after an attack the contracted parts of the intestine can be felt to be hard and sensitive to the touch. The stool contains little water, is tarry, and of small calibre, about the size of a lead pencil. The disease is usually a sign of functional, rarely of organic, nervous disorder. In the intervals of attacks, meteorism is usually absent despite the constipation and the ingestion of food. There appears to be an absence of the fungi and bacteria which cause fermentation and putrefaction in the digestion of carbohydrates. The quantity of the stools is very small.

The most important element in the treatment is absolute rest in bed combined with a non-irritating, soft, and nourishing diet and an abundance of fluids. Massage and electricity are contraindicated.

Appendicitis from a Physician's Standpoint.—Dr. James Tyson (*Journal of the American Medical Association*, October 25th) reaches the conclusion that every case of appendicitis whose diagnosis is thoroughly established should be operated on, always, if possible, in the interval between attacks. Of the diagnosis, however, we should be reasonably certain. It is better to have a few normal appendices removed, than that one which ought to have been removed should remain and cause the death of its owner.

The Occurrence of Gout in the United States: With an Analysis of Thirty-six Cases.—Dr. Thomas B. Fletcher (*Journal of the American Medical Association*, October 25th) finds that gout in the United States is undoubtedly more common than is generally supposed. Out of 13,400 medical cases admitted to Dr. Osler's wards in the Johns Hopkins Hospital during a period of thirteen years, there were thirty-five gout cases, or 0.24 per cent. of the total number of patients. For the same number of years at St. Bartholomew's Hospital there were one hundred and sixteen gout cases out of a total of 31,100 medical admissions, or 0.37 per cent. of the cases. Thus, among hospital patients gout is only about one-third more frequent in London than in Baltimore. All of the thirty-six patients were white males. The largest number of cases occurred in the fifth decade. Twenty-seven of the patients were native born Americans. The majority of the patients appeared to have earned rather than inherited their gout. Alcohol and lead seemed to be the most potent predisposing etiologic factors. Thirty-three of the thirty-six patients had reached the chronic stage before they came under observation. In seventeen of the cases tophi were present. Among the more interesting complications may be mentioned three cases of gouty bursitis; one case of parotiditis; one of pericarditis; one of retrocedent gout with symptoms simulating intestinal obstruction. There was evidence of disease of the kidneys in the majority of cases. Albuminuria occurred in twenty-seven and hyaline and granular casts in twenty-three instances. Arteriosclerosis was present in twenty-three cases

and a mitral systolic murmur in five. Many gout cases are mistaken for rheumatism. Four of the cases were repeatedly diagnosed as such on the early admissions, the appearance of tophi later revealing their true nature. The series illustrate the great importance of examining the ears and the vicinity of the joints for the presence of tophi in all cases of multiple arthritis.

SURGERY AND ANATOMY.

Considerations on Ten Cases of Splenectomy for Malarial Splenic Hypertrophy Associated with Ectopy of the Organ.—Dr. Rodolfo Schwarz (*Gazzetta degli ospedali e delle cliniche*, August 24th) gives ten clinical histories of patients with hypertrophied and displaced spleens due to malaria, in which cases he performed splenectomy. In all the cases reported the spleen was not only hypertrophied but so displaced in the abdominal cavity (movable spleen) that it produced more or less marked disturbances. The author does not believe in the extirpation of a spleen simply because it is malarial and hypertrophied. The district of Adria is nearly immune from malaria but the surrounding regions are infested with this disease to such an extent that nearly fifty per cent. of the population of these villages have enlarged spleens. In some of these the enlargement, however marked, does not give any symptoms, but in others marked disturbances occur as a result of the splenomegalia. Some of the latter are benefited by the use of quinine or by hypodermic injections of arsenic, or by the use of iodine hypodermically, in the form of the solution of potassium iodide and iodine. By the use of this last named remedy the author has been able to reduce very large malarial spleens nearly one third of their size. It is to be noted, therefore, that medical treatment avails in a certain proportion of the enlarged spleens of chronic malaria. The enlargement of the malarial spleen is but a manifestation of a general infectious disease, and therefore the treatment should be directed toward the fundamental disease, and it is not rational to suppose that the malaria will be cured by the mere excision of the spleen. But when we have to deal with malarial spleens that are movable, it is best to proceed surgically against the source of the symptoms, especially if the organ is so free that it can rotate upon its own axis, producing torsion of its pedicle. Parona advises, in cases where surgical aid is needed, first the reduction of the size of the spleen by means of iodides, and then the performance of splenectomy according to a method devised by him. This method is, in the author's opinion, superior to those of Rydygier and others, but it is not applicable in all cases of movable spleen. There are cases in which the adhesions about the spleen are so dense that it is impossible to perform splenectomy successfully, and others in which the pedicle is so twisted that the operation can not be well performed. But, in addition, the size of these spleens is often such that, even after a course of iodine treatment, splenectomy is not of much value. In such instances splenectomy is indicated if the symptoms are marked. The average age of the patients operated upon by the author was forty-three years. They were all women, and it is remarkable that movable spleen occurs almost always in women. In six cases he found torsion of the pedicle, in one of which there was a thrombosis of

the vessels and a necrotic area of the spleen corresponding to the same, and an adhesive peritonitis. No accidents occurred in any of the operations, and the pedicle was always tied after the spleen had been brought out of the abdominal cavity, the adhesions being separated. The pedicle was untwisted, tied with silk sutures, and replaced after cutting off the spleen. In one case only was he obliged to include the tail of the pancreas in the pedicle, and no inconvenience was experienced by the patient as a result of this. The weight of the removed spleens was from 800 to 3,500 grammes. There was no death from the operation itself, but one patient died on the fourteenth day of the operation after developing a peritonitis on the ninth day. In some of the patients the malarial symptoms disappeared after the operation, but in others they continued, showing that splenectomy does not cure malaria.

The Surgical Relations of Traumatism of the Peripheral Nerves.—Dr. Harold N. Moyer (*Journal of the American Medical Association*, October 25th) notes that section or laceration of a nerve, if of some size, is usually recognized at the first examination. Contusions of nerves are common, the symptoms often being latent until neuritis develops; the latter may be delayed some days. Contusion of a nerve may complicate any fracture or dislocation, but is especially frequent in dislocation of the shoulder. Injury to the circumflex nerve merits special mention because of its frequency, the ease with which it is overlooked and its serious consequences. The "reflex paralysis" after joint injury is probably due to a traumatic neuritis. The management of the joint, tendon, and muscular complications comprises in the main the treatment of traumatic neuritis.

Under What Circumstances Is It Advisable to Remove the Vermiform Appendix when the Abdomen is Opened for Other Reasons?—Dr. Howard A. Kelly (*Journal of the American Medical Association*, October 25th) emphasizes the following points: (1) The appendix should always be examined and its condition noted whenever the abdominal cavity is opened for any reason, provided no additional risk is involved. (2) Opinion in this country is against the removal of a perfectly healthy appendix, and (3) in favor of removing an appendix which is even slightly adherent to other structures. (4) The fact that the appendix is normal in appearance does not prove that it contains no faecal concretions. Their presence is sufficient reason for the removal of an apparently healthy appendix. (5) After removal of the right ovary the stump should always be covered with peritonæum in order to prevent the risk of adhesion to the appendix. A long and free appendix should invariably be removed.

A Case of Paracentesis of the Pericardium.—Dr. Aldo Tozzi (*Riforma medica*, August 12th) tells of a case of purulent pericarditis in a man aged sixty. The first symptom was a severe pain in the precordial region, which gradually disappeared but gave place to a very marked dyspnoea. He was found cyanotic, with a respiration of thirty-three, and the left margin of the lung in front was pushed outward away from the pericardium, as was manifested on percussion. The apex beat could not be seen or felt, and the skin over the præcordium was more oedematous than in

other parts of the chest, and there seemed to be a slight bulging on the left side of the thorax in front. The heart sounds were very feeble and distant, and the aortic second sound was reduplicated. The pulse was found to be bigeminal, very rapid, and irregular. The diagnosis of effusion into the pericardium was made and a hypodermic syringe was introduced into the fourth left intercostal space, four centimetres away from the sternum. The syringe was filled with a clear straw colored fluid. A cannula was then introduced in the same place and the liquid was withdrawn from the pericardial sac. No attempt was made to remove all the fluid, because in such cases it is usually sufficient to remove a part of the pericardial effusion. The patient was almost immediately relieved of his dyspnoea. He made a good recovery and was found six years later, at the age of seventy-two, in fairly good health. The author concludes that the practitioner should not hesitate to puncture the pericardium in cases in which the diagnosis of an effusion is made and where the fluid is threatening to arrest the heart's action. By this method the patient's life may be saved, as was done in this instance.

A Case of Unilateral Luxation of the Fourth and Fifth Cervical Vertebrae.—Dr. Arnaldo Bossi (*Gazzetta degli ospedali e delle cliniche*, August 24th) reports a case of a child, aged six years, that had fallen from a cart in the position of forced flexion of the head, and had felt a sharp pain in the back of the neck. The head remained flexed and inclined to the right when she was picked up. On examination it was found that the pain in the neck was transmitted into the right arm, which was in a state of partial immobility and felt as though it were "asleep." As there was rather a stiffness of the head than an abnormal mobility, and no crepitus, the author excluded fracture of the spinal column and thought of a dislocation. The forced attitude was, however, too marked to point to a mere sprain of the cervical muscles. On examination the first and second vertebrae and the sixth and seventh cervical did not show anything abnormal, so the conclusion was that there was a dislocation of the intervening vertebral bodies, probably the fourth or fifth, which are inaccessible to examination from their deep location. The luxation was evidently unilateral as the flexion was not directly forward but to one side. The dislocation was reduced by the method described by Malgaigne, and the child made a good recovery.

Talma's Operation. By Dr. Franco Carini (*Gazzetta degli ospedali e delle cliniche*, August 24th).—Talma, of Utrecht, was the first, as is well known, to conceive the possibility of a cure of cirrhotic ascites by the deviation of the portal blood current into collateral channels. This he sought to accomplish by the creation of artificial adhesions between the liver and the diaphragm, the spleen, the omentum and the anterior abdominal wall. Numerous reports have since then (1889) been published, and the present author sums up a critical study of the literature of the subject as follows: Statistics show that Talma's operation gives 39.68 per cent. of cures, and therefore deserves to be widely applied and tested. By cures the author means the improvement of the general condition of the patient and the marked diminution or disappearance of the

ascites, but does not refer to the cirrhotic process. The latter is usually diminished in its progress but not totally eliminated. The operation has been performed now with varying success in atrophic, hypertrophic, biliary, and Banti's cirrhosis. It is contraindicated in the presence of a complicating inflammatory condition of the peritoneum. The technics must be modified according to the case in question.

OBSTETRICS AND DISEASES OF WOMEN.

Duration of Human Pregnancy.—Dr. H. Füh (*Centralblatt für Gynäkologie*, September 27th) cites the imperial code of Germany which places the minimal and maximal length of time from impregnation to birth at from 181 to 302 days, respectively. Von Winckel's experience, however, established the minimal length of intrauterine life at 240 days, the maximal at 336 days. Further investigations have corroborated von Winckel's views, and Füh suggests to the legislators the correction of their data based, evidently, upon insufficient material. Professor Zweifel (*loc. cit.*) adds to Füh's article the cases of four women who gave birth to their children 304, 305, 312, and 319 days respectively after the impregnating intercourse. He suggests this change in the code,—that children over 4,000 grammes in weight, and more than 52 centimetres in length, shall be considered to have had an intrauterine life of more than 302 days.

A Simplified Method of Ligation and Treatment for the Umbilical Cord.—Dr. V. A. Petroff (*Roussky Vrach*, September 7th) describes the following method of treating the umbilical cord, which has given him excellent results. This method was originally devised by Kousmine, but it was applied to a very large number of newly born children during a period of four years by the author. Instead of using the ordinary ligature, Kousmine suggested the application of a rubber ring to the umbilical cord by means of an instrument which he devised specially for this purpose. The rings used are made of the best quality of grey rubber, with a diameter of from 0.9 to 1 centimetre, a thickness of 0.2 to 0.3 centimetre, and a diameter of the lumen of about 0.3 centimetre. The instrument is constructed in the form of a forceps with hollowed or deeply grooved blades, in the middle of which is a raised portion for the compression of the umbilical cord. The ring is placed on the forceps before the labor, and the whole is immersed into a two-per-cent. boric acid solution, whence it is removed when needed. The cord is compressed about half a centimetre from the body by means of the forceps, and the navel string is cut just above the forceps. The ring is then moved down from the forceps upon the cord, and the forceps is removed. The ring usually remains just at the skin edge of the cord or a few millimetres above this point. The stump is now shortened to one centimetre, and, after the bath, covered with cotton, which wraps the finger and partly separates the ring from contact with the skin. Next comes a compress of squares of gauze, over which is powdered a little dried gypsum, and over that another layer of squares of gauze and a bandage. In from ten to twelve hours the stump so treated dries and becomes mummified to the consistency of cartilage. At the end of twenty-

four hours the rubber ring begins to sink into the depression of the navel, thus leaving no part of the umbilicus uncovered, as in the usual method of treatment. The children were bathed every day and in no case out of a series of children numbering four hundred was there any absorption of septic material into the navel.

Extraperitoneal Hypogastric Laparotomy for Uterovaginal and Intestinal Carcinoma.—Dr. A. Mackenrodt (*Berliner klinische Wochenschrift*, September 11th) increases his radicalism with experience. At present he removes all glands lying below the bifurcation of the iliac artery, and, if necessary, a part of the bladder and the entire ampulla of the rectum. For rectal cancer, he takes away not only the uterus, vagina, and circumrectal tissue, but the posterior parametrium as well, since the rectum and the colon can be resected to as great an extent as may seem desirable. The operation can be performed upon men as well, and more easily. The postoperative course is usually not severe.

NERVOUS AND MENTAL DISEASES.

The Prevalence of Herpes Zoster.—Dr. Max Joseph (*Philadelphia Medical Journal*, October 25th) finds that herpes zoster causes one per cent. of all skin diseases, affecting men and women alike, occurring, in two-thirds of the cases, between the ages of fifteen and thirty—very rarely before school age or in old age. As regards the region of the body affected, herpes zoster is, in general, more frequent the more nerves supply the region. There is an exceptionally large number of cases in the trigeminal region. Both sides of the body are apparently affected with equal frequency, bilateral herpes zoster being rare. It occurs, according to Zimmerlen, among physicians and nurses in epidemic form. Epidemics occur in the spring and fall. Sporadic cases occur with equal regularity throughout the entire year.

Massage and Movements in Hemiplegia.—Dr. Douglas Graham (*Edinburgh Medical Journal*, May) says that the benefits that may result from massage or any other remedial measure in disturbances arising from morbid changes in the central nervous system, or in any part of the body, will depend more on the nature of these changes than on the merits of the treatment, however appropriately and skilfully it may be employed. When paralysis of central origin has come on suddenly, he prefers to abstain from the use of massage until the perturbation in general has subsided, and the patient has become somewhat accustomed to his unnatural condition. But, in the mean time, while thus waiting to spare the nerve centres any supposed extra commotion, the peripheral pathological changes are gaining ground, which later may only be imperfectly overcome. Such changes are, interference with the supply and return of the circulation, owing to the accelerating influence of muscular contraction and relaxation being absent or diminished; and, as a result of this, variation of temperature, usually lowering, and passive hyperæmia or ischaemia; hypertrophy of interstitial connective tissue, with, in time, subsequent cicatricial retraction, giving rise to contractures and atrophy of the muscular fibres; formation of adipose tissue or fatty degeneration—in a

word, vasomotor and trophic disturbances. These are all rational indications for the use of massage, either as a preventive of such changes, or as a palliative of them when they have taken place. But if the nerve centres are impaired beyond recovery, or secondary pathological changes have occurred, the prospect of benefit cannot be encouraged.

The author's experience of massage in a number of cases of paralysis may be briefly stated by saying that, in the absence of severe pain, obstinate contracture, or tonic spasms, this agent has proved useful in improving the circulation, temperature, and comfort of the parts affected. When in paralysis of spinal or cerebral origin recovery follows under manipulation, it was previously supposed that the central disturbance had entirely passed away, and that the force of habit was the main factor in the continued external manifestations of inaction; but the recent experiences of Professor Zabudowski, and others teach us that it is possible, by means of massage and gymnastics, to educate other parts of the brain to take the place of the injured ones, by arousing psycho-motor impulses in the formation of new associations and combinations: so that we need no longer regard paralysis of either central or peripheral origin from the hopeless view that we formerly did.

However that may be, when the causative conditions have ceased, paralyzed muscles will not at once resume their former natural condition. Massage, passive and resistive movements, restore them to a sense of existence, enable them to recognize the power they still possess, and educate this to a higher degree; and, at the same time, such treatment affords the *only* means of judging of the capabilities of the patient, and of telling him how to use them. Sometimes the patient will make better motion against the resistance than without it. This seems to give a sense of support and consciousness of power. Interlocking the fingers of one hand with the other, so that the well arm can raise the paralyzed one, is a most excellent device, encourages the patient, and educates the unimpaired centres to supplement the deficiency of the injured ones. This should be repeated regularly—six to twelve times three times daily.

Massage, if used early in these cases, would diminish the evils of inactivity upon the circulation and nutrition, and keep the muscles in a state of readiness for voluntary contraction. It is when there is only partial impairment of motion that massage will be likely to lead to recovery; and, when improvement or recovery does follow, it will be difficult to determine whether the recent exciting cause of the trouble has passed away, or whether we have succeeded in training the other parts of the brain to do the work of the injured ones. In either event, we ought to give the patient the benefit of the doubt by a vigorous persistence and long continuance of the treatment by massage and gymnastics. The author then records two cases illustrative of the benefits of massage.

The theory by which one part of the brain can take the place of another when diseased, has been formulated by Broadbent somewhat as follows: Movements are represented in the opposite hemisphere in proportion as they are unilateral, in both hemispheres in proportion as they are bilateral, in execution. Either hemisphere can excite the bilat-

eral movements, but only the opposite can excite the unilateral ones. Movements rather than muscles are represented in the hemispheres, and are lost in disease. Lateral movements by muscles of both sides are represented in both hemispheres, but in a normal state they are chiefly effected by the opposite hemispheres. When this is diseased, they are impaired until the hemisphere on the same side has acquired functional power over them, through mechanisms before existing but unused. We want more light on the manner and ways by which functional power may be acquired by means of mechanisms previously existing but unused in the brain. We know that a man can get along very well with one eye, one ear, or one testicle, and it would be rather remarkable if one side of such a vastly more important organ as the brain should not be capable of supplementing injury to the other, or doing the work of both.

GENITO-URINARY DISEASES.

Infrapubic Section for Prostatectomy.—Dr. E. Wyllys Andrews (*Journal of the American Medical Association*, October 18th), concludes: (1) The narrowness of the male pelvic outlet becomes surgically important with the overgrown prostate. (2) Overgrowth of prostate does not cause obstruction unless there is also outside pressure. (3) This may come from the ligaments and muscles without the organ actually pressing upon the ischia or from bony pressure. (4) Relieving the prostate from the fixed space behind the pubis allows it to expand and cures the obstruction. (5) This can be best done by an anterior incision, and should be accompanied by a cutting of the prostatic ring and the removal of a segment extraurethraly. (6) Incidentally the change of position, lowering the bladder outlet, does away with the retroprostatic pouch, and greatly assists natural drainage. (7) The separation of the prostatic and urethral ligaments from the pubis and the weakening of the urogenital diaphragm is not to be avoided, but sought.

Strictures of the Male Urethra.—Dr. Robert H. Greene (*Medical News*, October 25th) points out that careful treatment of chronic urethritis will prevent the formation of stricture. True stricture is of slow growth and can generally be best treated by a prolonged passage of sounds and the proper treatment of any complication coexistent with it. Cutting operations are never required in strictures which have not been previously incised. Strictures once incised, unless kept open, are liable to require further incision. An incision being necessary, it is better to do an external urethrotomy combined with an internal urethrotomy if required.

PHYSIOLOGY AND PATHOLOGY.

The So-called Malot's Reaction, and the Clinical Determination of Phosphoric Acid in the Urine. By Dr. Emilio Pittarelli (*Gazzetta degli ospedali e delle cliniche*, August 10th).—Malot's reaction is based on the fact that uranium salts in dilute solutions give a green tint to tincture of cochineal. Mercier has utilized this reaction for the determination of phosphoric acid in the urine. Huppert performs this test as follows: He adds a solution of ammonium acetate in acetic acid to the urine, colors it with hot cochineal, and adds drop by drop from a burette some solution

of uranium acetate until the urine turns a green color. The solution of uranium acetate is tested by means of a solution of disodic phosphate containing five grammes to the litre of phosphoric anhydride P_2O_5 . According to Mercier, this method is very accurate, and is to take the place of the older method of Neubauer, who employed potassium ferrocyanide. But the author found that on filtering the green precipitate obtained by this method, the filtrate contained a large amount of uranium and that the Malot reaction did not indicate the disodic phosphate. He concluded that Malot's reaction was inapplicable to the determination of phosphoric acid in urine; that it could be applied in the determination of phosphoric acid only in neutral liquids, in the absence of alkaline acetates, and when no acids were formed during the test. Hence it was not applicable to the disodic phosphate, $Na_2 H PO_4$, because the latter, reacting upon the uranium acetate, set free a part of the acid with which the latter was combined. In order to apply Malot's reaction in uranalysis it is necessary, therefore, first to separate the phosphoric acid in the form of the ammoniomagnesium salt, and then to work on the latter in the cold state in a perfectly neutralized watery solution. Then procedure would be more difficult than the old method of Neubauer. For analyses not requiring great accuracy one can work with a solution of barium, and the acidimetric process described by the author, with phenolphthalein and methyl-orange as indicators.

Contribution to the Study of Pneumonomycosis Aspergillina.—Dr. K. Hochheim (*Virchow's Archiv*, August 4th) reports the case of a man who died of sepsis, in whose lungs were found old foci of tuberculosis as well as foci of yellowish-green appearance. The latter, on culture, showed the presence of *Aspergillus fumigatus*. The microscopical examination made the opinion probable that the fungus had entered the lung by inhalation. Hochheim carried out some experiments on inhalation and found that rabbits which were kept unconscious for a long time also inhaled the germs of the fungus, due, the author believes, to insufficiency of the parenchyma of the lung.

Hypochloruria in Acute and Chronic Diseases.—Dr. G. Campanella (*Gazzetta degli ospedali e delle cliniche*, August 10th) calls attention to the importance of hypochloruria in diagnosis. Sodium chloride is a principle that is retained in the body in some pathological conditions. We must speak, therefore, not of a hypochloruria of the blood or of the tissues, but of a hypochloruria in the elimination, in the urine. The diminution of chlorides in the urine has been variously attributed to the increase of perspiration (in fever), to a diet lacking in sodium chloride, to lowered blood pressure, to disease in the renal epithelium, etc. The decrease in the chlorides cannot be accounted for, in the author's opinion, by an increased elimination in the sweat, for the perspiration, even in fever, contains a very small percentage of sodium chloride. The same is true of changes in diet. The blood pressure has a great deal to do with the diminution in the amount of chlorides, but changes in the blood-pressure alone do not explain hypochloruria in acute and chronic diseases. Lesions in the epithelium of the renal parenchyma after the process of filtration and secretion going on in the

kidney, and diminish or increase the amount of chlorides as the case may be. The author calls special attention, however, to the influence of the nervous system on the elimination of chlorides. It is known that irritation of the sympathetic nerve, for example, alters the qualities of the urine, and that nervous and psychical excitement or great depression of the nervous system, as well as organic lesions in the cerebrospinal system, exercises a retarding influence upon chloride elimination. Is it not possible that sodium chloride exists in these morbid states in the body in an isomeric and isotonic form which has a much less marked diffusibility than in normal organisms? Nature seeks to keep within the body and retard the elimination of all substances that are needed for the life of the tissues, and sodium chloride is such a substance.

Origin of Cysts of the Female Genitals.—Dr. G. Schikele (*Virchow's Archiv*, July 15th and August 4th) concludes a lengthy study by saying that cysts in the female genital tract are most frequently developed from rests of the Wolffian bodies which occupy so prominent a part in the fetal development; these appear most often when they are stimulated to pathological growth, as adenomyomata, cysts of the epoophoron and of the appendages. Cysts so formed always bear the marks of their origin and are easy to differentiate from those developed from hyperplastic germinal epithelium of the ovary and from malformed tubes (diverticula). Peculiar growths are those with frimbriated ends, which have their source in inversion of abnormal, superfluous epithelium of the coelom.

A Case of Pancreatic Stones with Glycosuria and Pentosuria.—Dr. D'Amato (*Riforma medica*, August 8th) relates an interesting case of pancreatic stone in a diabetic individual, in whom, in addition to sugar in the urine, there was a marked pentosuria. There were no symptoms of pancreatic disease, however, no pain, no swelling, no steatorrhœa, no salivation, and no gastrointestinal disturbances. Osler, in 70 cases of pancreatic stone, found 24 with glycosuria, and there are a number of cases of pancreatic calculi in which only the autopsy showed the true nature of the disease. In most cases, however, there is severe pain, and in many there are the signs of obstruction of the common bile duct, and some authors assert that pancreatic colic cannot be distinguished from hepatic colic. Cardarelli distinguishes for biliary colic the dyspeptic form, the gastralgic, the colic form, and the febrile paroxysmal form; and these classes of cases may be observed in the colics of pancreatic stones as well. The point of predilection in the localization of the pain of pancreatic stones, according to Cardarelli, is the left hypochondrium instead of the right, as in gall stones, and the point is situated to the left of the ensiform process. Sometimes, however, the maximum pain is felt in the epigastrium, or even in the right hypochondrium, and in rare instances under the right scapula. Even if the colic is of pancreatic origin it is not possible to say that it is of calculous origin, for hæmorrhages, tumors, cysts, and abscesses of the pancreas give rise to similar attacks of colicky pains. The reason of this is because all these different lesions irritate the same plexus of nerves, the coeliac. Salkovski and Jastrovitz have described pentosuria in morphine

habitués; and, later, Kultz and Vogel have shown that pentosuria occurs in pancreatic and phloridzin diabetes in man in combination with glycosuria. It was then thought that this pentosuria was due to alimentary factors, but it was shown that the pentosuria persisted even when all traces of carbohydrates were removed from the diet. Salkovski then supposed that the pentosuria was due to a diseased condition of the pancreas; but this hypothesis has not been confirmed by experimental facts. Leo asserted that he had produced glycosuria in animals by administering to them the urine of glycosuric patients, and thus he thought that the toxic theory of diabetes was demonstrated. The author repeated these experiments, and found that the injection neither of glycosuric urine nor of urine deprived of urea, nor of various extracts of the liver, kidneys, etc., produced glycosuria.

Arterial Lesions in Rheumatismal Infection.—M. Rabé (*Presse médicale*, September 27th) says that rheumatismal infection is capable of contracting the arteries by evoking proliferating endarteritis and mesarteritis, the intima being most affected. The muscular coat is affected by protoplasmic disintegration and by vacuolization of the smooth fibres which may be best described as the reticular or alveolar state. This condition is the mark of a virulent infection and probably plays a rôle in the formation of parietal thrombi and of terminal cardiovascular collapse. Cicatrization of this lesion is only brought about by a sclerotic transformation of the arterial walls, and acute articular rheumatism must therefore be assigned as an ætiological factor of postinfectious generalized arteriosclerosis.

Inoculation of Human Tuberculosis Upon Cattle.—Dr. J. Fibriger and Dr. C. O. Jensen (*Berliner klinische Wochenschrift*, September 11th) report five experiments of this kind. The human beings were suffering from intestinal tuberculosis probably of nutritional origin. In two cases, mesenteric glands were carried directly from the corpse into the breast of a calf; in another instance a guinea pig was inoculated with a mesenteric gland subcutaneously and the subsequent tuberculous spleen of the guinea pig was placed in the peritoneal cavity of a calf. The results were positive in each case, but were more pronounced in inoculation experiments in which the material was taken from children who died of intestinal tuberculosis. In these experiments the bacilli were very virulent for the calves, possibly because the children had been infected from cattle. It is possible, too, that the virulence of tubercle bacilli for cattle is diminished by a long residence in the human body.

Spastic and Syphilitic Spinal Paralysis. By Dr. W. Erb (*Lancet*, October 11th).—In this article the author discusses two special forms of chronic myelitis which were first differentiated and described by himself. They belong to the so-called "system" or "neurone" diseases, which are limited to symmetrical, definitely circumscribed regions of the cord, which conduct fibres belonging functionally and developmentally together. 1. *Spastic Spinal Paralysis*. This condition is characterized by three, and only three, symptoms: A certain amount of feebleness (paresis) of the lower extremities, more or less muscular rigidity in the same region (spasticity), and a

marked increase of tendon reflexes. To this "syndrome," this symptom triad, a fourth symptom has lately been added—namely, the so-called Babinski reflex consisting in slow dorsiflexion of the great toe when the sole is slightly stroked. The pathology of these cases consists in a pure lesion of the pyramidal tracts of the cord. In some of the recorded cases there were also slight lesion of the direct cerebellar tracts and trifling sclerosis of the tracts of Goll. But the essential change is a sclerosis of the posterior segments of the lateral spinal tracts, and particularly at the pyramidal tracts, more or less uncomplicated and exclusive. The disease is a rare one, and usually begins slowly and insidiously with some sense of weight and feebleness in the legs. The legs slowly become stiffer and heavier, and the gait more labored and spastic. The tendon reflexes are markedly exaggerated, as is shown by involuntary clonics of the foot (spinal epilepsy) while the patient is sitting. From these conditions results the characteristic dragging and scraping spastic gait, the legs being closely adducted. This is all. There is no disturbance of sensation, no Romberg's sign, no change in the function of the bladder or bowel, or in the psychical functions. The disease progresses as slowly as it began—endlessly for years and decades. In one instance it has lasted twenty-six years. It is not generally directly fatal and the suffering is much less than in the other chronic progressive spinal affections. The picture of the family or hereditary form of the disease, occurring in groups in several generations, both in children and adults, is essentially the same. The diagnosis is easy if it is borne in mind that the above-mentioned three or four symptoms are the only ones, and that no other symptom is permissible. Multiple sclerosis is the only disease difficult to diagnosticate from spastic spinal paralysis. Its ætiology is still entirely unknown.

2. *Syphilitic Spinal Paralysis*.—This condition strongly resembles the one just described, but differs in that there are, besides the typical picture of spastic spinal paralysis, always a history of syphilis, and a disturbance of bladder function, and usually a slight but always demonstrable subjective and objective disturbance of sensation. Its onset is insidious, and long spells of standstill are possible. In many cases bladder trouble is the first, and for a long time, the only symptom. The pathological lesion is a sclerosis of the lateral and posterior spinal tracts, either quite alone, or accompanied by a somewhat diffuse, patchy, transverse lesion in the dorsal spine. Energetic and repeated specific treatment with mercury and potassium iodide is essential.

Destruction and Regeneration of Elastic Fibres in the Lung in Different Diseases.—Dr. Keigi Swada (*Virchow's Archiv*, August 4th) says that the action of inflammatory processes upon the elastic fibres of the lung varies with the ætiology of the irritation; sometimes they remain unchanged or through inactivity go through a retrograde metamorphosis. Regeneration occurs through chronic hyperplasia of the pulmonary connective tissue, although the old elastic fibres do not respond to this regeneration, nor do they arise from functional or mechanical excitement. The new fibres show a clear relation to connective tissue cells.

Our Subscribers' Discussions.

A SERIES OF MONTHLY PRIZE ESSAYS.

[Questions for discussion in this department are announced once a month. So far as they have been decided upon, the further questions are as follows:

XVIII.—How do you prevent mammary abscess? (Answers due not later than November 10, 1902.)

XIX.—How do you treat frostbite? (Answers due not later than December 10, 1902.)

XX.—How do you treat buboes that threaten to suppurate? (Answers due not later than January 10, 1903.)

XXI.—How do you treat infantile convulsions? (Answers due not later than February 10, 1903.)

Whoever among our subscribers (with the limitations mentioned below) answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short, if practicable, no one answer to contain more than six hundred words. So far as our space will allow, we shall publish the substance of such of the answers as seem to us most likely to prove interesting to our readers, and we reserve the right to publish any of the answers in any department of the JOURNAL.

Only subscriber to the NEW YORK MEDICAL JOURNAL (including regular and volunteer officers of the medical corps of the United States Army, Navy, and Marine-Hospital Service, commissioned or under contract) will be entitled to compete, and all persons known to be engaged in medical journalism are disqualified. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish.]

The prize of \$25 for the best essay submitted in October has been awarded to Dr. Frank Tucker Hopkins, of New York, whose paper appears below:

PRIZE QUESTION NO. XVII.

THE TREATMENT OF NOCTURNAL INCONTINENCE OF URINE IN CHILDREN.

By FRANK TUCKER HOPKINS, M. D.,

NEW YORK.

Nocturnal incontinence of urine in children is not in itself a disease, but a symptom of some disturbance in the equilibrium of the action of the bladder muscles. Generally this is in the form of irritation, causing spasm of the detrusor muscle, but the condition may result from mere weakness of the sphincter. The treatment of incontinence must therefore begin with an investigation of those causes which have induced such muscular disturbance, and then be directed toward the removal of the causes which are found.

These causes may be direct or reflex in their action, and are much the same whether the child's incontinence is nocturnal or continual; but since the control of the bladder is both voluntary and involuntary, the power of retention exercised during the day through the will may be absent when the child is asleep. The direct causes *outside* of the bladder relate, first, to a general muscular debility which is participated in by the sphincter; and, secondly, to

the persistence of the natural infantile weakness of the sphincter, which is normally present until the second year. These causes are generally accompaniments of a neurotic disposition.

The direct causes which are found *within* the bladder are chiefly highly acid urine and the distention of the bladder with an undue quantity of urine, as occurs in diabetes or as may happen after drinking water at bedtime.

But far more frequently the cause is found in reflex stimulations due to disturbances in the digestive or the generative organs. Such reflex irritations are easily explained by the action of the common sympathetic ganglia which control all these pelvic organs, especially the lumbar and sacral plexuses, and their anastomoses with the spinal nerves. Thus redundant or adherent prepuce, especially when phimosis exists, causing the retention of smegma or formation of calculi about the corona glandis, is a frequent source of nocturnal incontinence. And in the same manner, in girls, an adherent clitoris or vaginitis may lead to the same result. Masturbation may be mentioned as an occasional cause.

Again, the digestive tract may be the seat of the disturbance, either from indigestion itself or the irritating effect which indigestion may have on the character of the urine rendering it highly acid or loading it with phosphates. Constipation, pinworms in the rectum, and rectal fissure are sometimes causative factors.

There are also other diseases which, while they may often cause continual incontinence, may in some cases occasion only a nocturnal incontinence, and accordingly must be borne in mind. They are vesical calculus, vesical polypi, urethral diseases, nephritis, spinal paralysis, and epilepsy in its early stages.

The treatment for nocturnal incontinence of urine must combine the special treatment for the removal of the cause and proper medication for the disturbed muscular action. Where the trouble lies in the general debility of the child, a tuberculous, anæmic, or neurotic disposition, general tonic treatment is required—strychnine, iron, arsenic, cod liver oil, good feeding, and cold sponging according to the indications of each case; and combined with these remedies electricity may be locally administered. Static electricity is preferred, since the results are better and its administration may be less trying to the child. The application is made over the region of the bladder and over the lumbar portion of the spine.

If the cause is found to be in conditions which produce spasm of the detrusor muscle, we may give belladonna or atropine in rather large doses, $\frac{1}{4}$ to $\frac{1}{2}$ a grain of extract of belladonna, or 1-100 to 1-75 of a grain of atropine, at bedtime. For some years I have used with great satisfaction the tincture of

lycopodium in doses of 15 to 30 minims four times a day. This, alone or in conjunction with belladonna, has proved very efficient. If, however, the irritation is a reflex one from disturbances in the genital tract, especially if there is an inclination to erections, a bromide, 10 to 30 grains may be advantageously combined with the lycopodium. But antispasmodic medication alone will often fail to produce any permanent effect, and must be combined with tonics suitable to the general needs of the child; while in addition to medical treatment we may resort to dilatation of the urethra by the passage of sounds, under anæsthesia if necessary. I have found the result of this procedure surprisingly gratifying. The operation may have to be repeated at varying intervals for some weeks before a cure is effected, but in some cases the improvement is very rapid.

For the elongated prepuce, phimosis, or adhesions about the corona glandis, circumcision is necessary. Vaginitis requires repeated washings or gentle irrigations with boric acid solution, or a weak carbolic acid solution $\frac{1}{2}$ to 1 per cent.

The reflex irritations of the digestive tract likewise require careful attention. Indigestion should be corrected by proper food and regular habits. The supper, especially, should be light, and no fluid taken for at least an hour before bedtime. Constipation should be corrected, sometimes by dietetic changes, sometimes by medicine or enemata. If other measures fail, the forcible dilatation of the sphincter of the rectum, under either course, will often cure an obstinate constipation. Pinworms should be removed by frequent enemata of infusion of quassia. Rectal fissure may be healed by applications of a 1-per-cent solution of nitrate of silver or by stretching the sphincter.

Besides special treatment of those factors which, singly or combined, make up the cause of nocturnal incontinence, we must not overlook the general care of the patient; his clothing should be warm, his feet kept dry, and exercise and habits should be regulated. Especially should he go to bed early and be taken up to pass his water about ten or eleven o'clock.

And, finally, any constitutional condition, a neurosis, syphilis, tuberculosis, or diabetes, must, of course, receive proper treatment.

THE IMPORTANCE OF HYGIENIC TREATMENT.

Dr. R. F. Sommerkamp, of Philadelphia, writes:

The treatment for this trouble must resolve itself into moral, or educational, hygienic, medicinal, and surgical.

At a very early age children may be taught much in the care of themselves, as regards habit, as

to the matter of never failing to empty the bladder before going to bed; or of getting up or asking to be taken up when perhaps awakened by a desire to urinate.

Fear of darkness or of anyone's unwillingness to attend to the child's wants at once may occasion the dropping to sleep of the child and subsequent involuntary urination.

Again, there are a certain number of children with intellect and instinct just enough perverted to be only too willing to void their urine in bed, alleging that they "could not help it." With this class of cases the kindest treatment must be resorted to, as any tendency toward harshness only augments the difficulties as regards the care and control of the child. At all times the well grounded advice "remove the cause," when it is possible to find it, must not be forgotten, and it must always be carefully looked for.

In children with neurotic tendencies this trouble often exists.

General systemic treatment must not be overlooked. The use of tonics and sedatives is rational. Build up the child's system by proper exercise, foods—nutritive foods—not too heavy and indigestible, especially at night. High seasoning but irritates and adds to digestive troubles, and reflexly may be evidenced by irritability of the kidneys and bladder. Intestinal parasites are often responsible for this trouble. Seat worms, that children are so prone to be troubled with, may be directly responsible for the trouble, and should be attended to at once.

In the male child a redundant prepuce, either adherent or phimosed or retaining smegma, is frequently the most potent factor in the causing of this trouble.

Appropriate treatment, either stretching, so that the corona and glans may be frequently cleansed, should command attention or circumcision performed. This often relieves the immediate trouble, as well as remedying a multitude of troubles that without it may follow.

In the female child, any abnormal condition of the clitoris should be as conscientiously looked for. Refractive eye disturbances are often the cause of a train of nervous disturbances, among them the one in question. In children old enough for such disturbances to be determined, their correction will often remedy the evil.

Congenital malformations of the urinary organs have not been alluded to, but should such exist they demand surgical intervention.

A highly colored urine will evidence itself by the discoloration of the clothing, and will direct attention to an irritating urine that may be causing nocturnal incontinence, and should be relieved by appropriate medicines.

THE VALUE OF CIRCUMCISION.

Dr. Homer P. Marsh, of Fulton, N. Y., writes:

The question precludes, pretty much, all reference to ætiology and pathology, and I shall refer to them only as seems necessary.

This condition occurs in many children, in some temporarily only, and in these it calls for no treatment more than advice as to the amount of liquid taken at supper or the digestibility of the solid parts of that meal.

Again, it is persistent, and only a careful study of each individual case will lead to success in its treatment.

In one class of cases the sphincter control is lessened, a sort of paralysis, enuresis paralytica; in another the bladder walls are irritable, a very small quantity of urine becomes intolerable, and the viscous is reflexly emptied, enuresis spastica.

Another class present other irritations about the glans penis in males and about the clitoris in girls, viz.: phimosis, adhesions between the foreskin and glans penis and between the nymphæ and clitoris, the presence of large masses of smegma, balanitis, masturbation, and gonorrhœa.

The cases presenting loss of or weakened sphincter control are found, generally, associated with malnutrition or scrofulosis, and this condition first demands treatment. Good feeding, fresh air, and cheerful surroundings are important, together with the iodides of iron or potassium and strychnine in full doses.

The cases presenting irritable bladder walls are relieved many times by belladonna in full doses given at bedtime.

Commencing with a small dose of the tincture, the dose is increased each night by a drop until the face is deeply flushed after its use.

Tying a sheet about the patient with the knot at his back keeps him on his side and lessens reflex liability.

In cases presenting any of the deformities or pathological conditions about the glans penis or clitoris, I would correct them by surgical measures. In males circumcision will answer for the majority of cases better than any other operation. It relieves the stenosis in phimosis, it removes the masses of smegma, it breaks down existing adhesions, it almost positively inhibits balanitis, and it discourages masturbation.

[After citing instances of the good results of circumcision, the author proceeds as follows:]

In females, I believe an examination should be made, in case medicinal measures, diet, and exercise do no good, to see the condition of the clitoris and its relations to adjacent structures, and if abnormal conditions, such as adhesions or inflammations, are present, they should be cured by the proper means

and thus one less irritation be left to embarrass the reflexes.

BELLADONNA AND NUX VOMICA.

Dr. Charles B. Reynolds, of Philadelphia, writes:

Some children are able to control the bladder at the end of the first year, others, although perfectly healthy, not until the second or third year. True incontinence, therefore, cannot be said to exist until about the third year. A combination of causes may produce the incontinence, while no one *per se* would cause any symptoms. Both sexes seem equally predisposed.

In the treatment of incontinence our aim should be to ascertain the cause of the trouble and to remove the cause if possible. For the sake of convenience I shall classify the causes and give the treatment for each one separately.

1. Lack of development of the central nervous system. This is usually dependent upon an inherited nervous constitution, malnutrition, anemia, and extreme nervousness caused by the child's environment. For this I should prescribe outdoor life, moderate exercise, daily bathing, nine hours of sleep, change of environment, avoidance of excessive study and exciting influences, electricity, and massage. The diet should be of milk, eggs, and easily digestible vegetables. Nux vomica, iron, arsenic, cod liver oil, quinine, and mercury may be given for their constitutional effect, and cascara if constipation exists.

2. Atony or weakness of the vesical sphincter. This may be due to an abnormal condition of the muscle, spinal cord, or terminal nerve filaments. A temporary incontinence may follow the acute fevers. For the atonic condition I should recommend faradization with the urethral electrode. The passage of a steel sound, followed by irrigations with permanganate or silver solutions at regular intervals, does good, especially if there is some irritation about the vesical neck.

3. Urine of high acidity. Exercise in the open air, a diet of milk and eggs, and pure water taken freely are to be advised. Potassium citrate and lithium and sodium phosphate may be given.

4. Intestinal and rectal worms; rectal polypus, fissure. For intestinal worms, give a milk diet and male fern, santonin, or calomel. For rectal worms use injections of quassia and externally weak bichloride solutions. Polypi should be removed by snaring or twisting. For fissure of the anus, applications of silver nitrate (a drachm to the ounce), pure ichthyol, and forcible dilation of the sphincter are efficacious.

5. Phimosis. Separation of adhesions and circumcision are to be recommended.

6. Contracted meatus. Employ meatomy with

forcible dilatation.

7. Vulvovaginitis and adherent clitoris, both rare conditions in childhood, should be treated with irrigations of permanganate bichloride, or borax solutions and separation of adhesions.

8. Pharyngeal adenoids, although rarely a direct cause, may predispose to the condition by their irritating effect upon the nervous system.

9. The child should be taught to accustom the bladder to rather full distention during the day. The amount of fluids taken during the afternoon and evening should be reduced. Much may be accomplished by awakening the child at regular intervals during the night and urging him to urinate. After repeated trials he will usually awake when the desire becomes urgent. The patient may dream that he is urinating and yield to the desire unconsciously. Good results may often be obtained by causing the child to sleep on its side by the use of various mechanical means.

10. Chorea is a rare cause of incontinence, but may manifest itself locally by affecting the detrusor and cut-off muscles. The treatment is with hyoscyamus and the bromides. Of the many remedies for incontinence, belladonna and nux vomica have the most advocates. The most reliable preparation of belladonna is the alkaloid atropine, which may be given in doses of 1-300 of a grain four hours after the afternoon and evening meals, to a child three years old. It can be increased gradually and given three times a day, between meals, until the condition is brought under control or the full physiological effect is produced, as evidenced by dilated pupils and dryness of the throat. The dose may then be reduced gradually, but the use of the drug should be continued for several months to guard against a relapse. Strychnine and atropine in combination sometimes produce better results than either alone. They are especially useful in the atonic cases. The dose should be increased cautiously and discontinued from time to time to guard against a cumulative effect. Ergot, hyoscyamus, rhus aromatica, and cantharides have their advocates, but in the majority of cases are not to be compared with belladonna and nux vomica and their alkaloids.

Mrs. Eddy's Mode of Reasoning Anticipated.
—In *Science and Health*, p. 7, Mrs. Eddy says: "The metaphysics of Christian Science, like the rules of mathematics, prove the rule by inversion. For example: there is no pain in Truth, and no truth in pain; no matter in Mind, and no mind in matter," etc.

In Butler's *Hudibras*, Part III, canto I, we read:

"Quoth she, There are no bargains driv'n,
No marriages clapp'd up in heav'n;
And that's the reason, as some guess,
There is no heav'n in marriages."

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

Twenty-seventh Annual Meeting, held in Atlantic City, N. J., on May 27, 28, 29, 1902.

The President, Dr. SETH C. GORDON, of Portland, Maine, in the Chair.

A Case of Wandering Spleen Packed in the Pelvis and Complicated by Typhoid Fever; Splenectomy; Recovery.—This case was reported by Dr. THOMAS A. ASHBY, of Baltimore. Splenectomy he said, had grown in favor, except where leucæmia was present. It had been performed when the diagnosis of ovarian tumor had been made. The blood count should be made in all cases subjected to surgical procedure. The surgery of the spleen had not received the attention that the surgery of other organs had, prejudice being thrown upon it on account of failures, but recent work in that direction had been better. The spleen could be removed with just as good results as those of removal of the uterus, ovaries, or kidneys. By one author it was considered a harmless and simple operation. The operation should not be deferred too long, and should be done when internal medication was inefficient. The author reported the case of a young woman, twenty-two years of age, white, single, who suffered with abdominal pains in the pelvic region. There was found a mass extending from the symphysis into the left inguinal region. On her admission into the hospital, this mass was again discovered, filling the pelvis and presenting all the physical signs of a cystic accumulation. Upon opening the abdomen, he at once discovered that an enlarged spleen had become wedged in the pelvis; it was of three times its normal size. The uterus and other pelvic organs were normal. The spleen was removed and the wound closed. Later the complication of malarial disease set in. Microscopic examination showed the microorganism. The blood also showed a typical Widal reaction. The young woman, having lived in a malarial district, had contracted a malarial spleen. On May 18, 1902, she was in good health.

Dr. ISAAC S. STONE, of Washington, had reported in the *Annals of Surgery* a case somewhat similar to Dr. Ashby's, with typhoid fever following the operation. It was the case of a lady with a mass in her pelvis. He found she had a cystic ovary. The operation was done without the least thought of the spleen being displaced. A large cystic ovary was removed, and five years later she came into the hospital with symptoms of peritonitis with a large tumor on the left side, filling the left half of the abdomen, but not reaching quite so high as the ribs. He knew she had an enormous growth of spleen, which he had left. Splenectomy was performed. The case was one of congenital floating spleen. The speaker did not apprehend any danger from hæmorrhage in properly selected cases in performing splenectomy, but one should not operate when he suspected hæmorrhage. In his case there were no complications, and there was not a voracious appetite.

Dr. WILLIAM T. HOWARD, of Baltimore, reported three successful cases of splenectomy in which an incorrect diagnosis had been made. In one case the

spleen was taken for a cystic kidney. In the two other cases it was mistaken for an ovarian tumor. If there was a dislocation, splenectomy should be performed. But in two cases brought under his notice the spleen had been successfully pushed back into its proper position, thus avoiding the necessity for operating. He thought there were too many operations done; he was rather inclined to the conservative side.

Dr. A. LAPHORN SMITH, of Montreal, reported a case fatal from hæmorrhage, and was of the opinion that a great many deaths were caused by faulty technics.

Dr. R. STANSBURY SUTTON, of Pittsburgh, suggested that in suitable cases, where the spleen was not wandering, the abdomen be opened and the spleen rubbed with plain sterilized gauze and put back and stitched. The inflammation caused by rubbing would conduce to the formation of good adhesions, and probably have a good effect on the circulation by establishing a collateral circulation similar to that which we were able to get by uniting the omentum and abdominal wall in cases of abdominal dropsy due to disease of the liver.

Dr. A. PALMER DUDLEY, of New York, had seen three cases of enlarged spleen, in two of which the organ had been removed by himself. One patient died; the other recovered. The third case was supposed to be one of a large cystic tumor. A blood count was made, and leucæmia was not present. Another physician made the diagnosis of sarcoma of the spleen. The right edge of it rested on the right iliac fossa and filled the pelvic cavity. Exploratory incision was advised, and the speaker made it, going down the median line, and confirmed the diagnosis of enlarged spleen, which was supposed to be sarcomatous. The size was enormous and the adhesions were extensive. A specimen was taken for examination, and the report was that it was "sarcoma of the spleen." The patient's abdomen was sewed up, for it was feared she would die. She recovered and was now visiting friends in New York. Possibly the mission of air had some action on the growth.

Dr. J. WESLEY BOVÉE, of Washington, said it was a question whether these cases were ever congenital, for the size of the organ might be the cause of its displacement. Examination of the blood previous to an operation was very important. The diagnosis should be made first, and then the operation should come later, if it was needed. As to the method of ligation of the splenic vessels, there could be no fixed rule. The pedicle should be clamped before the operation, also the arteries, so that as little blood as possible should be lost.

Dr. JOSEPH E. JANVRIN, of New York, had had a case in which the enlargement of the spleen was attributed to malaria. It weighed between seven and eight pounds. It was removed without any difficulty whatever. The patient suffered merely from malarial symptoms and nothing more, except gastric pains. He applied the clamp first, then the ligatures, the vessels being very large. Not over an ounce of blood was lost; apparently there was no shock. However, about one o'clock in the morning the patient died of what the speaker termed "secondary shock."

Dr. ASHBY thought that the danger in all these cases was from hæmorrhage. The woman in his

case made a prompt recovery from the operation, but her convalescence was delayed by the malarial element. The danger was in operating on one who was in a leucæmic condition, but for all other conditions splenectomy is comparatively a simple operation, and the mortality from it was as low as that from ovarian tumors, etc. In the last ten years the surgery of the spleen had become more satisfactory.

The Medical Side of Gynæcology. Dr. EDWARD W. JENKS, of Detroit, in a paper with this title, said that the *materia medica* had not received the use and distinction it should, for, apparently, the genius and brilliancy of surgical work seemed to have overbalanced the medical side. But there was a medical side, nevertheless, to gynæcology. Many disorders could be most beneficially treated by medicine. Some of the medical colleges were responsible for failing to teach medical gynæcology. Surgical procedures were of value and were very successful, but might it not be asked: "Are not surgical matters being cultivated to the exclusion of medicine?" The object of the paper, the author said, was not to criticize, but simply to make a plea for the medical side of gynæcology.

Dr. EDWARD REYNOLDS, of Boston, said that gynæcologists were all primarily operators; they all felt that, and he who most carefully considered the whole woman, as well as the case, was the most successful man.

Dr. ARTHUR W. JOHNSTONE, of Cincinnati, said that it was true that we did neglect, as operators, frequently some of the medical points to the injury of the patients. We were startled to hear that a patient died on the table, due to the fact that proper care had not been taken to ascertain whether she had a weak heart. We heard of complicating conditions of the kidneys which could have been ascertained with greater attention to the medical side.

Dr. GEORGE J. ENGLEMAN, of Boston, said that we should have to give more attention to medical gynæcology or, rather, to the non-surgical gynæcology than to the surgical.

Lacerations of the Cervix Uteri and Pelvic Floor; a Plea for their More Careful Study; their Diagnosis and Treatment.—Dr. WALTER L. BURRAGE, of Boston, read a paper in which he said that immediately after labor the condition presented many difficulties, owing to swelling and hæmorrhage. Lacerations within the canal of the cervix were difficult to make out and were better repaired a month or so after confinement. He referred to the physiological and anatomical relationships, together with the technics of operations, as well as the methods for making the proper diagnosis. He believed in the procedure of trachelorrhaphy. After that the hardened condition of the tissues recovered their natural softness in several weeks. If there were more trachelorrhaphies, there would be fewer cancers and fewer mutilations. While catgut gave good results, it often became infected. The author pointed out that there was a difference between the laceration of the pelvic floor and laceration of the perinæum. The chief interest of the gynæcologist centred in the diagnosis after several weeks or months had elapsed. The diagnosis was attended with considerable difficulty. Physical signs might not show, and yet there might be a very bad laceration.

Dr. WALTER P. MANTON, of Detroit, said that the majority of cases that came to us required cervical amputation. He had operated on many women brought from the verge of insanity and on insane women, who had been helped to mental recovery, and he did not believe that the essayist had exaggerated the importance of this condition.

Dr. ROBERT L. DICKINSON, of Brooklyn, said that his method, in all but slight injuries of the perinæum, was to wait until bleeding had stopped, swelling been reduced, and the patient relieved; then to anesthetize and approximate the torn structures. On the fourth and fifth day the relations would have sufficiently returned to the normal. Immediately after labor it was difficult to get a good result. The speaker took the same ground with regard to the pelvic floor; he made a strong plea for the repair of tears of the cervix running into the vagina, broad ligament, and pelvic floor intermediate between the primary operation and the late secondary operation.

Dr. HERMANN J. BOLDT, of New York, said that there were a great many instances in which trachelorrhaphy was not necessary, but amputation was. The great difficulty of preparing the pelvic floor we must realize when we saw those patients who had apparently a good perinæum, but who had no control of the bowel at all. The speaker had operated, within the last year, in three such cases where the perinæum was perfectly intact, and yet where the patient had no control of the bowel. The sphincter had separated and the upper two-thirds of the sphincter muscle had retracted widely. It was difficult to bring the sphincter muscles together, and required great ingenuity. Catgut had not given satisfactory results. The speaker preferred non-absorbable material.

Dr. J. LUNTER ROBB, of Cleveland, was of the opinion that when the operation was done immediately following labor, particularly on the perinæum or pelvic floor, the chances of infection were less than when we waited until the intermediate stage. If we waited until then the bacteria had ample opportunity to get in and the tissues to break down. It seemed to him that the chances of infection were very much greater in the intermediate stage than in the early or late repair of the cervix or perinæum.

Dr. PHILANDER A. HARRIS, of Paterson, N. J., was of the opinion that amputation of the cervix, as practised a few years ago, was a good thing to avoid unless there were special indications for it.

Dr. WILLIAM T. HOWARD, of Baltimore, said he had seen many cases where with antiseptic treatment after delivery the woman would get well entirely. He reported a case of laceration which had healed after a treatment consisting of rest. When he practised obstetrics, fifteen years ago, it was found that lacerations would heal up by keeping the parts clean and by the use of carbolic acid.

Dr. CHARLES JEWETT, of Brooklyn, said it was his practice to hasten the operation. He had not thought it necessary to leave it four or seven days; the following day was the best time. During the first ten days he had operated with satisfactory results. On the following day there was very little trouble. He had not seen any objection. Regarding sutures, he had used ten-day chromicized catgut almost always, that having the great advantage of not having to be taken out.

Dr. A. PALMER DUDLEY thought it seemed easiest

to sew up a laceration of any extent immediately after delivery or as soon as the placenta was expelled. It was not necessary to do an Emmet operation immediately; one simply brought these flabby surfaces in apposition and in a very few hours they adhered. We would not think of leaving an open wound on the outside of the body. Why leave it there? Every repair should be done immediately.

Dr. J. WHITRIDGE WILLIAMS, of Baltimore, thought that the genital tract after childbirth should not be explored unless it was absolutely necessary. He did not endorse the intermediate operation. If we could not do a primary operation, we should wait three or four weeks and do a secondary operation. If we did the secondary operation, the parts were often relaxed, we left them so, and quite frequently after such an operation we had very unsatisfactory results.

Dr. J. RIDDLE GOFFE, of New York, asked how many of those primary operations Dr. Williams considered a failure. In a certain number of them, he said, the operation had to be done the second time; a certain number of them were cured. It seemed to Dr. Goffe that it all depended on the proportion of cures or failures as to whether they should be let go. Every woman who was saved from the secondary operation was saved from an unfortunate experience. The speaker was a very firm and strong believer in the primary operation.

Dr. WILLIAMS replied by saying that he believed in every perineal tear being repaired immediately at the close of labor, but in spite of getting perfect union, those women would have a relaxed outlet, due to the fact that we had not succeeded in properly bringing together the muscles. The perineal parts above had been restored to their normal position.

(To be continued.)

Book Notices.

Principles of Sanitary Science and the Public Health, with Special Reference to the Causation and Prevention of Infectious Diseases. By WILLIAM T. SEDGWICK, Ph. D., Professor of Biology and Lecturer on Sanitary Science and Public Health in the Massachusetts Institute of Technology, Boston, etc. New York: The Macmillan Company, 1902. Pp. xix+3 to 368. (Price, \$3.)

It has been the aim of the author of this volume to bring together and "to present in a simple and logical form those fundamental scientific principles on which the great practical arts of modern sanitation securely rest," and he takes for his text Lord Derby's dictum that "sanitary instruction is even more important than sanitary legislation." The book is the outgrowth of the course of lectures on sanitary science and the public health that have been given for some years at the Massachusetts Institute of Technology, and the subject matter is considered under two general divisions, health and disease and infection and contagion, as well as their dissemination and control, and certain fundamental problems of public sanitation.

In the division on health and disease, old age, death, and the principal classes of disease are explained; the ancient and modern theories of ætiology

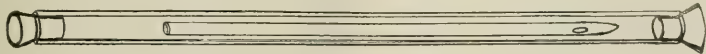
are reviewed so as to lead up to the development of the germ theory, which is described as the forerunner of the rise and influence of bacteriology. Consequent upon the latter the zymotic was transformed into the zymotocic theory of infectious disease, which is duly elucidated. A general description of vital resistance, susceptibility, immunity, and correlated subjects prepares the reader for the second division.

Virtually all of the second division is devoted to the paths and portals by which infection and contagion enter the body; dirt, sewage, water, ice, milk, and certain uncooked foods are each considered in separate chapters as the vehicle of infectious disease. Chapters on the prevention and inhibition of infection, on the destruction or removal of infection, and on some popular beliefs as to certain special and peculiar causes of disease complete the volume. It is therefore apparent that the scope of the work is particularly limited to the topics referred to in its subheading; and, while the volume is of great interest to the general reader or the advanced student, it is not a text book for the medical student who desires to acquaint himself with the principles of sanitary science.

A Treatise on the Acute Infectious Exanthemata, including Variola, Rubella, Scarlatina, Rubella, Varicella, and Vaccinia, with especial Reference to Diagnosis and Treatment. By WILLIAM THOMAS CORLETT, M. D., L. R. C. P. Lond., Professor of Dermatology and Syphilology in Western Reserve University, Cleveland, etc. Illustrated by 12 Colored Plates, 28 Half-tone Plates from Life, and 2 Engravings. Philadelphia: The F. A. Davis Company, 1901. Pp. viii-392.

Written by a dermatologist who has also the advantage of a large contagious disease hospital service, this book regards the exanthemata from an unusual point of view. While it is a scholarly work, written in alluring style, it is at the same time eminently practical.

The author begins with an interesting chapter on the history of the exanthemata, as revealed by the early records of the Orient and of southern Europe,



followed by an account of more recent epidemics. The chapter on variola is notable, and the author's wide experience with smallpox adds value to his discussion of the diagnosis and treatment. Another chapter deserving of special praise is that on scarlatina, by Dr. E. P. Carter. In the discussion of vaccination attention is wisely called to the necessity of washing off alcohol used in cleansing the skin before applying the lymph. Koplik's sign in measles is discussed, and the original drawings have been used in its illustration.

Throughout, classic sources have been drawn upon in the discussion of the various diseases and the latest periodical literature has been consulted. Special attention has been given to the matter of prophylaxis, and to the best methods of disinfection. In the discussion of treatment, the management of complications has received full consideration.

The colored plates and numerous fine photographs

are all originals, and they really illustrate the text. Altogether, the book is one that should be found on the reference shelves of every practitioner who comes in contact with contagious disease, and what family physician does not?

The Practical Medicine Series of Year Books. Comprising Ten Volumes, on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-graduate Medical School. Volume VI. General Medicine. Edited by FRANK BILLINGS, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago. With the Collaboration of S. C. STANTON, M. D. May, 1902. Chicago: The Year Book Publishers. Pp. 3 to 271. (Price, \$1.50.)

This volume is a useful member of the series. The articles chosen for report are usually important and the summaries themselves are clearly written. One third of the book is given up to typhoid fever and one half to diseases of the abdominal organs.

New Inventions.

AN ASEPTIC INSTRUMENT HOLDER.

By FREDERIC GRIFFITH, M. D.,

NEW YORK,

FELLOW OF THE NEW YORK ACADEMY OF MEDICINE.

To sterilize properly and to preserve soft rubber and whalebone instruments will be conceded as a difficult matter by genito-urinary surgeons. Boiling is the surest and safest method of sterilization, but is secured at the expense of early destruction by cracking of rubber and splintering whalebone.

To preserve from atmospheric influence, and to render fewer sterilizations needful by protecting from dust catheters and whalebone bougies, I have employed for several years a simple form of holder made from glass tubing of moderate thickness and from three-eighths to one-half of an inch internal

diameter. Cut in lengths of from fifteen to eighteen inches all the ordinary sized instruments will be accommodated. After annealing and cooling the ends of the tubes in a flame, toughening may be accomplished by placing them in a vessel containing cold water upon a slow fire. After raising to the boiling point continue heating for ten or fifteen minutes. Stoppers made from corks complete the holders. Catheters may be boiled in their tube containers and packed for use with more assurance of sterilization than when rolled in towels or gauze. If formaldehyde vapor is obtainable, sterilization of the instruments after washing and drying is obtained by placing them in the closed chamber in unstoppered tubes.

The advantages of this holder are its cheapness and ease of construction and the absolute certainty of keeping a sterile instrument uncontaminated from the effects of the atmosphere or extraneous matter.

805 MADISON AVENUE.

Miscellany.

In Memoriam Rudolphi Virchow.—The *Gazzetta medica lombarda* for October 5th quotes from the *Münchener medicinische Wochenschrift*, No. 37, 1902, the following verses in memory of this great man:

Summo cum ingenio
Morbos illustravit;
Explorando mortuos
Vivos adiuvavit.

Vitæ persecutus est
Intima arcanā
Et ubique somnia
Dissipavit vana.

"Omnis" dixit "cellula
E cellula exorta";
Tum doctrinæ lucidæ
Patefacta porta.

Quæ reliquit opera
Perditi vigeant
Magna hæc vestigia
Non evanescebunt.

The following translation is submitted:

With sublimest genius
On disease light giving,
Through the study of the dead
Aided he the living.

To Life's innermost recess
Hath he penetrated;
Empty dreams on every hand
Hath he dissipated.

"Every cell from cell hath sprung"—
Thus he spake, and straightway
Illuminating Science saw
Open wide her gateway.

So the works that he hath left
Shall endure forever,
And his mighty footprints be
Obliterated never.

K. W. M.

Typhoid Fever without Intestinal Changes.

Although the theoretical possibility of typhoid fever existing without any lesions in the intestines has long been recognized, the actual existence of such a case has not hitherto been recorded. A. Blumenthal (*Deutsche medicinische Wochenschrift*, August 28th; *British Medical Journal*, October 4th) has observed the following case, which proves that this condition does exist. The patient was a married woman, aged twenty-three years, who was five months pregnant when admitted, and the illness had already been present for ten days. The first symptoms were headache, nausea, and fever, and later vomiting and diarrhoea. On examination, Blumenthal found that she was well nourished, her face was flushed, and the skin hot; she sat up in bed, on account of severe dyspnoea. There was slight oedema

of the lower extremities. The tongue was cracked and furred; heart normal, abdomen distended, but not tender. Roseolæ on the skin of the abdomen and chest. The spleen could not be felt on account of the distention of the abdomen. The stools were thin, yellow, and presented the typical appearance of pea-soup stools. Temperature was 104° F. The urine contained albumin and gave the diazo-reaction. The pulse was slightly dicrotic with 120 beats in the minute. Widal's reaction was positive, with a dilution of 1 in 150. The course of illness was typical of typhoid fever. The patient aborted on the fourth day after admission. Cough, dyspnoea, and expectoration continued, and several small patches of dullness with numerous râles were found. On the tenth day after admission death ensued. Cultures made from the spleen of the fetus immediately after the abortion, gave negative results. At the necropsy, to every one's astonishment, not a single typhoid ulcer was found in the intestines. The spleen was enlarged, soft, and the pulp of a dark-red color. In the lungs, several patches of real and not typhoid bronchopneumonia were found. There were some hæmorrhages in the mucous membrane of the intestines, especially in the jejunum; besides which, the membrane showed signs of slight follicular inflammation. Although the necropsy appeared to contradict the clinical diagnosis, the correctness of the latter was proved by cultures made from the spleen, which proved the presence of typhoid bacilli. The same bacilli were seen in microscopical sections of the spleen and lymphatic glands.

Where English is more Expressive than French.—According to the *Echo médical du nord* for October 5th, a society of young women has been formed at Waremmé, in Belgium, the members of which pledge themselves not to marry any one given to drinking. The name adopted by this society is *Les hirondelles*. If the young ladies had only been English, they could have assumed the more expressive title of the Swallows.

The Blood in Pregnancy, Parturition, and the Puerperium.—Dr. William Senger (*Yale Medical Journal*, October) concludes an interesting article on this subject with the following summary: (1) During the first three months of pregnancy there is frequently an anæmia, but no hyperleucocytosis. (2) The blood during the remainder of pregnancy is usually characterized by increased number of red blood corpuscles, hæmoglobin content, and leucocytes; the latter being especially increased in primiparæ. (3) A greatly increased leucocytosis occurs during parturition, being greater among primiparæ. (4) The hyperleucocytosis rapidly diminishes after labor, showing a slight rise about the fifth or seventh day and again about the eleventh day. (5) This hyperleucocytosis is due to the multinuclear neutrophils. (6) During the first ten days of the puerperium there is usually a diminished number of red blood corpuscles and of hæmoglobin content. (7) There is often present a polycythæmia after the second week of the puerperium. (8) Hyperleucocytosis disappears in normal cases by the fifteenth day. (9) Simple mastitis, suppurative mastitis, postpartum hæmorrhage, and frequently puerperal sepsis, cause a marked hyperleucocytosis above that already existing.

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Original Communications.

PATHOLOGY AND TREATMENT OF EPILEPSY.*

By WILLIAM H. THOMSON, M. D., LL. D.,
NEW YORK,

PHYSICIAN TO ROOSEVELT HOSPITAL.

The more the essential characters of epilepsy become understood, the more the conviction grows that it stands alone among nervous diseases and does not share its chief factors with any of them.

The main question, therefore, is What constitutes epilepsy? In other words, What is the invariable element in this disease, without which invariable thing any given case would not be epilepsy, however much it may resemble it? Or, to state this proposition conversely, What is the constant fact in epilepsy, the presence of which at any time, though it be quite single or slight in its manifestation, proves it to be epilepsy even if unaccompanied by other symptoms ordinarily present in an epileptic attack?

This question about what thing is invariable, is all important in the consideration of obscure problems in medicine, because of the great general principle that whatever is occasional is not essential. No matter how often or how prominently any given symptom or set of symptoms may occur in the clinical course of a disease, those symptoms cannot be essentially related to its primary cause if undoubted examples of the disease occur without them. This one fact, that the disease can exist without them, at once reduces such occasional symptoms from the rank of a causative to that of merely an accessory relationship to the disease. It would be well if this principle, that symptoms may vary but real causes do not vary, were kept in mind in all discussions on pathology. A patient with phthisis may or may not have hæmoptysis, but he must have had tubercle bacilli. This consideration is particularly applicable in the instance of epilepsy, because certain manifestations in its attacks are so striking that they naturally become associated in thought with the disease itself, as indispensable to it and belonging to its very nature. But, tested by this principle, epilepsy cannot, for example, be defined as a convulsive disease, for a definition should include in its terms only what

is constant. Convulsions very commonly occur in epilepsy, but by no means always, and this alone proves that convulsions at the most are only symptoms, or in other words occasional effects, and not inherent adjuncts to epilepsy. As epileptic convulsions are such pronounced and terrifying manifestations of the malady, it was readily inferred that those who had them were more complete examples of the disease than those who did not have convulsions. The old terms "grand mal," and "petit mal" illustrate this misconception, attacks of the latter being often spoken of as "mild" attacks. I doubt if there ever is a "mild" attack of epilepsy, however brief in duration or seemingly trivial it be in appearance. Let a patient under treatment seem to be about cured, because he has passed months without his old convulsions, a statement from him that he just lost consciousness for a moment that morning, but that it did not amount to anything, is to the physician discouraging news. His patient is still an epileptic, and there never is an incomplete epileptic. A patient with repeated, it may be scarcely noticeable attacks of petit mal, is certainly not a case of partial epilepsy, or any easier to cure than the most so-called complete epileptic is, and his case as little warrants such a minimizing term as it would be warrantable to pronounce a man with only a few variolous pustules on his face a case of incomplete smallpox. No matter how mild the attacks seem, they are wholly unlike mild forms of any other nervous disease, in testifying to the presence of one and the same serious disorder, and with the same tendency to ultimate grave results as in the most pronounced convulsive forms.

One further undesirable effect of undue estimation of the convulsive element in epilepsy is its suggestion that the first process in an attack is of the nature of a sudden liberation of energy in some part of the brain. Thus, many writers speak of epilepsy as beginning with a "discharge" of nervous force in a cortical area or centre, the conception evidently being of something like the electrical discharge of a Leyden jar, or of the explosion of some unstable chemical compound. But I venture to say that this conception is mainly derived from the startling motor phenomena of a convulsive paroxysm, but if attention were equally directed to the symptoms of true epileptic attacks which are not at all convulsive, this idea of "explosion" would be as little suggested

* Read at stated meeting of the New York Academy of Medicine, October 16, 1902.

as in a case of syncope. As we shall attempt to prove, epilepsy has quite another beginning than by a discharge, for when this does occur it is always secondary to that indispensable beginning.

Again, it would not be correct to define epilepsy as a cerebral disorder producing loss of consciousness, because loss of consciousness, or even interference with consciousness, is not invariable. Every observer of much experience can cite cases of true epileptic attacks, sometimes prolonged ones, in which consciousness was retained perfectly from first to last. Thus a healthy looking man, aged thirty-nine years, was brought to me on June 18, 1901, by Dr. Alexander Strong, of this city, for attacks of several years' standing, which always began with rigidity and clonic spasms of the left leg, followed by the same conditions in the left arm, and then in the right leg, but not in the right arm. He had two of these attacks before me in my office, the convulsive movements being very violent, and involving the facial muscles, the mouth being drawn strongly to the left. These attacks always left him with paralysis of the left leg, but throughout them his consciousness was perfect, as I found on this occasion by testing his memory of what I was doing and saying while he was in them. After I had prescribed for him he went from June 18th to February 14th without an attack, when, at that date, he had a very severe convulsion while at his office, ushered in by an epileptic cry which frightened the bystanders. He continued in convulsions, with jaws locked and his lower lip caught between his teeth, for an hour, and when Dr. Strong arrived he wrote on a pad with trembling hand, "For God's sake set free my lip!" Dr. Strong had to put him under chloroform to do this, but the patient maintained that through it all he was perfectly cognizant of what was going on from his epileptic cry till the arrival of the doctor.

Hence, loss of consciousness, because not invariable, is not essentially related to epilepsy and gives no clue whatever to the nature of the disease. It is doubtful whether in epilepsy it has anything in common with the mechanism of sudden loss of consciousness from a blow on the head, or in apoplexy and still less in syncope. In fact, loss of consciousness *per se* is the least helpful of all symptoms towards affording an insight into any cortical process, as the problem of common sleep testifies.

A still more conclusive illustration of the casual but not causal relation of loss of consciousness to epilepsy is contained in the clinical history of the following case, which merits a detailed report because of other important questions raised by it.

CASE.—The patient was a highly educated and intelligent man who told me that all his attacks were just like his first one, which came on while he was walking with a friend in England, when an instan-

aneous aphasia set in, which lasted for more than an hour. All he could notice then was his loss of speech, but after an hour he as suddenly lost consciousness and went into convulsions. In every one of his subsequent attacks, which averaged six a year for three years, they would begin with sudden aphasia which rarely lasted less than an hour, and sometimes much longer, and meanwhile he had such perfect command of his consciousness that he made a careful experimental study of his experiences in the interval before the onset of his loss of consciousness and convulsions. Once the aphasia came on while on deck on a German steamer crossing the Atlantic. He at once went to his state room, remembering the while that he had inconveniently packed his writing materials at the bottom of his trunk. When he got them he began a note to send by the steward to the ship's surgeon; but though he was proficient in German and French, owing to his early education at school in both countries, he found that he could not finish the sentence which he began in German, so he began another in French, but when he found his French also leaving him he fell back on his native English, to find that in this also he broke off in the same fashion as in the other two languages. Being an excellent performer on the violin, he experimented with that during his aphasic attacks and found that he could both play well by ear and recognize when he "flatted" at certain notes. I am sorry that I did not ask him whether he could read music at these times. On one occasion, while on a train, he was sure that he was aphasic for three hours, but was surprised that he did not then have a fit. After coming under treatment by me, he ceased having convulsions, and had only attacks of aphasia with complete retention of consciousness, until these in turn ceased.

But we cannot at this point emphasize too strongly the importance of one question, which a clinical history of this kind raises on account of its bearing on the pathology itself of the disease, namely, At what time or at what stage in these attacks did they become complete epilepsy? Was the preceding prolonged aphasia, the hour or two hours of that curious mental state not epilepsy but only partially so? And what was the nature of these attacks when he had only aphasia? Which of these experiences with him were more or less epilepsy than the other? We, of course, do not mean which of them had the most symptoms, but we refer exclusively to the *nature* of the phenomena.

We direct attention to these questions because of their practical importance. If epilepsy were a disease like hysteria of every grade of severity, if not also of diverse nature and kind in different patients, then we might grade the symptoms of epilepsy into mild or unimportant and into severe or grave symptoms. We might then properly regard epilepsy as sometimes a trivial disease in certain patients, and a grave disease in others, according to the severity of their symptoms. But such is never the case. A child three years old, for example, was brought to me for what his parents called a "caper" of his, of

suddenly ducking his head now and then. Soon they smilingly told me to look for myself and see how he did it. I at once saw that in this caper his eyes became fixed and his pupils dilated. It was in vain that I tried to impress the parents with the seriousness of the case, but in two years he became an idiot and fortunately died.

Not to go further in this direction, we would simply say that the fact of epilepsy does not depend at all on the number or on the variety of the symptoms, but solely on the question whether the symptoms are epileptic or not. If epileptic, the symptoms may be only one or two in number and both slight and temporary. But that case is a serious case nevertheless, quite as much so, probably, as one in which there are violent convulsions but only at long intervals. The reason is that epilepsy is a specific disease, *sui generis*, and every case of it is a case of epilepsy and of nothing else. No other disease is so protean in its manifestations, and there is none whose manifestations afford so little clue to its underlying cause, for the most diverse forms are often found to become interchangeable with one another; a non-convulsive case may at any time change into a convulsive one or vice versa; a patient with complete loss of consciousness may have attacks in which consciousness is preserved, or he may have what are called coordinated attacks when he walks forth, having stripped himself stark naked; or he may have an attack of epileptic mania. This latter outcome oftenest occurs in those who are subject to non-convulsive attacks, but I had a patient who always first fell in strong convulsions and then would rise and rush to attack the first person whom he saw.

We have to go deeper, therefore, than the varying symptoms, deeper than its curiously different external manifestations, in search of something which neither varies nor differs, but is always present in every case of epilepsy. If such an element can be found we are then in the line of approach to something fundamental in the pathology of the disease. That there is such an element in epilepsy, an element which is found in no other disease, hence an element which is pathognomonic, we hope now to demonstrate. But it is on that account that we have directed attention to the nature of the very first symptoms of the attack, to show that they are as truly epileptic as any of the subsequent ones. In other words epilepsy not only begins but is altogether epilepsy with its very first symptom. That first symptom is part of the epileptic process, which is like no other process, and needs nothing to make it more complete even though it shows only one manifestation and stops short at that, like the "caper" in the child referred to. That same first symptom, whatever it be, is epileptic and nothing but epileptic. None of the subsequent symptoms are any more epi-

leptic than the first one. It was pure epilepsy from the start, just as fire is nothing but fire whether in the flame of a match or in the subsequent flames of a building first lit by that match. Thus, the first symptom of an attack of epilepsy may be a single sensation beginning in a thumb, or a sudden strange idea in the mind or a red light in the eye. The mistake is often made of regarding such symptoms as not specific but only prodromata forerunners of the true attacks, like the chills ushering in an attack of pneumonia or of smallpox. On the contrary, I do not think that we shall be likely to gain a correct insight into the true pathology of this disease until we recognize the fact that these first symptoms are the most important symptoms of all in this particular connection, because of their pointing to the one constant element in epilepsy, that element which is never really absent in any of its attacks, and which, in short, makes it epilepsy.

That never varying element in epilepsy is suddenness. Epilepsy is the only sudden disease. Accidents may be sudden like a cerebral hæmorrhage, but the vascular disease which finally led to the hæmorrhage was not sudden. Other diseases, not accidental, may be rapid in their onset; but none are sudden except epilepsy. We mean the disease itself in each case, and not certain symptoms, for such may be sudden, like an unexpected fall to the ground in Graves's disease. Hysterical attacks also sometimes seem to come on suddenly. I doubt if they ever do so really, and at most these occurrences are not characteristic, but are instead quite uncommon. But in epilepsy its real onset is always instantaneous, and this fact about epilepsy furnishes the most important clue to its essential nature. This statement is not in the least invalidated by the sometimes prolonged and far distributed disturbances which follow that sudden onset, any more than one could say, when a dam gives way, that the greatness of the consequent ruin precludes the explanation that it started with a small leak in the wall. It was an insignificant run of water at the beginning and a deluge at the end, but it was water all the same, and water only, which did it all from first to last. So the whole outburst of an attack of grand mal should not confuse us, either by its violence, or by its duration, from recognizing its oneness with the gentle ascending aura with which it instantaneously began. Rather the progressive extension of the epileptic process to group after group of cortical cells points instead to the disturbance of a normal relation between them, not unlike the relation which parts of a building so hold to each other that a small displacement in the foundation causes cracks and shakings to spread successively to quite distant parts.

We are, therefore, brought at this stage of our argument to certain fundamental facts in the physi-

ology of the nervous system, for pathology may be spoken of as physiology under difficulties, but physiology still. Hence to return for the moment to our illustration of a building, we find that different nervous centres or tracts seem to be related to each other as the different stones composing an arch are so related. No one stone in an arch is ever isolated or independent of the others, but both receives something from, and gives something to, the whole arch. But let one of the stones of the arch be suddenly loosened and a great commotion follows in the whole arch, not because the arch has received a great shock or impulse from without, least of all because the arch itself was composed of explosive materials, but simply because a long standing inherent force in it, viz.: that of gravitation, for distributing which in a special way the arch had been specially constructed, has been suddenly liberated from its normal restraints by an abnormal change of place in a single stone. Other arches in the building, even if distant, may then become disturbed in proportion to their normal relation to the first arch involved. The radiation of the disturbance will then depend upon the direction in which a reciprocal interdependence of the different parts of the building had previously existed. But, however far the disturbance radiates, none of it is due to any new force than was there before.

Or, to use another illustration. The propeller of a steamer is fashioned first, and then the power is communicated to it to act against the mighty restraint of the water in which it is immersed. Once, in a steamer, as I sat reading in the cabin just over the propeller, the vessel rose so that the propeller for a moment beat the air instead of the water. The whole vessel at once seemed to have a violent epileptic fit which shook it from end to end. But all this was not on account of a new spontaneous burst of steam or of energy from the boiler; it was only the old normal energy acting with the old normal *inhibition* suddenly withdrawn.

Now is there any parallel between such disturbances in physical structures and mechanisms by derangements in what may be termed regulated physical inhibition obtaining in them, and derangements of regulated inhibition between nervous structures? Or can we suppose, instead, that nervous cells store up within themselves nervous energy which may explode spontaneously? Here again the answer to this important question must come from physiology. The first law in the physiology of the nervous system is that the beginning of every nervous action is always on the afferent side. A spontaneous, i. e., a primary, motor or efferent discharge is unknown in physiology. Why should it occur without an afferent excitation in epilepsy? If any nervous discharge can be regarded as explosive, still it is by some affer-

ent train that the explosion was lit. All efferent phenomena are in response to previous afferent excitation and to nothing else. The reason is that it always was so from the beginning of the first thing nervous and continues thus to the end of everything nervous, from the nervous system of a polyp up to a thought in a human brain. Originally, all nervous functions were organized by repeated afferent excitation leading to repeated efferent response of the same habitual kind, until this efferent habit became permanent. The more, therefore, this primary fact is considered, the clearer it becomes that the afferent is the first fundamental element in all nervous phenomena. We might almost say that we ourselves are called into being by external, that is, by afferent, stimuli. For, in nervous organization, it is the habitual response to the same recurrent afferent excitation ending in a definite mode of reaction which finally constitutes a specific nervous function. It is by the constant repetition of the same recurring excitation that certain groups of neurones become disciplined to react uniformly to a certain definite afferent excitation, originally reaching one of them and then habitually passing to others in association with it. But this in turn implies the establishment of a definite, because habitual, reaction of the nerve centres upon one another, which in time takes the form of a steady inhibition to all irregular response to the primary afferent excitation.

This term inhibition requires to be understood, because it is often used only in a technical sense to denote the specific antagonistic function of certain nerves or nerve tracts to others, such as the antagonism between the cardiac inhibitory fibres of the vagus which slow the heart beats and the accelerator nerves which increase them. I would use the term inhibition in this article exclusively to denote that resistance begotten by habit in nerve centres to any *irregular* efferent response, because they have become organized by habit to react to a given afferent excitation in only one definite manner. Thus, an irritation in the nostrils leads to the long but regularly combined series of efferent reactions which constitute a sneeze. But the same kind of afferent stimulus starting from the larynx, starts the complicated mechanism of coughing, and not that of sneezing, into motion. Every afferent stimulation, therefore, is met at once by a normal, because habitual, inhibition to an indefinite excitation of efferent response, for normally the response will be only in a customary fashion. Without such mutual inhibition there would be no coordination, and thus finally no specific function. Afferent habit being the original organizer of the nervous system, the latest acquired cerebral functions are the least organized, because they have the shortest history of habit. The oldest are the most organized, so that they seem to act au-

tomatically, because they are habituated the longest to their afferent and efferent ways. But inhibition, in turn, implies the presence and accumulation of nerve force to inhibit. A nerve centre thus functionally constructed implies a mutual interaction quite analogous to that between the stones composing an arch. These are constructed to resist the impact of a great pressure acting vertically, while a much less impact acting horizontally, to resist which they were not constructed or in nervous structures never habituated might easily overthrow them.

How, in pathology, a general epileptic convulsion can follow on an apparently insignificant and single afferent excitation is illustrated by physiology itself. The normal, though convulsive act of sneezing, just alluded to, which the late Dr. Seguin amusingly demonstrated requires fully 110 pairs of muscles to complete, begins like an epileptic seizure with an aura in the nose and an ascending excitation along a minute twig of the trigeminus. The entire muscular apparatus of respiration then begins to respond in serial succession, from the dilators of the nostrils to the muscles of the palate, then to the whole array of the muscles of the pharynx, then to those of the larynx, then to those of the entire mechanism, both thoracic and abdominal, of the muscles of inspiration, to be followed by the reverse action of the great mechanism of expiration, with a simultaneous closure of the glottis above and of the sphincters below. Like many epileptic convulsions, also, which begin with an aura, the whole motor process may be arrested by the interruption of another sensory stimulus quickly applied on the surface.

But, just the same serial response to afferent excitation may be demonstrated in our mental operations themselves, which we are so apt to think, instead, arise spontaneously in our cortical centres. An old tune, not heard for many a year, comes to one's ear from a piano in another room. Soon, memories of old scenes, old events, old friends and faces, come up, each with associations of thoughts and feelings crowding rapidly upon each other, and yet with all their complexity the entire train of them may be traced back to that vibration of the tympanum as surely as every movement in a sneeze can be traced back to a tickling in the nose. I am sure that I have seen some cases of epileptic seizures which also had their afferent mental excitation, as they always began with the same idea or emotion.

Moreover, a further consideration of the share taken by the afferent in the organization of the nervous system shows that excitation to efferent motor activity is but a part of its duty. Quite as general, constant, and important, is the regulation by it of all efferent activity by inhibition. Even those actions which seem to be most those of volition require an

antecedent condition of the muscles, which comes only from the effect of some habitual afferent influence. He who for the first time stands on the great broad stone of the top of the Great Pyramid of Egypt, finds the muscles of his legs quaking and almost wholly refusing the demands of his will to hold him up. This is not because those muscles have been fatigued by the ascent, but because, for the first time in his life, his eyes are looking into pure nowhere whichever way he turns, and his leg muscles are not receiving their customary news from the eyes informing them what they are to do or how they are to behave. Without habitual inhibition, itself the result of habitual afferent influence, there would be no regulated motor action and all would be chaos, with universal ataxia taking the place of the wonderfully ordered movements of the living mechanism.

What, therefore, occurs when a sudden ataxia manifests itself somewhere in the great array of nervous functions, like a sudden suspension of consciousness with a sudden fall to the ground, too sudden even for the instinctive movements of self preservation? Is it not more probable that it proceeds, first, from a derangement of the original source of all taxia or discipline, namely the afferent side, than that it is a spontaneous and wholly unprecedented mutiny of the motor centres that were never known to act spontaneously before?

Such ataxia, in other words, such derangement as that which characterizes an onset of epilepsy, I believe is always a sign of derangement of normal inhibition. A stone in a nervous arch is loosened and the normal restraint of part by part is deranged. The effect then must be instantaneous. That effect may stop just in the neighborhood because the line of inhibition may there be limited, but if other lines of inhibition become progressively affected, the general tumbling together may be terrifying. But, as normal inhibition had its origin in afferent habit, and became normal simply as the result of constant repetition of the same afferent impression, so no one can tell what the effect will be of a sudden abnormal, because wholly new, afferent excitation. In other words, it is only an abnormal afferent stimulus which can derange normal inhibition.

We already have striking examples recorded which show that any really new and unaccustomed afferent excitation reaching an organized nervous centre may be very dangerous. Thus, the nuclei along the floor of the fourth ventricle are the most confirmed in their afferent and efferent habits of any centres in the body. Such an unprecedented excitation, therefore, as that caused by the first passage of a stomach tube, followed by a douche, never came to them before. Now, it often happens, as it did with one of my patients, that this wholly new afferent

stimulus leads to spasm, first of the muscles of the neck and throat, and then to general tetanic rigidity of the body. But the motor disturbance may extend further yet, for some nineteen cases have been published in which violent convulsions have continued like a veritable status epilepticus, ending finally in death; just the same kind of convulsions ending finally in death have been recorded in forty cases following upon irrigation of the pleural cavity. In both these instances the one element which they have in common as an antecedent to the severe motor disturbance is a wholly new, or so to speak, entirely strange afferent stimulus.

On the other hand, some poisons or toxins circulating in the blood seem to cause convulsions by affecting primarily the peripheral sensory nerves. In poisoning with strychnine, as well as in tetanus and hydrophobia, the lightest surface touch or even a breath of air, excites the motor response of spasm. Often, an animal experimentally poisoned with strychnine seems to have nothing the matter with it if kept completely still, but as soon as it is touched it goes into convulsions. It would seem, then, that perfect peripheral quiet would prevent central explosion. This phenomenon is quite as explicable on the supposition that the derangement is due to morbid peripheral, as to morbid central excitability. Because, if it is maintained that the convulsions are due to morbid excitability of the nerve centres, the surface excitability would remain still unexplained, except by the clumsy supposition that we all should be liable to convulsions from a breath of air but for our central stability. It would seem easier to suppose that the action of the poison altered the nature of the afferent stimuli so as to deprive them of their normal characters altogether, with a corresponding alteration in the effect of their impressions on the centres. In short, we may say that an irregularly acting motor centre has been irregularly excited, rather than self excited, and the natural direction to look for the source of its disturbance is in what alone excites a motor centre, namely an afferent stimulus.

On these lines my definition of epilepsy would be this: *Epilepsy is a disease characterized by a sudden derangement of the normal regulative inhibition existing between cortical nerve centres, induced in the first instance by an abnormal afferent excitation.*

This statement of the pathology of epilepsy shifts the primary seat of the disease from the motor, or efferent, to the sensory, or afferent, portions of the nervous structures involved, and by so much necessarily affects all the problems connected with the subject of the treatment of the disease.

That the afferent origin of epilepsy is no theory is proved by the multitude of instances in which everyone admits that the disease is caused solely by some afferent irritation. Thus, some epilepsies have

been caused by the irritation of a thickening in the nose, or by a tapeworm in the intestines, or by a stone in the kidney, and have been cured by the removal of these sources of afferent excitation. Many writers, however, imbued with the theory that epilepsy is due to instability of the motor centres, endeavor to make these epilepsies of plainly afferent origin a class by themselves, and call them "reflex" epilepsies, while the rest they term "idiopathic" epilepsies, which they tell us are of central origin. The term idiopathic, is itself a confession of theory, but when this theory assumes that the efferent phenomena of a fit are spontaneous and idiopathic, while not a single example can be adduced in any other connection of efferent activity without its antecedent afferent excitation, this view cannot be said to be anything but a hypothesis. It is much more probable that, as many pure epilepsies are known to be wholly of afferent origin, this peculiar and most specific disease has but one mechanism and is always reflex, though its afferent source may not be apparent for causes soon to be mentioned.

Nor is the afferent origin of epilepsy in the least controverted by the development of the disease as the result of focal cortical irritation, such as by trauma, tumor, etc. The afferent is as much in the brain as anywhere else, and epilepsy may begin with an afferent excitation starting within the cranium just as it may begin with a similar excitation starting in the intestine. That this is so, is demonstrated by the phenomena of auras. These, of course, are sensory phenomena, and what is more, they always precede, and do not follow, the efferent symptoms. That these sensory manifestations sometimes apparently begin in the extremities, while the focus of irritation is within the cranium, is no proof that that process is starting as a "discharge" in the motor area, but rather is equally explicable as an afferent intracranial excitation referred to the periphery, in the same fashion that irritation of a sensory nerve anywhere along its course is also referred to its periphery.

(To be concluded.)

Static Electricity as a Cure for Alopecia.—Dr. R. Pivani and Dr. J. Blasi (*Annali di elettricità medica e terapia fisica*, April) report cases of alopecia treated with static electricity, in four of which a complete cure was effected, while one case was unsuccessful. Between twenty and thirty sittings were required. The electric bath with sparks discharged on to the bald patches was the method employed. While cases of alopecia, especially alopecia areata, are usually very intractable, it must not be forgotten that sometimes a spontaneous growth of hair starts up. Still, the treatment seems worthy of trial.

SUGGESTIONS FAVORING A STANDARD TECHNICS IN OPERATIVE SURGERY.*

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Far be it from me to wish to be considered as one opposed to progress or advancement, especially when advancement is a benefit to mankind. I appreciate full well the great strides operative surgery has made in the last twenty years and what a blessing it has been to suffering humanity. But the thought has occurred to me of the possibility of advancing too rapidly and of the substitution of new methods for methods not yet old. In the present day there is a strong tendency to accept that which is considered new; to experimentation; to developing new methods without due regard to those already known but as yet undeveloped to their fullest benefits.

Many medical and surgical theories seem quite appropriate at the time of their utterance, but after the searchlight of scientific investigation has been thrown upon them, they find a still more appropriate place in oblivion. The scientific surgical profession should be the first willingly to discard a theory of yesterday for a truth of to-day, and when a true principle is once established it should be indelibly impressed on the records and thereafter become a part of them, so that mankind would receive the benefit, and it would not be cast aside by some new theory which might at the time seem more plausible. This constant change from one theory to another, from one practice to another, has a demoralizing effect, not only on the profession, but what is worse, on the laity.

If our procedures were based on a technics that was more universally standard, we should not have so many different opinions, or such an amount of adverse criticism when a prominent citizen was under our care, as in the case of the late President McKinley and King Edward. We should know that what was done was the best that could be done. We should not hear the question, Why did they not do this? or Why did they do it in this way?

To show the grand results and everlasting blessings that modern surgery has given mankind one has but to read the very able paper by Joseph D. Bryant, in which he called attention to the methods practised and results obtained to-day in Bellevue Hospital as compared with those of twenty years ago. Twenty-five years ago the art of surgery awoke from a long sleep; the dark curtain of ignorance was lifted, and the glorious light of modern science cast its intelligent rays on possible, but as yet undeveloped, thoughts to the extent that it has called them into action sufficiently to bring forth what may be termed to-day. The scientific art of modern surgery.

* Read before the New York State Medical Association, October 28, 1902.

All this has been accomplished, and to-day the world is receiving the benefit; and the names of the men who, by their sacrifice, courage, and constant application, made this possible, should be engraved on everlasting tablets. I repeat that the art and science of surgery has been accomplished. Not that I do not believe in progress, but I do believe that surgery has developed to such an extent that it is now time to review—to go through a process of sifting; to discard much that is taught and much that is written; and to establish a standard technics. I believe we are now at a stage of repair in that old wound caused by ignorant surgery; that we can now permit it to close, and be fairly well satisfied with the result. If we do not look well to that old wound, it will soon be covered with abundant superfluous, superficial, and suppurating granulations requiring heroic measures to subdue. The prophylaxis recommended is a standard technics in our operative work.

To establish a standard technics in operative surgery will, I know, be a difficult task, for when we have many minds we have many different opinions. You may say that a man has a right to his own technics; that all methods of technics are based on the same principles; that they all aim at the same results; that they accomplish favorable results. This is not a question of who is right or who is wrong, but of what is right and what is wrong. It is like saying that all religious doctrines lead to Heaven. Religious doctrines are simply matters of faith—surgical doctrines should be matters of scientific demonstration.

If this constant, ceaseless, restless desire to launch something new in the surgical arena continues in the future as it has prevailed in the last few years, we shall soon be drowned in our own secretions and surgical literature will become a Babel of confused theories and practices. I think we have, up to the present time, bitten off quite a sufficient bolus of surgical theory and practice to demand our full powers of mastication, digestion, and assimilation, and now a thorough purgation is indicated. I will admit without argument that all that has been said and done in the last twenty years to establish a surgical technics has been of benefit, and without it we should not be in the position we are to-day, namely, at a point at which we ought to stop promoting new theories and come to a conclusion as to which are the best methods in vogue at the present time.

We must establish a standard, for if we do not, it will not be long before any procedure will do for any condition. In the last three years I have taken advantage of opportunities to visit a number of the well known hospitals of the world. I have seen many of the leading surgeons of the world operate, and what has surprised me most is the entirely dif-

ferent methods used to accomplish the same purpose; and I have often been pained by hearing a well known operator advocating the advantages of his methods and at the same time adversely criticizing the methods of others.

In a conversation lately with Nicholas Senn, he stated to me that his recent trip around the world, when he visited all the leading hospitals, demonstrated to him that the science of surgery was suffering for lack of a standard technics. What will be the result if this continues? There will be as many schools of surgery as there are masters, and the high standard of scientific surgical excellence will be destroyed instead of being maintained and promoted. In the last three years I have seen eleven total extirpations of the tongue for carcinoma. The anatomical relations and the pathological conditions in each case differed but slightly one from the other; in each case the patient was operated on by a different surgeon, and in no two could the surgical technics be compared. Such diversity of theory and practice is not scientific; it has a tendency to destroy, rather than to maintain, scientific principles; at least, it confuses the student and leaves only doubt in his mind. One has but to hear the experiences of practitioners and students who visit our great medical centres. They confess that they are greatly in doubt as to what to do, for they have heard so many different theories and have seen so many different demonstrations for the accomplishment of the same purpose that they are confused and bewildered. Even in the same hospital and in the same school they are told by one professor to do this, by another to do that, at the same time hearing the first professor's methods criticized adversely. All this leaves in their minds a confused, distorted, and uncertain idea of the true principles and methods of scientific surgery. To be told that they must depend on their own judgment is poor consolation, and is often the cause of bad surgery, for their judgment is not always good. Judgment is good or bad according to the knowledge a man possesses. He had better go forth with one principle thoroughly established rather than with confused ideas of a dozen.

In order to arrive at a standard method in our operative work, we must establish a more fixed and definite method of reaching a diagnosis. We need more knowledge of pathology and bacteriology; but, at the same time, we should not depend solely upon the pathologist and the bacteriologist; their opinions should be confirmatory. The surgeon is often told that he must not operate until his case has been examined by an expert diagnostician, who is too often a highly "laboratorily" educated gentleman whose sick-bed experience is generally limited to that of inoculated guinea pigs and rabbits. Develop, as suggested by R. C. Coffey, a psychology of habit in our

surgical technics, which would become universal, and standard methods would then be so impressed on our minds that they would become habits fixed and accurate. Too many methods confuse the mind and interfere with the habitual accurate muscular action which is so essential to perfect manual dexterity.

Diagnosis.—In order to establish anything like a standard technics in our operative work, it is absolutely necessary that we should have a more definite idea of what we are going to operate for. The nearer we approach an accurate diagnosis the better work shall we do. The object of operative surgery is to cure or benefit our patients, not to establish a diagnosis which should be done before the operation is advised.

The fact that antisepsis and asepsis have made it possible to make exploratory abdominal sections and permit the patients to escape with their lives, is no excuse for resorting to this procedure in the reckless and indiscriminate manner in which it has been done in the past. Exploratory abdominal section is often more serious than an operation directed to some known and definite condition. In the latter the work is accomplished in a decided manner; in the former there is unnecessary manipulation of tissues and organs, which often causes serious disturbance. In some cases the procedure often ends by removing the appendix or an innocent ovary in the hope that the trouble may be due to some reflex disturbance which will be cured by the sacrifice of the often annoying appendages. More attention given to methods directed toward establishing a correct diagnosis will obviate, to a great extent, this unnecessary and unscientific exploratory procedure.

Preparation.—We often read and hear the following: "The patient was prepared for operation, the usual antiseptic and aseptic precautions being observed." If we had a standard technics, this statement would signify much, but as we have none, it goes for naught. All sorts of poisons and chemicals are used as antiseptics, and all sorts of procedures are resorted to for the purpose of establishing an aseptic condition. There should, therefore, be a universal standard procedure in the preparation of surgeon, nurse, and patient. This would be not only scientific, but immeasurably beneficial to all concerned. Our nurses have been taught so many different methods that they are in a state of confusion and embarrassment every time they are called upon by a surgeon whose methods are unfamiliar to them. It is unnecessary—in fact time would not permit it—to go into detail of half the methods at present in vogue to accomplish asepsis and maintain antiseptics. One has but to visit the various surgical amphitheatres throughout the country to be impressed with the diversity of opinion regarding these simple matters of

technics. The question of materials to be used, such as sutures, sponges, drainage, ligatures, dressings, etc., is in a chaos of confusion. One surgeon damns that which another praises. It is far from being amusing; it is sad and discouraging to hear one professor extol the wonderful merits of a certain kind of suture in his hernia operation, and the next hour hear his colleague condemn the same material as useless and possibly harmful. One surgeon states that certain dusting powders are essential to the protection and healing of wounds; another, as high in authority, condemns those same powders, saying that they act as foreign bodies, prevent union, and are only a nursery for pathogenic bacteria.

There are too many methods used to accomplish asepsis; too many methods advocated to maintain antisepsis. What is true in Smith's clinic should be true in Brown's clinic. By visiting a dozen different clinics one will obtain a dozen ideas differing widely as to how the same result should be accomplished. We are told by one surgeon that, in order to sterilize our hands and the region for operation, we must use green soap, corn meal, and mustard; another tells us to use green soap, potash, and soda; another potassium permanganate and oxalic acid; another, only green soap and a 1 to 1,000 mercury bichloride solution. By another we are told that the skin cannot be sterilized and that we must protect the patient's tissues by wearing sterilized gloves. I once asked an eminent German surgeon if he wore gloves. "Yes," he answered, "when I go to church." Another surgeon will say that the only way to sterilize the external tissues is by the use of carbolic acid and alcohol. Then we hear that carbolic acid is an irritating poison and should never be used. We hear of many indications for the use of iodoform and next we hear that it is absolutely inert as an antiseptic.

Actual Operations.—I am fully aware that experimentation and the introduction of new methods are necessary in order to arrive at anything like perfection in any certain line, but at the same time I am convinced that perfection will not be attained if new methods are being constantly brought forth before older ones are more fully developed. Of course, every surgeon has a right to his own technics, and it is perfectly proper that he should introduce his method of doing this or that operation. But I do not believe that so many new methods would be introduced if we studied more carefully those already in vogue.

Surgeons are ambitious and aggressive, and it pleases them greatly to know that they have placed a procedure on record which is considered to be *par excellence*, is named after them, and is looked upon as a standard procedure by their *confrères*. But, if these new methods are maintained with the rapidity that they have obtained in the recent past, every sur-

geon will be his own authority—will follow his own technics. This is, of course, all very grand, but it is not scientific, nor is it to the best interests of the profession or of their *clientèle*. Surgery is too important a science to have too many leaders. We should be content to follow masters. Often a man, through politics, favoritism, or some scheme, obtains possession of some institution where he has unlimited surgical material at his disposal, and instead of following the established technics of some master, begins to introduce new methods and new operations, when in reality he is not acquainted with those already in vogue. The result of all this is that many new volumes containing surgical theories are brought before the medical profession, and have the effect of influencing others, often, I am sorry to say, in the wrong direction.

It is not necessary that we should have so many opinions, theories, and practices regarding the materials and procedures to be used in the treatment of wounds, such as dry dressings, wet dressings, sterilizing, antiseptics, etc. If our technics were more uniform, we should have specific indications which could be scientifically met; as it is now, personal preference is the only guide. The same applies to suture and ligature material. Linen, silk, plain catgut, silverized catgut, silkworm gut, silver wire, kangaroo tendon, horsehair, and squirrel tails, all have their advocates, and in advocating their own special stuff they denounce that which some one else believes to be the only thing.

The question of drainage is to-day a much disputed one. How, when, and where to drain, is not yet definitely settled. Joseph Price, in a recent article, stated that many otherwise good surgeons were ignorant on the subject of drainage. This should not be, and it would not be if we had a standard technics and more specific indications. A great deal of bad surgery is being done because the men doing it are under the belief that they are doing first-class, scientific work. They evolve theories, carry them into practice, and because they are fairly successful are lulled into the belief that their work is all that could be desired.

In the healing of wounds the result largely depends on the technics used. The simpler the technics, the shorter the time, and a minimum amount of manipulation of the tissues—all important factors which favor good results. Simplicity of technics, adequate to the demands of the condition, shortens the time in an operation, and time is a great factor, for the amount of shock diminishes in proportion as the time consumed in operation decreases. Generally speaking, the shorter the time, the less the shock. There is a limitation to human endurance and, although anesthetics have made it possible to continue our operative work indefinitely, so far as suffering

is concerned, the fact that the patient is not suffering immediate pain is no indication that his physical economy is not undergoing a severe strain. Too much advantage should not be taken of the benefits of anæsthetics. Well formulated, definite rules governing our procedures in each individual case will do much to promote better results. I believe we have too many different operations for the relief of the same conditions. It is all right to say that each case must be treated on its own merits, but I do not believe that pathological anomalies exist to such an extent as to demand so many different procedures.

Time will not permit going into the details of the various methods in vogue for certain familiar operations; a few will illustrate my idea. In amputations we have too many methods of technics; in appendectomy we should have a more standard operation. True, various methods may be similar, but I believe there can be a "best of all," and that one we *all* should use.

One can scarcely pick up a medical journal that he does not see described therein a new method of intestinal anastomosis, either by some new mechanical button, bobbin, or clamp, or by some new complicated suture. Intestinal surgery I believe to be the most important of any with which we have to deal, and the rules governing it should be simple and thoroughly established. Constant modification, never-ending introduction of new methods, retard scientific work and embarrass the usefulness of surgery. If I did not believe that we had efficient methods at our command, I should then be in favor of the introduction and use of new ones; but in the last twenty years surgery has developed methods that I believe are equal to our demands, and for the present we should be content to perfect those that we now have.

There is something lacking somewhere when we hear a surgeon, high in authority, condemn what is supposed to be a standard operation. As, for instance, when I hear a surgeon condemn Bigelow's litholapaxy as being unscientific, unsafe, and not surgical. We hear men condemning the Bottini operation, and we have more different methods advocated for prostatectomy than we have pathological conditions which indicate the operation. Hæmorrhoids, a pathological condition as old as man, have as many different methods devised for their cure as there are specialists in that department of surgery. The technics governing herniotomy is in a chaos of confusion, and it would take a volume to describe the various methods employed in the treatment of hernia. Watch a dozen surgeons anchor a floating kidney, and you will see a dozen different methods pursued. Perineorrhaphy has been modified to such an extent that no two men operate alike. And so we could go through the whole list of ordinary surgical

operations and observe the same diversity of practice.

This, of course, shows the individuality of the operator, but I maintain that it is not scientific, that it is not in the best interest of the profession or of their *clientèle*. We must be content to have fewer masters and more followers. I would not presume to tell you what I consider to be the best methods in our operative work, but I would suggest a surgical congress made up of men who are considered authorities, and have them take up in detail the various methods and operations; discuss them freely; sift the wheat from the chaff; establish certain rules about which there could be no question; and arrive at a unanimity of thought regarding details.

After all, it is attention to details that goes to maintain the truth and efficiency of a principle, and by following some such course we might be able to establish a scientific "*standard technics in our operative work.*"

THE RELATIONSHIP LUES BEARS TO THE BODY POLITIC.*

By S. P. COLLINGS, M. D.,
HOT SPRINGS, ARK.

The honor conferred upon me by this association at its last annual session, is, I assure you, most heartily appreciated; but when I look over the list of names of my illustrious predecessors my heart sinks within me, for in that list I find names familiar in every section of our country, and names which are intimately associated with the advancement and up-building of every branch of medical science in America.

The question whether I can fill acceptably the chair held by such men has not been left for me to decide. You have seen fit to elect me to preside over your annual session; I thank you sincerely and I shall bring what talents I possess to the fulfillment of this office.

In the selection of a subject to talk to you about to-day, I shall digress somewhat from the usual custom followed in an opening address, in that I shall not deal with any recent advance in medicine or surgery, but shall talk to you about a disease which is as old as man, and is a subject that from time to time has been ventilated by men, both medical and lay, probably ever since the formation of the world.

I have deemed it best to select the subject—The Relationship Lues Bears to the Body Politic—for an address for several reasons: First, because of the importance of calling attention constantly to a disease so widespread as this one is; secondly, because it is a disease which, when the people are prop-

* Read before the Mississippi Valley Medical Association at its twenty-eighth annual meeting, held at Kansas City, Mo., October 15, 16 and 17, 1902.

erly educated concerning its frequent occurrence together with its various modes of transmission from one person to another, can be controlled more effectively than most diseases of a contagious nature; and lastly, because for the past twenty-five years I have daily been an observer of its frightful ravages upon the body politic, or society at large, and consequently feel that I am better fitted to address you upon this idea than almost any other one that I could select.

I know that I may possibly be criticized for calling your attention to a subject of this nature and that opposition will develop to any plan I might suggest for controlling the spread of this disease, but great reforms are only accomplished, if ever, in the face of both criticism and opposition.

We will first take up briefly the history of this disease and I would especially call your attention to the evidence of its great antiquity. Its history is so closely interwoven with the history of the world that it is difficult to dissociate the one from the other. It is one of the most ancient if not the most ancient of all diseases. Human nature is the same now that it was in the time of Adam and Eve; human impulses, desires, and appetites remain now exactly as they were then, so why should not a disease, which according to the best medical testimony of to-day, has for its principal causation the promiscuous gratification of man's lust, have existed in the earlier days of mankind?

Anyone who will impartially investigate history, both profane and religious, cannot fail to be impressed with the fact that there existed among all peoples of antiquity, from the earliest records kept by the Chinese and the Hindoos down to the records of the Hebrews, the Greeks, and the Romans, a disease characterized by a primary sore at some spot upon the body, which was followed by constitutional symptoms, these latter symptoms first manifesting themselves upon the skin and mucous membranes and later in the joints, the bones, and the viscera.

Nor are the book accounts the only proofs existing which show that syphilis was a disease among the people of antiquity. Anthropology has demonstrated that an affection was present among men in prehistoric times which produced lesions of the bones and of the teeth, corresponding precisely with the lesions of these parts found to-day in tertiary syphilis and in the inherited forms of this disease. Records show us that in China, 2,637 years before Christ, or 4,526 years ago, the Chinese knew of the duality of the chancre, and also knew that gonorrhoea and syphilis had nothing in common with each other. They not only knew these facts, but they were also aware of the fact that the medicine antagonistic to the specific poison was mercury.

From Egypt, that vast storehouse of hidden treasures

relating to past history, two authenticated documents have come to us which throw some light upon the disease as it existed among the Egyptians at the time of the Pharaohs. One of these documents, the *Medical Papyrus* of the Berlin Museum, was examined some years since by Chabas but it does not give much information upon the subject we are dealing with. The other document known as the *Ebers Papyrus*, which is thought to date from the time of Rameses II, about three thousand years ago, and is the most ancient complete book in existence, describes a disease which affected the various parts of the body, was sometimes found involving the abdomen, the extremities, the eyes, the gums, the joints, and also at times the mouth and other localities where the skin and the mucous membrane come together.

Syphilis certainly existed among the Jews centuries before the birth of Christ, for in both the profane and the biblical history of this remarkable people we find repeated references to a disease running the same course as lues to-day runs with us. In Leviticus we find Moses, who by the way was one of the greatest sanitarians the world has ever produced, forbidding certain vices; bestiality, incest, abnormal sexual intercourse, and even legal prostitution. The result of the enforcement of these rules and regulations was that those Jews who were sexual perverts began the worship of Baal Peor, a god of the Moabites, a people who lived adjoining them. This worship of Baal Peor, from what we can learn of it from authenticated documents, was nothing other than a sexual orgie in which the participants gratified every variety of sexual lust. Of course the natural result of these practices was a frightful prevalence of venereal disease, which, when introduced into the Hebrew camp, was intensely contagious and spread like wildfire. The disease assumed such proportions that eventually Moses had 24,000 men who had contracted it summarily put to death.

Among the ancient books of the Hindoos, a contagious venereal disease was mentioned as far back as 1,000 years before Christ. The Hindoo description of this disease brings lues right before our eyes. No one can read their accounts without knowing that syphilis is the disease meant. They, of course, did not know it by that name, or in fact by any of the names we apply to it, but their description of its symptoms is so accurate, that anyone familiar with the symptoms of lues cannot for a moment doubt that syphilis is the disease referred to. They, in their descriptions, referred even to plantar and palmar syphilides, to exostoses, and to gummata.

Concerning syphilis among the Greeks and the Romans, I am not going to say anything other than that it existed and is frequently referred to in the literature of these peoples. Anyone desiring to investigate the subject can do so for himself. If the Grecian

and the Roman literatures contained no reference to this disease, but only set forth the moral and religious conditions existing among these nations, their utter loss of all decency in matters pertaining to sexual and religious affairs would almost force us to admit that this disease existed among such depraved people. What depravity or licentiousness could there be that would not flourish under a Nero?

All during the Middle Ages we find repeated reference in the literature of the various nations to a venereal affection with symptoms such as we find existing in lues to-day, but in 1494, augmented by centuries of every variety of debauchery that human ingenuity could invent, we find it assuming an epidemic form and spreading more rapidly than it formerly did, until all Europe knew and felt its ravages.

Concerning the epidemic of the fifteenth century a good deal has been written. The rapid dissemination of the disease throughout Europe at this time had generally been attributed to the return of the French soldiers from the siege of Naples, which took place in 1494, and in which place for some years previous to the siege, an unusually severe form of the disease had existed. In dealing with this epidemic medical writings are very confused, and reflect in a general way the almost universal state of charlatanism and superstition that pervaded not only medical writings but the writings of every other character of that day. One fact, however, forces itself upon our minds, and this is, that about the time of this epidemic the disease under discussion assumed a malignant form, and although characterized by the same general manifestation these became more pronounced and more malignant.

So much for a brief synopsis of the history of lues as it existed among the ancient races, and those of the Middle Ages. What do we learn from it? We learn that just in proportion as a people have given themselves over to immorality or as they have regulated their lives on a decent scale, they have suffered from venereal disease, or have been comparatively immune from such diseases.

The question then which arises is, How can the spread of this disease be controlled or prevented?

My opinion is that if the public were educated more thoroughly concerning it, as it has been and is being educated concerning the communicability and modes of transmission of tuberculosis, half the battle will have been fought. But just so long as we draw the cloak of secrecy about ourselves with an air of profound dignity, when we should instead give a few words of wisdom; and just so long as the public assume the part of being injured, if not insulted outright, at the mere mention of the name, there will be just that many more innocent victims added to the already appallingly long list. The public must

first be willing to learn before it can be taught.

In regard to the acquirement of syphilis, people should be taught that it can be communicated only by some infected person, or by some article which has come into contact with the specific poison. For instance, kissing is one of the prolific modes of transmitting this disease from one person to another. Bulkeley has shown that this disease can be conveyed, not only by means of knives, forks, cups, glasses, and jugs, but that it has even been conveyed by tobacco pipes, cigars, cigarettes, troches, chewing gum and candy passed from one person to another, and also by shirts, plasters, towels, sponges, tooth brushes, syringes, and sick chairs. Nothing is more infectious or more dangerous to those about it than a new born babe with inherited syphilis. People should be taught that those who have this disease are for several years after infection a source of danger to those thrown into intimate contact with them, and that each infected person should have his own individual effects, and that these effects should be used by no other person than the one infected. Ignorance concerning the modes of transmission from person to person is partially responsible for its widespread distribution, and if we can dispel some of the ignorance, and overcome some of the false modesty with which discussion of this disease is hedged about, we shall have made a good start toward preventing its further spread.

The medical profession occupies a peculiarly favorable point of vantage from which to attack this disease, for the family physician comes more intimately into contact with the people of a community and can talk with less reserve upon this subject than any other persons.

In looking over the history of syphilis we find one other subject intimately associated with it, namely, prostitution. Every nation, apparently, has seen some connection between these two subjects, and each has grappled with what it considered the cause in its own way. The Romans and the Greeks believed in regulating prostitution by legal methods. Of all the races of antiquity the Jews alone seem to have had the proper idea regarding prostitution. They believed that to prevent the spread of contagious diseases of this character the prohibition of prostitution was absolutely essential. In our day and time and under our laws and customs, the prohibition of prostitution is not practical. Regulation of this vice by means of sanitary and police laws has been tried from the time of the Greeks and the Romans to the present day, and in every instance has proved ineffective in controlling the spread of contagious diseases of this character where these methods alone have been relied upon. Registration and regulation have been in vogue in Paris for the past hundred years, and while it may have succeeded in

preventing, to a certain extent, the spread of syphilis, the vast number of women who clandestinely indulge in prostitution are not reached by its operations, and it also does not take cognizance of the fact that this disease is spread by men as well as by women. If we are to have legalized prostitution regulated upon sanitary principles, do let us be consistent, and subject the men who frequent the legalized houses to the same rules and regulations in regard to examination that the poor unfortunate inmates of these houses are subjected to.

That this is a vital subject can readily be seen from the fact that when the Medical Society of the County of New York began to investigate the subject of the prophylaxis of venereal diseases in New York, in 1901, it was found that as near as could be estimated, there existed in New York City alone somewhere in the neighborhood of 200,000 cases of syphilis; and in the whole United States, Gihon, a few years ago, estimated that there were at that time 2,000,000 cases. The importance of this subject is also emphasized by the fact that an International Conference for the Prevention of Syphilis and Venereal Diseases was held last month at Brussels; this being the second international congress held for the purpose of deliberating upon the methods of the prevention of venereal diseases, the first one having been held three years ago at the same place. At this meeting were gathered together some of the most eminent men and women from every civilized country in the world, and those who participated in the meeting as delegates were not confined to the medical profession alone. It is true, they were in the majority, but there were also present legislators, jurists, editors, delegates from benevolent societies, and representatives of the police.

My object in presenting this subject to you, then, is to impress upon you that syphilis is most prolific of harm to humanity, that its dire results are far reaching; that it is no respecter of persons, it attacks all classes and makes itself felt as viciously in the palace as in the hovel; and that we, as physicians going into families under all circumstances, and knowing all the skeletons that exist in the closets of the various families under our charge, can do more to prevent the spread of lues by educating our patients as to the various modes of infection of this disease, and by advising with the younger ones among those whom we treat, than can be done by all the laws that ever have been, or ever will be, placed upon our statute books.

Women Physicians in Greece.—Madame A. Vassiliades, M. D., has been appointed physician to the prison for women at Athens. She is the first woman physician in Greece to be appointed to a public office.

CLIMATIC AND ELECTRIC PECU- LIARITIES OF COLORADO FAVORING RECOVERY IN PULMONARY AND OTHER DISEASES.*

By J. E. MACNEILL, M. D.,
DENVER, COLO.

In considering the subject indicated by the title of this paper, the assumption is a plausible one that the large majority of the members of this association have never by personal observation or experience familiarized themselves with Colorado.

While much has been written on the subject and may be learned from research, the time and attention of a large majority of physicians at a distance are too closely occupied by the demands of their local practice to admit of careful study in this direction. It is, therefore, with the desire to add somewhat to their interest, and possibly to their information, regarding the health-giving and health-restoring advantages of the Centennial State, that I appear before you, and with no desire to make any comparisons or statements prejudicial to any other State or locality. Nor is it so much my purpose to treat the subject from a scientific or theoretical standpoint, as to state well attested facts calling the attention of medical men and of all others who may be interested, to a State possessing such varied and abundant advantages for all classes and conditions of men, whether in the fullest enjoyment of health or seeking it.

A residence of nearly two decades in Colorado, coming from about the sea level—namely Chicago—where I had resided for a quarter of a century and had become broken in health and spirits, has year by year added to my convictions that, in a large proportion of human ills, and especially such as have passed beyond the acute stage, far greater hope can be held out for complete recovery, and far better results obtained than at the lesser altitudes approximating sea level, or in localities contiguous to large bodies of water resulting in increased humidity and often to unavoidable malarial and other health detracting influences.

Physical Characteristics of Colorado Affecting Its Climate.—Colorado is an empire by itself. One of the six largest of the forty-five States, with an area of nearly 104,000 square miles. It extends 380 miles east and west, and 280 miles north and south. To the north lies Wyoming, to the south New Mexico, to the east Kansas and Nebraska, and to the west Utah. It includes a territory equal in area to that of all the New England States, plus Ohio or Illinois—or nearly equal to New York, Pennsylvania, New Jersey and Delaware, or to England, Ireland, Scot-

* Read before the Mississippi Valley Medical Association at its twenty-eighth annual meeting, held at Kansas City, Mo., October 15, 16 and 17, 1902.

land, and Wales. Of this area about one-third to the eastward from Denver, Colorado Springs, Pueblo, Trinidad, Fort Collins and Greeley, or about 40,000 square miles, is an immense plain, comparatively level, and sparsely timbered, while some 60,000 square miles to the westward are largely mountainous, comprising many mountain ranges traversing the State in a general direction from north to south.

Included in this mountainous area are four great systems of natural parks, with an elevation varying from 7,000 to 9,000 feet above sea level. Commencing at the northern portion of the State, at 41° north latitude, comes North Park, with an area of 2,500 square miles, or twice that of Rhode Island. It is 75 miles in length by 50 miles in width, with an altitude of 9,000 feet, while the mountains environing it rise from 4,000 to 5,000 feet still higher. In no other portion of the globe is there a more perfect paradise for the hunter, while the many streams winding their way through this great plateau are the abodes of myriads of fish.

Next, to the southward, and separated from North Park by a mountain range, comes Middle Park, somewhat larger than North Park, containing about 3,000 square miles, and quite similar thereto in many of its physical characteristics. Within its boundaries lies the famed Grand Lake, one of the most beautiful inland lakes on the continent and one of the largest in Colorado. In about its centre, and covering an area about a mile square, it appears to be bottomless, the deepest soundings ever made failing to reach bottom.

But ten miles away are located the still more famous Hot Sulphur Springs, six in number, in which the waters boil up from the base of a cliff at a temperature of 117° F., and for drinking and bathing possess remarkable virtues in diseases of the liver, kidneys, and skin, as also in dyspepsia and rheumatism and allied complaints.

To the southward from Middle Park, and separated therefrom by the great Snowy Range, comes the beautiful South Park, some 50 miles in length by 20 to 30 miles in width, with an area of about 1,000 square miles. This lies about 75 miles southwest from Denver, and comprises the area in which were first discovered the rich gold mines that in the early days, some forty years ago, made Colorado famous. Here, also, are found mineral springs in various localities possessing waters of well known medicinal virtues. The average elevation of South Park is 9,000 feet.

Some 50 miles further to the southward, and separated by several mountain ranges, lies the largest of all these magnificent mountain amphitheatres, known as San Luis Park, with an area of some 10,000 square miles. It is elliptical in form, and some 100 or more

miles in length by 60 miles in width, and comprises the famous agricultural region of southern Colorado. It is bisected by the great river Rio Grande del Norte which flows through its entire length. It also contains a beautiful lake of the same name, miles in length, which has no known outlet although fed by some eighteen or twenty streams. Within its borders are seventeen mountain peaks at very equal distances each from the other, the loftiest being Sierra Blanca, standing alone in its magnificence and grandeur, crowned with perpetual snow, and rearing its towering head 14,483 feet above sea level or 336 higher than Pike's Peak. The average elevation of San Luis Park is 7,500 feet, and it is surrounded by mountains rising from 4,000 to 7,000 feet still higher than the plain, which is remarkably level.

Traversing this magnificent plateau of fabulous beauty and resources, nearly through its entire length passes one of the great arteries of Colorado's world-famous scenic railway system—the Denver and Rio Grande, which here presents one of its many remarkable features in railway construction, being a direct tangent 52 miles in length and without a cut or fill during its entire length, and this at an elevation of 7,500 feet above sea level. The lands in all these great parks are rich in nutritious grasses and wonderfully productive in grains, vegetables, and fruits of all kinds wherever cultivated.

Those who imagine that there are no lakes in Colorado will be surprised to learn that this mountainous area alone contains a thousand or more, besides over 250 rivers and many smaller streams that are mostly fed by melting snows stored in the mountains thousands of feet above until such times as the moisture is needed below. Truly, a wise provision of Nature, and one that adds vastly to the State's productiveness and resources!

Within this area are also stored Colorado's vast and incalculable mineral riches, inexhaustible in extent for many generations to come, secure in their Nature-encased vaults until such time as the enterprise and genius of man shall discover and utilize them—gold, silver, iron, lead, copper, coal, marble, granite, petroleum, etc.—towards the discovery, exploration, and recovery of which scarcely a beginning has yet been made. Centuries will be required to explore their boundaries and values and reveal to the world the incalculable riches of the Centennial State.

It can, therefore, be readily understood that in this wonderful variety of climatic conditions arising from the differing altitudes of mountain and valley, in the course and direction of its unnumbered mountain ranges, its proximate and remote mountain streams, lakes, and water courses, its innumerable resorts at various altitudes more or less protected at any and all seasons of the year from the heat of

summer and the rigors of winter, its 300 days, out of the 365 each year, of sunshine and cloudless skies, its entire freedom from malarial influences, advantages and conditions prevail that cannot be improved upon in any other State or country, conducive to health or to recovery from diseased conditions.

The atmospheric conditions at all seasons of the year are such that by careful study of the requirements of the patient, localities may easily be reached that will afford the best possible opportunities for recovery.

Within this great mountainous area of nearly 300 miles north and south by 200 miles east and west, are nearly 150 snow capped mountain peaks ranging from 13,500 to nearly 14,500 feet in height, 72 of them being unnamed, and 26 being higher than the famed Pike's Peak. Within this area are also many valleys of almost winterless temperatures. The same altitudes at different places afford climatic conditions differing entirely, owing to variations in the trend of the valleys in which they lie and to their exposure to winds and to the sun's rays. The ever constant and important conditions of sunshine, dry air, and blue sky, common to all habitable portions of the State, form its basic health-restoring and health-sustaining qualities equally advantageous to the sick and to the well.

Mineral Springs of Colorado.—As the world's greatest storehouse of minerals of every description, this immense area of geological and chemical wonders would be strangely incomplete without mineral springs of every known variety, and such it possesses in large and varied measure.

Diseases that often defy scientific treatment readily yield to Nature's remedies, epitomized in waters flowing fresh from God's unseen and fathomless fountains, possessing healing properties beyond the skill of man to duplicate.

Chemical analysis and scientific comparison show that, within this great area of phenomenal riches and resources, the waters that are famed for their medicinal virtues found in any other portion of America or in Germany, Austria, France, or Switzerland are all duplicated, and that springs here exist that must eventually be known to the ends of the earth for their medicinal, health-giving, and healing properties, thus again adding to the renown of the Centennial State and making it a Mecca to which pilgrimages will be made by countless numbers, for the benefit of waters that shall forever flow "for the healing of the nations."

Some Generally Accepted Facts Regarding Mountain Climates Applicable to Colorado.—After all the discussions that have been indulged in regarding the relative advantages of mountain climates as compared with altitudes approaching sea level, as health-restorers in many diseased conditions and as health-

promoters where no serious abnormal conditions exist, certain accepted facts stand out prominently that must at once appeal most forcibly to all physicians as conditions of decided advantage in favor of great altitudes.

Elevations of 5,000 feet, and more, above sea level may be regarded as mountain climates. Common to all such elevations, varying with local conditions, may be mentioned:

1. Pure air, with relative freedom from noxious gases and from irritating substances floating therein, as dust, etc.
2. Diminished atmospheric density.
3. Reduction in temperature.
4. Diminished humidity.
5. Powerful insolation as to both heat and light.

It would hardly seem necessary at this time to emphasize the fact so generally understood and accepted, as to the relative purity of the atmosphere in mountainous regions, usually sparsely inhabited, when compared with the atmosphere of lesser altitudes pregnant with organic and inorganic forms of various substances that thrive so abundantly where the conditions are favorable for their growth and existence in more humid atmospheres, in thickly settled localities with inefficient drainage and surroundings favorable to the generation of deleterious gases from decomposing substances, animal and vegetable, and subject to malarial and miasmatic influences.

Atmospheric density diminishes as we rise above sea level in a ratio varying from 12 per cent. at 2,500 feet to about 25 per cent. at 7,500 feet.

The diminution in temperature as we ascend above sea level amounts to about one degree for every 300 feet.

The diminished absolute humidity of the greater altitudes, especially noticeable in Colorado along the entire foot-hill region on the eastern slope of the Rocky Mountains, is doubtless increased by the presence of a quickly absorbing and drying soil and the absence of frequent and prolonged rainfall. Also, in the greater altitudes, that the sun's rays are more direct and powerful, and of longer duration, forms a factor of great importance, both to the invalid and also to those who are not to be included in this class.

Along this entire sun-kissed eastern Rocky Mountain slope of Colorado, extending for 400 miles north and south, the sun shines brightly about 62 hours out of every possible 100, while along the Atlantic coast it averages less than 50; there, too, the sun's rays are lessened in force and directness and largely counteracted much of the time by clouds, fogs, mists, and dense humidity, which in Colorado are for the most part unknown quantities and conditions.

During the winter months the contrast is still greater. In Colorado we have from December to

March 56 per cent. of all possible sunshine, while along the Atlantic coast the average is but 37 per cent., thus showing a vast advantage in favor of the greater altitudes of Colorado.

Taking periods of ten years in Denver as compared with the same periods in more eastern cities at about sea level, we have an average of 314 clear, or partly clear, days annually, while in Chicago the average is but 251 days and in New York 262 days. Such figures as these speak for themselves and need no further comment.

Of incalculable advantage also is the early morning sunlight throughout this entire eastern portion of Colorado, as also very generally throughout the more mountainous portions, with its warmth and brilliancy as cheering as it is also beneficial in the early part of the day, either to the invalid in hastening recovery, or to those in health in sustaining and prolonging life. And it is to be noted that the purity of the air depends largely upon the amount and intensity of the sunlight passing through it.

Value of Great Altitudes with their Rarefied Air and Direct Sunlight in the Treatment of Abnormal Conditions.—It would be difficult to name any disease or abnormal condition in the treatment of which a pure, aseptic, rarefied, clear, stimulating, sunny, dry atmosphere is not an inexorable requisite in accomplishing the best results. Medicinal remedies may or may not be demanded, but pure air and pure water—Nature's sovereign remedies—must not be forgotten or denied. Wherever these can be found, there the sick or the well best thrive and there the percentage of longevity will increase the more rapidly.

The researches and observations of climatologists of high standing in the profession and in the confidence of physicians the world over, who have for years past made a careful study of the relative advantages of great altitudes as compared with those approaching sea level, almost without exception as regards pulmonary diseases or tendencies in this direction within the possible curative stages, give the preference to the greater altitudes.

Dr. Charles Dennison, of Denver, and Dr. S. E. Solly, of Colorado Springs, who have made such careful observations during twenty-five years or more past as their large opportunities have afforded, together with many physicians of the State and elsewhere, less widely known, may be mentioned in this connection; as also Dr. C. T. Williams, Dr. Herman Weber, and Dr. W. H. Walsh, of London; Dr. Jacoud and the late Dr. Jourdanet, of Paris; the late Dr. Carl Rudei, formerly of Denver and later of Davos Platz, Switzerland; Dr. Archibald Smith, of the Peruvian Andes, and others of note, all men of eminence and of large experience and observation in the treatment of pulmonary disease, are a unit in

ascribing the best possible attainable results to the greater mountain altitudes.

Electrical Conditions of Colorado.—While physicians of intelligence and wide experience in the practice of their profession in Colorado are convinced that, in the realm of electrical influence, a far more potent and beneficial factor exists in the greater altitudes favoring sustenance of the vital powers and recovery in many abnormal conditions than exists in the altitudes nearer sea level, yet they also recognize the fact that our present knowledge regarding this force existing subjectively in individual cases, is not sufficiently advanced to enable us to measure it, fully describe it, or define it with accuracy, and the subject is here mentioned with the hope that the members of this association may interest themselves in further investigation, with the view to the possible removal of the cause, operation, and effect of such important phenomena from the domain of present speculative theory.

A thorough and analytical discussion of the influence of the sun upon our earth and its living organisms would occupy a field too wide for the limits of the present paper. The peculiar power of the solar rays in their creative and hygienic effects upon animal and vegetable life deserves a high place in scientific investigation. Throughout the entire solar system the sun diffuses heat, light, and certain forces yet imperfectly understood, and may, perhaps, be the dynamic generator of the electricity of the world. Heat, light, and that other power, which for convenience we may call electricity, beget something like a chemical agency, the most powerful and subtle in its creative and metamorphic results within the realm of human observation and science.

The sun may well be regarded, from a purely scientific standpoint, as the source of life, since no material forms of life, both animal and vegetable, could exist without it. Hence, as the creator and preserver of life, no wonder the ancients worshipped the sun—the most natural and rational of all primitive theogony. True, there are certain classes of life, animal and vegetable, which seem to generate and thrive best in the environment of damp and darkness—vegetable forms of fungoid nature, for example, and classes of insects of multitudinous and almost spontaneous breeding faculties, but short lived, come into being away from sunlight; and with such genera we may class the microbic and parasitic forms of life. But it is remarkable that the sun is the enemy and great destroyer of these lower forms of insectivora, fungi, sporadic and microscopical malariefactors.

While, on the one hand, the sun is the greatest germinating agency in Nature, on the other hand it is the great universal antiseptic and germicidal agent in Nature's economy. It is familiar household

knowledge that the best way to render wholesome such things as clothing, bedding, carpets, etc., is to hang or spread them out in the sun. How can a poisonous swamp be best redeemed? By draining it and letting the sun consume the malarious and miasmatic elements.

Nothing is so cheap and quickly efficacious an agent, in this regard, as the solvent, deodorizing, disinfecting and vermin destroying influence of clear sunlight and air—especially *dry* air.

The sun is the great scavenger of the earth. From the earliest travel across the plains and mountains between the Missouri River and the Pacific coast, no fact of common observation was more striking than the rapidity with which carcasses of animals dying along the route were dried up and dissipated by the sun of the great and arid altitudes, with little or no putrefaction. Indeed, Indians and Mexicans throughout this entire region, from time immemorial, have cured their fresh meat by cutting it into strips and hanging it up unsalted in the sun, like clothes on a line.

The most primitive peoples of whom we have knowledge in history or tradition were not only familiar with the healing virtues of sunlight, but for this reason, as I have already mentioned, made the sun their chief god. Osiris, the sun, was the god of the cultivated Egyptians, and under various names was the chief deity of other leading Oriental races, as well as the god also of the Montezumas, their pyramid building prototypes of the American Occident.

And even the Hebrew poets of the Bible were so permeated with the ideas of the so-called "heathen," derived from their former Egyptian masters, that they could not avoid incorporating these ideas into their sacred literature; as witness that beautiful passage of Oriental speech which figures their own God as the "Sun of Righteousness which arises with *healing in his wings.*"



A Court of Medical Ethics in Prussia.—The medical department of the Prussian government has an appeal court of honor which has supreme authority in all matters involving medical etiquette. This court consists of the director of the government medical departments, four members of the medical chambers and two physicians appointed by the crown. Its proceedings are secret, and even in announcing its decrees the names of the parties involved are suppressed. Recently this appeal court ruled that it was not permissible for a physician to agitate for the introduction of the free-choice system in a sick-club where another practitioner was retained on a salary basis.

DISEASES PRECEDING AND FOLLOWING THE ABUSE OF ALCOHOL.*

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The latest and most authentic statistics show that over ten per cent. of all mortality is due to the abuse of alcohol, and fully twenty per cent. of all disease is traceable to this cause; also, that over fifty per cent. of insanity, idiocy, and pauperism springs from this source. All authorities agree that from seventy-five to ninety per cent. of all criminality is caused by the abuse of alcohol. These and other well authenticated facts indicate the necessity of a more exact medical study of alcohol and its effects and influence on society and the individual.

The inebriate is one who drinks spirits to excess, either continuously or at intervals. When studied clinically, by exact means and methods, there are often found symptoms and evidences of disease long before the alcohol was first used. In about thirty per cent. of all inebriates before the craze for alcohol and subsequent inebriety, there were incipient or well marked forms of paresis and other disease states. Among these early disease symptoms can be traced degrees of dementia, syphilis, trauma, local inflammations, the presence of toxins and bacterial products, with reflex disturbances due to tumors and the pressure of foreign bodies on the nerves. These conditions precede the use of alcohol, and after it has been used, other well marked diseases are clearly traceable, but the first diseases are not recognized, and are therefore seldom studied, as a condition of predisposing and exciting causes.

One of the most prominent diseases which precede the use of spirits to excess is general paresis. This occurs in so large a number of cases as to attract attention, although no special study has been made of it to the present. Common examples are seen in early and middle life in almost every section of the country, men who are actively engaged, either struggling for wealth and position and living strenuous lives, or men of the leisure class without business or purpose in life.

The first symptoms apparent are those of gradual physical exhaustion and form an invalidism that is indistinct and vague. Changes of conduct and manners, with unusual hopefulness and satisfaction or irritability, are proofs of the mental state. With these come neglect of trifling things and indifference to the opinion and wishes of others.

The patient is boastful, credulous, and dogmatic in little matters, is slovenly in appearance and unreasonable in his thought and conduct. Such per-

* Read at the meeting of the Mississippi Valley Medical Association, at Kansas City, Mo., October 15, 16 and 17, 1902.

sons suddenly begin to use spirits to excess for no particular reason that can be traced. The paretic symptoms of exhaustion and mental exhilaration become masked and changed, and with the physical debility delusions of strength and egotism grow rapidly. In some instances the psychic symptoms decline with the increase of debility, in others they merge into strange obsessions, but are always of an exalted type. When spirits are used, a great variety of complex symptoms appear. A large number of these cases have a clinical history of syphilis somewhere in the past. This confirms the often repeated assertion that paresis follows from this disease more frequently than from any other. From my experience a large number of inebriates who, while under the influence of spirits have marked paretic symptoms have suffered from syphilis before the drink craze was developed. Examples of this class are seen in the following:

An active, hardworking, temperate merchant, at forty-four years of age, became exalted and intensely egotistical, with well defined symptoms of exhaustion and physical feebleness; he talked loudly and asserted great personal superiority, acted recklessly, made rash promises; yet showed muscular trembling and great debility from any exertion. Suddenly he commenced drinking to excess, and died two years afterward, from cerebral hæmorrhage. The history indicated an attack of syphilis, for which for many years he had been treated at intervals.

A second example was that of a mechanic who, after a slight attack of indigestion, was prostrated and suffered from great muscular weakness. This he attributed to a stroke of electricity from lightning, which occurred over a mile from where he stood and evidently only made a strong mental impression. After a time the mind began to be exalted and delusions of wealth were aroused. He thought he had invented a machine that would revolutionize the world. All unexpectedly he began to drink to excess and was an inebriate from this time. In his history, there was evidence of an attack of syphilis two years before the final break down.

Most of these cases are not recognized as paretics. The exaltation and egotism of the patient may be merely an intensification of a normal mental state, or it may occur as an anomaly and have some basis in the circumstances of the patient; it may be concealed from all but intimate friends. When it is associated with physical defects, failures of memory, changes of habits, and loss of previous accuracy in matters of business and social relations, it is clearly paresis.

A noted physician for several years grew more and more exalted in his conception of ability and faith in himself, and during this time a marked deterioration of general health was apparent. He was

unable to work as before, could not sleep at night; at times showed great excitement and feebleness, but attributed these symptoms to insignificant causes and believed that he was in the best of health and had superior knowledge of all matters in his daily visits. He became an inebriate and died in an insane asylum.

A prominent lawyer, temperate and vigorous, suddenly entered the field of politics and showed extreme excitement and reckless ambition in his struggle for position and place. He then commenced to drink to great excess, and was for a long time a chronic inebriate.

There are many reasons for believing that many of the strange instances of persons who, after half a life of consistent temperate living, suddenly manifest mental exaltation and delirious ambitions, trying to accomplish some new object and purpose, who then become inebriates and die, are examples of paresis. Closely allied with this, and probably belonging to the same class of degenerate psychoses, are the dementias, the subjects of which may take on any form of mental and physical derangement and debility, sometimes marked by exaltation, at others by melancholy and depression.

These states precede inebriety, sometimes very marked, in others masked and not noticed. Persons who suddenly become alarmed at the prospect of disease and death, and who display extraordinary anxiety to find drugs and means for relief from their fears, frequently end in inebriety; then the mind may concentrate on efforts to get rid of the drink craze, and as soon as this is accomplished the patient may go back to drugs again, and later become alarmed and make other attempts. These are cases of dementia.

Another class of persons, those who in middle life are greatly alarmed at the signs of approaching age and become possessed with the mania to break up the weariness, exhaustion, and nutrient defects, are practically subjects of dementia. They, too, become inebriates after an unsuccessful effort to avert the natural decline of age. Next to paresis, syphilis, and dementia, states of trauma or obscure injuries to the nerve centres more often precede the attack of inebriety. Examples like the following are common:

A heat or sunstroke, followed by invalidism, nervousness, and great debility, develops into inebriety a year or two later. Blows on the head, concussion and shocks to the nervous system from mental or physical causes, are followed by indigestion, insomnia, exhaustion, and inebriety. Influenza, attended with great physical and mental depression, has frequently merged into the drink craze. Many examples may be cited of persons who, after prolonged wasting diseases, have become inebriates. Evidently, some condition of exhaustion or derangement of the coordina-

tive centres has acted as an exciting cause to inebriety. Incipient tuberculosis which has not been recognized has, in many instances, been marked by an impulsive craze for alcoholic drinks.

In a large number of inebriates, tuberculous deposits are found in the apex of the lung; also cicatrices where tuberculous ulcers have healed. In a family with hereditary tuberculosis, the appearance of inebriety is an unmistakable sign of degenerate psychoses ready to burst out on the slightest exciting cause. Usually, the subsidence of the drink craze is followed by the return of the tuberculosis, though, in some instances where tuberculosis is present, the use of spirits, either as a beverage or as a medicine, rapidly precipitates the growth and fatal issue of the case. In other instances, alcohol seems to check and retard the tuberculous deposits, but always at the expense of lowered vitality and increased feebleness of the resisting powers. It has been pointed out by many authorities that inebriety and tuberculosis are allied diseases. I have published many instances of their association and interchangeability, sometimes one, sometimes the other being the precedent. Families of consumptive ancestors have children who die of inebriety, and children of inebriates very commonly suffer with tuberculosis. Neurasthenia and states of profound exhaustion very commonly precede inebriety; thus a business or professional man will suffer from intense fatigue and general indisposition without any special disease being apparent, and after a few months of ineffectual effort for relief will suddenly use spirits to excess and become an inebriate.

A number of instances have been noted of persons who went abroad suffering from neurasthenia and found great relief from the wines at the table on the continent, and who on returning drank strong spirits; then, after one or two intoxications, became confirmed inebriates. A noted clergyman, who fell into a general decline, went to Germany and was persuaded to drink beer, the effects of which were so pleasant that he continued its use. Later he used wine and strong spirits, and finally became an inebriate. In such cases, there is a preliminary period which, no doubt, is very common; in others, the drink craze comes on abruptly and follows a profound intoxication. Many of these subjects of neurasthenia are very susceptible to the toxic action of spirits and often become profoundly affected by very small doses. If the intoxication merges into coma with pleasing delirium, a certain bias and direction is given to the disease tendencies, which develop into inebriety at once.

Where the neurasthenia has been of long duration, inebriety is always very pronounced, but when the disease is recent the person may sometimes use spirits for months before addiction is developed. Nervous

and physical exhaustion are always favorable soils for the development of inebriety.

Dyspepsia and general disorders of nutrition are very common diseases preceding inebriety. Usually, victims of this disease become inebriates from the use of drugs containing spirits. Some of the popular bitters on the market have developed inebriates in many instances and are positively dangerous. The narcotic action of alcohol in covering up the acute symptoms of the patient are mistaken for relief and cure. Soon strong spirits are demanded, and the impulse to drink is irresistible. Women through these means are very often victims of inebriety. Many of the digestive drugs on the market contain alcohol and their popularity depends on the narcotic action of spirits.

Rheumatism in its various forms and varieties frequently precedes the use of alcohol, as in dyspepsia the very grateful effects which follow from the use of alcohol increase the desire for its further use. Instances are noted in which the desire to use alcohol breaks out with great intensity and the symptoms of rheumatism subside, but as the term rheumatism describes a great variety of maladies, the relation between the two cannot be very closely distinguished. Many of the sufferers from acute organic degenerations and low forms of chronic inflammations have distinct attacks of alcoholic excesses. Usually, these are of short duration and are followed by more profound symptoms of disease. In one case, carcinoma provoked the most intense alcoholic desires and, although the disease was increased by its use, the craze continued until death; in another, cancer of the rectum was followed by the same craze for spirits. Many cases have been reported of uncontrollable inebriety which were evidently due to some reflex disturbance. In one instance a wound of the tibia which did not heal readily brought on an attack of inebriety. The patient drank for four years, when a surgical operation removed the dead bone, after which he fully recovered.

In another instance a physician received a head injury and drank to great excess for many years, then recovered from an operation which removed a spiculum of bone resting on the brain. A remarkable case was that of a noted inebriate whose conduct and drinking habits came into public notice many times in a few years. At his death, the post mortem revealed the fragment of a ball received during the war of 1861. It had become encysted and pressed on a nerve centre, causing an irritation for which drink was the most grateful narcotic. Tapeworms have been recognized as exciting causes, and their removal has been followed by a subsidence of the drink craze. Severe attacks of pneumonia and typhoid fever have left forms of invalidism which have merged into inebriety without any other exciting causes.

Instances are very common where some sudden profound exhaustion has been the starting point of inebriety as in the following examples: A man in good health barely escaped from death from fire in the hotel where he slept, and a few weeks later he drank to excess. A physician who, by mistake, administered the wrong medicine, was so overwhelmed with grief at his mistake that a few weeks later he began to drink and died from inebriety.

Sudden loss of property and commercial disaster are at times followed by inebriety. While these conditions are not particularly diseases that are recognized, they produce states of exhaustion which develop in the direction of manias and insanities, marked by the drink symptom. This is only an outline of a great variety of diseases and disease states which precede alcoholic excesses. The diseases which follow the use of alcohol are more easily recognized, and yet they are seldom regarded as specifically due to this one cause. Probably dementia in its varied forms is the most prominent general disease which follows in all persons who use spirits to excess. This dementia comes as a natural sequence of the protoplasmic poisoning by alcohol, the most marked symptoms of which are the gradual failure of the higher brain centres, the increasing feebleness of the moral and ethical conceptions of life, with loss of truthfulness and disregard of the claims of right and wrong and duty. With this there is organic weakness with loss of judgment and memory and neglect of the ordinary care of the body. States of paranoia marked by mild delusions and strange unreasonable conceptions appear.

The finer shades of insanity and mental perversion, with credulities and skepticisms, are very common. The constant strain from continued anaesthesia and hyperaesthesia of the delicate cells of the brain soon causes loss and injury, which is noticeable in the changed mentality, and inconsistencies of thought and conduct. Probably all subjects of alcoholism suffer from degrees of dementia, although many of the activities of the body are performed automatically, hence the real condition is unknown. Another disease may be said to be constantly present in all persons who drink to excess, namely, arteriosclerosis. The first effect of alcohol increasing the heart's action, driving the blood to the brain with great rapidity, is comparable to a continuous concussion along the delicate arteries of the brain. The high tension produced by the sudden increase in the column of blood forced to the brain and surface is followed by low pressure and deranged nutrition.

The vasomotor paralysis, destroying the activity of the nerves which regulate the blood circulation, still further adds to the difficulty, and as a result local inflammations with fibrous deposits and alternate thickening and thinning of the muscular coats

occur. The appearance of the circulation of the blood in the face, no doubt, represents the state of the arteries in the brain. This is still further confirmed by the frequency of cerebral hæmorrhage and death in these cases.

Another confirmation is found in the local palsies of which the muscles of the face and body show symptoms. The tension of the pulse shows obstruction of the circulation, and the failure of the brain to work harmoniously or consistently is explained by the frequent shocks of blood currents forced to the brain and the loss of power to adjust this circulation. The anæmia and defective nutrition which spring from the damaged circulation and supply of blood is another evidence. No one can drink spirits long without having forms of arteriosclerosis. Another common disease, which is not very well recognized, is atrophic cirrhosis of the liver. The liver seems to suffer most severely from the action of alcohol. The hepatic cells are primarily affected, becoming fatty and degenerate and their function deranged, and they undergo a form of necrosis. The stronger the alcohol used, the more specifically it acts on the liver, particularly when taken on an empty stomach. Alcohol is one of the most prominent causes of atrophic cirrhosis of the liver.

Hypertrophic cirrhosis is considered a disease due directly to alcohol and following inflammatory states of the stomach and infectious diseases. In the latter diseases the gall ducts are more or less complicated and jaundice and ascites are common symptoms. The so-called beer drinker's liver is hypertrophic cirrhosis, while the spirit drinker has more frequently atrophic states. Either one or the other of these conditions is commonly found in all drinkers.

Next to these diseases of the liver are inflammation of the nerves or peripheral neuritis. Until recently, these affections have been called gout and rheumatism, and been supposed to come from other causes than alcohol; it is now known that they are distinct inflammatory states of the nerve fibres and terminal ends, associated with erosion and degeneration of the structure.

The stiffness, cramps, and pains of the extremities, both hands and feet, are called rheumatic, but are due specifically to the poisonous action of alcohol. This toxic action extends up to the nerve points, producing palsy and general debility, associated with local irritations, of which gastritis and hepatitis are common, ending in death from low stages of delirium.

Recently it has been found that arsenic taken in impure beer produces the same conditions. Fortunately, all persons are not affected alike, but in the latter stages degrees of neuritis are very commonly present.

Nephritis is another low grade of inflammation

that is sure to follow the excessive use of spirits. Wine and beer drinkers suffer most commonly, and in all cases there are inflammatory conditions and functional disturbances. It is estimated that fully thirty per cent. of all inebriates have nephritis most prominently before death, but this is always complicated with cirrhosis of the liver, gastritis, and other forms of low inflammation.

Gastritis is another common local inflammatory state which is always associated with other degenerations and local inflammations. While the attacks are usually acute and of short duration, permanent impairment always follows. This is seen in the nutrient disturbances which follow. Both the liver and stomach become diseased and the function of nutrition is very sensibly impaired, and such inebriates die from pneumonia and cerebral hæmorrhage.

In all these cases there are starvation and toxic ease is called pneumonoparesis. These cases terminate in from twenty to thirty years. The cerebral hæmorrhages are likewise very rapid in their action. The so-called heart diseases, which are mentioned in the death certificates, are usually atrophic conditions following the general failure of the nervous system with profound organic anæmia.

In all these cases there is starvation and toxic poisoning. The direct action of alcohol on the hæmogoblin of the blood diminishes the power of conveying oxygen, and this strikes directly at the nutrition of the body. The toxins of alcohol not only destroy nutrition and increase waste matter, but diminish the elimination process. Some of the conclusions which will be apparent from this clinical study are that at least one third of all inebriates have suffered from some disease, present before alcohol was first used.

In these instances the use of alcohol is a symptom of a prior, rather than the cause of the subsequent, disease. The degeneration from alcohol intensifies and formulates the conditions existing before. Often, the disease which existed before continues with greater insanity, or it is masked and diminished. Paresis may sometimes be held in abeyance for a while until the use of alcohol is ended.

States of dementia may be covered up and ascribed to other causes. Infectious diseases may be checked for a time or changed in form. Another conclusion which should be remembered by the practitioner is to study the cases of inebriety to ascertain the conditions which preceded the use of spirits. Having found these, the prognosis and therapeutics are matters of more or less exactness.

Secondly, we should remember that inebriety, alcoholism and dipsomania, and other toxic insanities are very likely to follow certain diseases, and in some instances can be practically prevented. After the

inebriety has appeared, then the question of the form of insanity and the tendency of the degeneration is most prominent.

The exact disease which seems to be most actively stimulated suggests therapeutic measures and means most practical. Finally, the study and treatment of these diseases which either precede or follow the use of alcohol will prevent much of the present speculation and point out means of prevention and relief unknown at present.

SUBCUTANEOUS INJECTIONS OF WHITE OF EGG.

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In an article entitled Nutritive Infusions, which appeared in this *Journal* on August 30, 1902, Dr. Southgate Leigh advocates the hypodermic injection of the white of egg in cases where it is impossible to administer nourishment per os or per rectum. Arguing from the fact that enamata of egg albumin disappear from the intestine and are evidently absorbed "without any peptonizing process," it is considered that this mixture of proteids may be absorbed and utilized by the body when introduced into the circulation subcutaneously. This assumption is somewhat gratuitous. For the two processes to be identical, it must be assumed that egg albumen, as such, may be absorbed from the intestine and appear in the blood unchanged, since it is impossible for white of egg to undergo any deep-seated change in passing from the subcutaneous tissues into the circulation. That this proteid may pass from the intestine into the blood unchanged cannot be denied, but this condition only occurs in cases where an excess is present in the intestine over and above what can be taken care of by the intestinal enzymes, and then the proteid so absorbed is excreted by the urine as being of no use to the body, and an alimentary albuminuria results. Two reasons, however, render it doubtful if under ordinary conditions egg albumin is absorbed unchanged. First, the mere presence of this mixture in the intestine would tend to inaugurate a secretion of pancreatic juice which would immediately transform it into absorbable and assimilable products. Second, it is considered that only those bodies can be absorbed from the intestine which are capable of diffusion through animal membranes, the theory being that the albumin molecule is too large to admit of its passage through the lining membrane of the intestinal cell.

The benefits derived from an enema of white of egg are undoubtedly due to the fact that the proteid is acted upon by the intestinal enzymes and thus rendered fit for absorption and utilization.

Even though the egg albumen were *absorbed* unchanged, it is still in a form which is not capable of being *utilized* or *assimilated* by the body; and here lies the difficulty in using the substance as a hypodermic injection. Introduced subcutaneously, it is of no value in supplying needed energy to the organism by being broken down into simple products. Assimilation does not take place. This was shown as early as in 1859 by Claude Bernard (1) and by Stokvis (2) in 1864, and their results have been repeatedly verified, not only for egg albumin but for caseinogen (3) and gluten (4), by Lehman (5), Peiper, Creite, Bechamp and Baltus, Sosath, Knipers, Forster, and others. In fact, that egg albumen introduced as such into the blood appears unchanged in the urine is a statement which stands undisputed and well founded upon experiment (6).

Again, the article states that the egg albumen must be injected in a sterile condition, and it is assumed that "if the egg is fresh, the contents of the shell *must be sterile*." That this is so is by no means the case, nor is it "a simple matter" to sterilize the outside of the shell chemically, as is also intimated.

Nuthall and Thierfelder (7), in some investigations in which they endeavored to hatch and bring up chickens under absolutely sterile conditions, found that even if the whole shell of the egg were dissolved away by means of strong bichloride of mercury and an alkali, the contents were still not sterile. In fact, in cases where the eggs were removed from the *oviduct* of the fowl, the contents of the shell always gave positive tests bacteriologically. The organisms apparently pass through the macroscopic openings in the porous shell into the interior while the egg is still in the oviduct.

These two facts, namely, that it is practically impossible to obtain sterile fluid, egg albumen and that this proteid introduced, as such, directly into the circulation is not assimilated and therefore can supply the body no energy, argue against its use as a hypodermic nutrient. The danger of inoculation with pathogenic organisms should alone be sufficient cause for its non-use, were it not supported by the lack of power of the body to utilize the proteid when thrown directly into the blood.

I have deemed these facts of sufficient importance to specifically emphasize them in connection with any study upon the interesting subject of nutritive infusions.

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Therapeutical Notes.

For Chronic Laryngitis.—*Progrès médical* for October 11th gives the following:

- R Extract of belladonna..... 0.03 grammes ($\frac{1}{2}$ grain);
Powdered alum... of each 0.35 grammes ($\frac{5}{4}$ grains).
White sugar.....
M. To be used for insufflation.

The Treatment of Lead Colic.—According to Dr. Albert Robin (*Journal des praticiens*, September 27th) the treatment of lead colic is a lost art. The old-time treatment of the Brothers of Charity has been forgotten, which is wrong. Senna is the best drug in these cases, being an evacuant which does not produce colic if the follicles are washed in alcohol to extract their irritant principle:

- R Senna pods (washed in alcohol)...20 grammes
(5 drachms);
Infuse for half an hour and add
Syrup of Rhamnus catharticus.... 30 grammes (1 ounce).
M. To be taken in small doses.

This treatment brings relief by copious stools. On the second day recourse is had to a milder aperient, for which cassia and manna may be recommended:

- R Cassia..... } of each 30 grammes (1 ounce).
Manna..... }
Infuse in half a litre (one pint) of boiling water. To be taken fasting.

On the third day recourse should be had to an enema with an electuary of the old pharmacopœias:

- R Electuary diaphœnix 15 grammes ($\frac{1}{2}$ ounce);
Warm water 300 grammes (10 ounces).
M.

[“Electuarium diaphœnicon: An electuary made by boiling 24 parts of pulp of dates with 60 of honey to the proper consistence, and incorporating the powders of 3 parts of Scammony, 4 of licorice-root, and 8 of turbit.”—*Foster's Encyclopædic Medical Dictionary*.]

This electuary may be taken from the second day by the mouth in place of the infusion of cassia and manna, if the colic is slight.

If the colic is very severe, on the other hand, the action of the infusion of cassia must be aided by adding to it tartrated antimony:

- R Cassia..... 30 grammes (1 ounce);
Tartrated antimony..... 0.05 gramme ($\frac{3}{4}$ grain);
Boiling water..... 300 grammes (10 ounces).
M.

This infusion, which should be taken by small sips will have both an emetic and a purgative effect.

According to the author, by this method the most intense lead colics may be very rapidly subdued.

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PROPRIETARY PREPARATIONS AND THE
MEDICAL JOURNALS.

For the last few years, concurrently with the astounding multiplication of proprietary medicinal preparations, the feeling has been growing among the reputable medical journals that attempts were often made to "work" them in the interest of certain manufacturers and importers of such preparations, and at the present time one of the most difficult of the problems that confront the managers of medical journals is that of dealing with articles in which these products are more or less lauded. So great is the difficulty that the *Lancet* was recently moved to express itself in the following words: "Our experience proves that it is becoming almost impossible to admit articles in the columns of the *Lancet* from the pens of general practitioners and others dealing with the results of their therapeutical investigations into the value of new preparations, because all the favorable passages will at once be pounced upon by the enterprising purveyor, perhaps garbled, almost certainly dissociated from their context, and scattered broadcast over the land. We are thus, perhaps, prevented, and by the very people who would profit by the publicity, from putting before our readers papers the practical value of which may be great. The public, the medical profession, and the purveyors alike suffer. The only way to remedy the position is not a satisfactory one, but it is one to which we must have recourse." Quoting the foregoing words from the *Lancet*, one of our Philadelphia contemporaries, *American Medicine*, remarks that the evil complained of is worse in our own country than in England. "It strikes us," says the Philadelphia journal, "that the chief sufferer is the manufacturer of good products who will not push them by dis-

honest methods. It is true that the honest manufacturer can trust to the profession righting him in time, but some means should be devised to prevent the dishonest from reaping possible immediate benefits. Are conditions reaching such a state that because of the abuses by certain advertisers all mention of proprietary preparations must be interdicted by reputable medical journals?"

It will be seen that neither of our contemporaries is quite satisfied with the position taken, regarding it perhaps as of the nature of a *modus vivendi*. The condition certainly is anomalous. On the one hand, the journal that rigidly bars out all mention of proprietaries runs the risk of withholding from its readers certain therapeutical information that would be of real value to them; on the other hand, the journal that admits articles recording good results attained with any new preparation of the sort lays itself open to the suspicion of having been influenced by the proprietor of the preparation or of having been duped by one of the multitudinous members of the profession who furnish "write-ups" for a consideration. There are some proprietary preparations that seem to have "won their spurs," so to speak—that is to say, they have come into general use and met with general approval. It is almost impossible to conduct a medical journal in disregard of such products, and it may be seriously questioned if it is wise to attempt to do so. But there is no sharp line of distinction between these preparations and those that, although possibly meritorious, have not yet stood the test of time and experience required to establish their true status. It is both unfair and useless to set up an arbitrary standard by which one may determine *a priori* whether a new preparation is "ethical" or not. To range the "definite chemical compound" invariably with the sheep, and the "mere mixture" with the goats, for example, is illusory; the "mere mixture" figures too conspicuously in our official formularies to justify us in any other conclusion.

To guard its own reputation, the medical journal must either pursue the *Lancet's* implied policy, admitted to be unsatisfactory, or else settle the question for itself in each individual instance as it comes up, and do so on principles which it may find difficulty in elucidating to the satisfaction of everybody concerned. On one point, we think, every fair-minded journal will agree with us, and that is that never

should an article be admitted with regard to which there is reasonable ground for suspecting collusion between the author and the proprietor of the preparation. We will go further and take the ground that whenever there is doubt on this point, the article had better be declined. At all events, our experience points in that direction; in a few instances, in common, we venture to say, with most of our contemporaries, we have regretted having given the author the benefit of the doubt, but we have never had occasion to regret the opposite decision. For a long time now, under proper circumstances, we have sent out printed "Hints to Contributors." One of the paragraphs of those hints reads as follows: "Manuscripts bearing the faintest semblance of having been prepared in the interest of any proprietary preparation, also those (whatever their intrinsic merits may be) that reach us through any trade channel, will invariably be declined. In case they are, by an oversight or on misinformation, accepted, their acceptance will be cancelled and their publication declined." Further than this it seems difficult to form any general rule, always excepting the plain but unsatisfactory one of rigid exclusion.

We have long felt that this whole question ought not to burden the journals solely or so predominantly as it does. It seems to us that the medical societies should bear their part of the onus. Far from doing so, they seem to have carried toleration to the point of dangerous laxity. Meetings of even the most dignified of our societies have at times not wholly escaped the suspicion of having been exploited by the touters for some medicinal or dietetic preparation, and it is certain that papers are often read before them which a reputable medical journal would hesitate to publish. The extreme censoriousness of twenty years ago appears to have given place to license, but it may not be too much to hope that the pendulum will ere long mark the happy medium.

THE MANIPULATIVE TREATMENT OF POST PARTUM HÆMORRHAGE.

No argument is needed at the present time, we fancy, to impress upon practitioners the general superiority of manual compression of the uterus to any other one measure in the attempt to check post partum hæmorrhage. It can be resorted to without loss of time, it requires no assistant, and it calls for

no appliances to be got ready at a juncture when every moment is precious. It acts, of course, in two different ways, by closing temporarily the mouths of the gaping uterine sinuses, thus gaining time for the uterus and the system at large to regain energy, and by stimulating the organ to contraction. All this is well understood and appreciated, but it may be conjectured that the manipulation founded on these considerations is not always carried out with the necessary regard for certain points of detail. This aspect of the matter was forcibly presented some time ago (*Gazette hebdomadaire de médecine et de chirurgie*, August 21st) by a writer who drew his inspiration from Dr. Jean Reure.

The chief points brought out may be summarized as follows: Pressure upon the anterior surface of the uterus, even if the fingers are hooked around its edges, is not always sufficient to accomplish the object in view, for the inertia may affect principally if not solely the posterior wall of the organ, and it is difficult to effect sufficient compression of that wall by forcing the organ back against the vertebral column without at the same time pressing it downward into the pelvis and thus, it may be, impeding the return circulation. Hence Reure points out the importance of passing the hand behind the uterus, carrying in the abdominal wall from a point as high as the umbilicus if necessary. Then the organ is pressed forward against the pubic bone or against the other hand applied in front of it above the pubes. And it is not always continuous pressure with the flat hand that will best answer the purpose, for with the hand we may not infrequently detect limited areas of the posterior wall that alone remain flaccid and require stimulation, which is best effected with the fingers acting independently of the palm, by a sort of kneading. Instead of depressing the uterus, it is best to raise it, and this can readily be done if the hands are carried low enough, down to or beyond the ring of Bandl.

Reure has an idea, although he admits that it is only an hypothesis, that, in addition to the direct effect of posterior pressure upon the uterus, the hand behind the organ may favor uterine contraction in a reflex way by irritating Frankenhauser's ganglion, from which numerous branches pass to the muscular tissue of the uterus. The utility of restricting the direct compression to any flaccid areas that may be found in the uterine wall he bases on the idea of

Schiff's idiomuscular local contraction, a contraction, that is to say, limited to the portion of a muscle that immediately receives a stimulus, a phenomenon most readily produced in a fatigued muscle, and the uterus after delivery is in a state analogous to that of a voluntary muscle that has been fatigued. These suggestions of Reure's seem to us well worth bearing in mind in the treatment of so grave and exigent a condition, as copious post partum hæmorrhage.

HOSPITAL PHYSICIANS DENIED THE RIGHT TO VOTE.

The superintendent of the Willard Parker Hospital for contagious diseases, five physicians, and two attendants attached to the institution were arrested in this city on the charge of illegal voting on Tuesday last, and held for trial under bail. No question was raised as to the good faith of the prisoners, the point being taken by the prosecution that under the law physicians resident in hospitals who receive compensation from the city are classed as paupers and not entitled to vote. We do not believe that there is any such law on the statute books, but if there is it is surely unconstitutional and should be wiped out at the next session of legislature. This incident but illustrates a deplorable tendency on the part not only of office holders but of the general public to assume that there are no such things as inviolable rights, that a legislature is all-powerful, and that legislative enactment is the final word regardless of the basic rights of the individual. This tendency is dangerous and should be checked. The liberty of the individual is the basis of all constitutional government, and just as soon as that liberty is infringed upon, whether under cover of law or otherwise, just so soon does a government become a despotism.

THE CONTROL OF SEX.

The frequency with which this subject crops up in the medical journals is testimony to its widespread interest, and various are the views that have been promulgated concerning it. Several experiments on horses, sheep, and cattle, which are reported by Dr. W. D. Turner, in the *Virginia Medical Semi-Monthly* for October 24th, are of great interest, the upshot of them being that when either parent is tired, depressed, and much below par relatively to its mate, the offspring will be of its own sex. This is only another way of expressing the idea that will be found on examination to underlie nearly all, if not all, the detailed methods recommended for the purpose of controlling sex, viz., that the offspring will be of the opposite sex to that of the parent that at the time of congress is most vigorous generally, and prob-

ably sexually. As to the various plans themselves, it seems quite possible that the solution of their untrustworthiness lies in the fact emphasized by Dr. J. A. Burnett, in the *St. Louis Medical Era* for October, that "all experimenters have seemed to think that sex was controlled by only one method, and this method was indicated in all conditions. It would be just as reasonable," he continues, "to try to cure all diseased conditions with only one drug as to try to control sex in all conditions by only one method." Some of the influences that he adduces as factors in the control of sex seem to us fanciful; but we can well understand that to the production of that relative sexual superiority to which we have referred as underlying all detailed theories, there are many possible contributory factors and, further, that probably none of them is indispensable.

THE REMOTE EFFECTS OF ASPHYXIA NEONATORUM.

Although probably not all obstetricians will quite agree with Dr. Jacobi that, as he expressed himself at the meeting of the National Association for the Study of Epilepsy and the Treatment and Cure of Epileptics on Wednesday of this week, a new-born child in a state of asphyxia is for the time being a greater claimant on the accoucheur than even the mother herself, every practitioner should take to heart the earnestness with which he declared that every moment's duration of the asphyxia would add to the danger of ulterior epilepsy or other grave trouble with the central nervous system. It behooves all physicians who practise midwifery to spare no pains to master the art of resuscitating asphyxiated infants as speedily as possible.

EXPLOSIVES AND RECKLESSNESS.

The terrible disaster in Madison Square on election day, resulting from the "accidental" explosion of firework bombs makes us wonder how long a much-suffering people will continue to tolerate the constant menace to life caused by reckless handling of explosives. It is bad enough to have to run the risk of some one's inevitable carelessness endangering life wholesale in engineering operations and from overstocked warehouses, when such explosives must be stored and handled, as we suppose they must to some degree at least, for legitimate industrial purposes. But there is no such excuse for the existence of the dangerous firework bombs at all, and to permit them to be massed together in a crowded city square was a piece of criminal culpability for which the right "someone" should suffer so severely as effectually to check altogether the use of such death dealing engines as toys, whether with or without the necessarily inadequate "precautions."

THE DOMESTIC ANIMALS AS SOURCES OF TYPHOID FEVER.

Inasmuch as the domestic animals are not subject to typhoid fever, it has been supposed that the disease could not be contracted by eating their flesh, but Levy and Jacobsthal (*Archiv für Hygiene*, xliv; *Berliner klinische Wochenschrift*, September 15th) have recently found the typhoid bacillus in the splenic and hepatic abscesses of a slaughtered cow, and they conclude that, although the domestic animals do not show the lesions of the disease, they may convey it to man. This, they think, may be held to account for the occasional observation of epidemics of supposed meat poisoning pursuing a course not distinguishable from that of typhoid fever

THE ANTITOXINE TREATMENT OF TETANUS

The treatment of tetanus with antitoxine cannot yet be said to have reached a very promising stage. Ulbrich (*Mittheilungen aus den Grenzgebieten der Medicin und Chirurgie*, x. 1, 2; *Centralblatt für Chirurgie*, October 4th) reports nine cases. Four of them were treated early, within thirty hours of the recognition of the first symptoms, but in not one of them was the fatal result averted or the severity of the convulsions observably mitigated. In two cases the injections were given first on the third or fourth day of the disease. One ended in death, and the other in recovery. Finally, in three cases in which either the serum was not used at all or it was first resorted to so late as on the eleventh day, the result was favorable in two and fatal in one. *Prima facie* it would seem from this that no harm should result from postponing the serum treatment, and even that there might be some advantage in so doing, but the author points out the fallaciousness of such an inference by the remark that it is in the mild cases that the treatment is least apt to be resorted to early.

PARAFFIN INJECTIONS IN THE TREATMENT OF ATROPHIC RHINITIS.

The profession has of late years been made familiar with the morbid conditions attributed to restriction of the breathing space through the nose. On the other hand, the idea has been broached that unusual spaciousness of the nasal passages predisposes to *ozena*. Acting on this theory, A. Brindel (*Revue hebdomadaire de laryngologie, d'otologie et de rhinologie*, 1902, No. 25; *Centralblatt für Chirurgie*, September 27th) has treated nine cases of *ozena* with atrophy and one complicated with empyema of the maxillary antrum by injecting paraffin into the tissues, and reports that the results have been favorable.

News Items.

Society Meetings for the Coming Week:

MONDAY, November 10.—New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); German Medical Society of the City of New York; New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Harlem Medical Association of the City of New York; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club (annual); Norwalk, Conn., Medical Society (private).

TUESDAY, November 11th.—Southern Surgical and Gynecological Association (first day Cincinnati); New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Rome, N. Y., Medical Society; Medical Society of the County of Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioner's Club, Richmond, Ky.; Richmond, Va., Academy of Medicine and Surgery.

WEDNESDAY, November 12th.—Southern Surgical and Gynecological Association (second day); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (charity) Hospital; Society for Medical Progress, New York; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society.

THURSDAY, November 13th.—Southern Surgical and Gynecological Association (third day); Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia; Church Hill Medical Society of Richmond, Va.

FRIDAY, November 14th.—New York Academy of Medicine (Section in Neurology); Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

The Columbus, Ohio, State Hospital.—Dr. George Stockton, first assistant physician, has been elected to succeed the late Dr. Eugene G. Carpenter as chief physician.

A Low Death Rate in Brooklyn.—The death rate in Brooklyn during the week ending October 20th was only 13.9 per thousand, the lowest rate that has been recorded for many years past.

Parisian Police and First Aid Work.—The police authorities of Paris have decided to organize an ambulance corps, and the project of giving instructions to the police in first aid to the injured is under discussion.

Secretary of the Michigan Board of Health.—At a special meeting of the Michigan Board of Health, held on October 25th, Will O. Brown was elected secretary, and at once entered upon the discharge of the duties of the office.

St. Louis Medical Society of Missouri.—On November 1st a meeting was held devoted to the discussion of the St. Louis water supply. Eight applications for membership were favorably acted upon.

The Body Snatching in Indiana.—The *Journal médical de Bruxelles* for October 16th cites the *Etoile Belge* as authority for the statement that more than a thousand graves have been violated in Indianapolis in the last three months!

Firemen Instructed in Aid for Injured.—A series of lectures and demonstration on emergency treatment for the injured has been inaugurated in one of the medical schools in Chicago for the benefit of the city firemen, who attend in classes of fifty.

The Philadelphia Medico-Legal Society celebrated its twentieth anniversary at Columbia Hall in that city on Tuesday evening, November 4th. Dr. George F. Stubbs delivered an historical address and toasts were responded to by Dr. Thomas H. Fenton, Dr. William H. Welch and others.

A Russian Medical Review in German.—Under the title of the *Russische Medicinische Rundschau* a monthly periodical has been established in Berlin which will be devoted to the publication in German of the leading articles which appear in the Russian medical press.

An Anti-Mosquito Campaign in Corsica has brought about a great improvement as regards the prevalence of malarial fevers there. According to Dr. Laveran, who has recently visited the island, a society has been formed at Bastia for carrying out the sanitary measures suggested by the Academy of Medicine.

To Reorganize the Hospitals of Paris.—According to press cable despatches the prefect of the Seine has laid before the municipal council of Paris a project for reorganizing the hospitals of Paris involving the expenditure of \$16,800,000. Of this sum only a million dollars will be needed to begin on.

Christian Scientists Charged with Manslaughter.—The Grand Jury of Westchester County has brought in a bill charging John and Georgiana Quimby, the parents of Esther Quimby, and Carroll Lathrop, the Christian Science "healer," of New York, who attended the child Esther during her fatal illness, with manslaughter in the second degree.

The New York Academy of Medicine celebrated the fifty-fifth anniversary of its foundation on November 6th. Dr. Andrew H. Smith delivered an address, reviewing the history of the Academy, which will appear in a later issue. Major W. C. Gorgas, United States Army, late chief surgeon at Havana, delivered an address on yellow fever, and Dr. Ross spoke on the same subject.

Openings in the New York State Service.—A general examination will be held on November 29th by the New York State Civil Service Commission to fill vacancies as third grade physician (including junior physician), woman physician and bacteriologist. Persons desiring to enter these examinations must file applications in the office of the State Civil Service Commission in Albany before noon of November 24th.

Decrease in the Number of Medical Students in Germany.—According to the official records the number of medical students in attendance at the German universities last year was smaller than in the preceding year. This is the first time in many years that such a condition has existed. The number of medical students doubled within ten years, having risen from 4,017 in 1880 to 8,274 in 1890, but declined to 7,433 in 1900.

The Milk Ordinance Attacked.—Suit has been brought to determine whether or not the Health Board ordinance, compelling milk dealers to secure a permit before they can sell milk in this city, is or is not unconstitutional. The suit is in the shape of habeas corpus proceedings instituted on behalf of Simon Lieberman, a milk dealer, who had been arrested on a charge of violating the ordinance in question.

The Queens-Nassau Medical Society held its semi-annual meeting at Jamaica on October 29th under the presidency of Dr. Louis N. Lanehart. Dr. Henry A. Alderton, of Brooklyn, read a paper on "Tonsilitis, Its Diagnosis and Treatment," and Dr. F. T. Delano, of Rockville Centre, read a paper on "Aseptic Midwifery in General Practice." Dr. J. F. Bloodgood and Dr. Benjamin Wood, of Flushing, and Dr. A. C. Griffin, of Whitestone, were elected to membership.

Tuberculosis in the Philadelphia Almshouse.—Dr. Daniel E. Hughes, chief resident physician at the Philadelphia Almshouse, at Blockley, died recently of tuberculosis contracted in the discharge of his duties. His death has attracted public attention to the unsanitary conditions prevailing in the almshouse, and an active agitation has been set on foot looking toward the improvement of the sanitary conditions both in that institution and in the Philadelphia hospital, which, like the Blockley almshouse, is a very old institution.

Dr. Adolf Lorenz is now expected to arrive in this city about December 1st, his plans having been changed since the note was written, which appeared in our columns last week. Before arriving here it is expected that Dr. Lorenz will return to Chicago from the Pacific Coast by way of New Orleans and St. Louis, and spend about a week there, and will then visit Cincinnati, Washington and Philadelphia. It is stated that he will give clinics in this city only with Dr. Virgil P. Gibney and Dr. Newton M. Shaffer.

Professor Kraus Successor to Professor Gerhardt.—Professor Friederich Kraus, of Graz, Austria, who has been appointed to succeed the late Professor Gerhardt in the chair of clinical medicine at Berlin, is a native of Bohemia and is forty-four years of age. He studied at Prague and Vienna, acted as assistant to Professor Kahler and in 1893 was appointed professor extraordinary at Vienna University, receiving the appointment of a full professorship at Graz the following year. Professor Kraus is unusually young to be entrusted with the full professorship in the medical faculty of Berlin, and is the first Austrian to serve in that capacity for nearly a hundred years.

The Medical Association of the Greater City of New York will hold a meeting at the Academy of Medicine, on Monday evening, November 10th. A paper on "The Treatment of Ordinary Forms of Loss of Hair" will be read by Dr. R. A. Sands. The subject will be discussed by Dr. George H. Fox, Dr. Edward B. Bronson and others. Dr. Henry Illoway will read a paper on "The Prophylaxis of Appendicitis," which will be discussed by Dr. Egbert H. Le Fevre, Dr. Robert T. Morris, Dr. Sinclair Tousey and others.

Damages Claimed for X-Ray Burns.—George Durst, of Queens County, has brought suit in the Supreme Court of Queens County against Professor Samuel Lloyd, of the Postgraduate Hospital, for damages in the sum of \$50,000. Durst was operated on by the defendant for appendicitis, being previously examined by means of x-rays. He charges that while under the x-rays he was so badly burned that he still suffers very seriously. The defense claims that dermatitis from which the patient suffers is due to an antiseptic preparation and not to the x-rays as charged. A suit is also being tried in the New York County Supreme Court to recover damages in a similar case.

A Vaccinator Honorably Discharged.—Last spring Dr. E. R. Bedford, acting under orders from the Board of Health, vaccinated a number of children in Public School No. 44. A warrant was secured for the arrest of Dr. Bedford and the principal of the school, William McAndrews, on a charge of assault in the third degree, in having vaccinated a child without the consent of the parents. The school principal was discharged, but the vaccinator was held, and the case came up recently when, at the instance of the assistant district attorney, the physician was honorably discharged, the prosecutor stating that the charge should never have been made.

An Engagement for a Nurse Revocable.—It has recently been decided in an English court that an engagement for a monthly nurse to attend a woman in confinement is revocable. In the case in question the nurse was engaged in May for the month of August, but the engagement was cancelled in June. Suit was brought on the ground that this engagement having been made for the month of August precluded the nurse from making any other engagement for that time. This decision is in line with similar decisions made regarding the engagement of physicians, but works a greater hardship to the nurse than to the physician under the same circumstances, since a physician can make other engagements whereas the nurse is precluded from doing this.

Changes at Bellevue.—Dr. George Taylor Stewart, formerly superintendent of Bellevue Hospital, has been made departmental superintendent of the allied hospitals under control of the Board of Trustees. Michael J. Rickard, formerly deputy under Dr. Stewart, has been appointed superintendent in complete charge of Bellevue Hospital, the position occupied by him prior to the appointment of Dr. Stewart. Dr. Stewart was formerly superin-

tendent of the Metropolitan Hospital on Blackwell's Island. He will now have under his control, Gouverneur, Fordham and Harlem hospitals. Several changes in the interior arrangements of Bellevue Hospital have been made, and the pay of the stretcher carriers, orderlies and helpers of the lower class has been increased.

A Dinner to Dr. Keen and Dr. Wood.—On Thursday evening a dinner was given to Dr. W. W. Keen, professor of surgery at the Jefferson Medical College, and Dr. Horatio C. Wood, professor of therapeutics in the Department of Medicine, University of Pennsylvania. Both these physicians have been absent for a long time on a foreign tour, and the dinner had been arranged by their professional friends to welcome them on their return. The committee in charge of the arrangements consisted of Dr. Hobart A. Hare, Dr. William Osler, Dr. H. W. Stelwagon, Dr. F. X. Dercum, Dr. John H. Musser, Dr. G. E. De Schweinitz, Dr. J. Chalmers De Costa and Dr. Alfred Stengel.

The Franklin, Pa., County Medical Society held its seventy-seventh annual and quarterly meeting at Chambersburg on Tuesday, October 14, when the following officers were elected for the ensuing year: President, Dr. A. Burr Snively, of Waynesboro; vice-presidents, Dr. Burns Anderson, of Waynesboro, and Dr. Oliver P. Story, of Roxbury; recording secretary, Dr. John J. Coffman, of Scotland; corresponding secretary, Dr. H. Clay Devilbiss, of Chambersburg; treasurer, Dr. David Maclay, of Chambersburg; censor, Dr. Theodore H. Weagley, of Marion. Dr. Charles F. Palmer, of Chambersburg, read a paper, "The Relation of the World of Physic to the World at Large," and Dr. Robert W. Ramsey, of Chambersburg, read a paper entitled "Medical Timber."

Bubonic Plague in Japan.—The efficacy of the measures taken to stamp out the bubonic plague, which was discovered in Yokohama on the 6th inst., is demonstrated by the fact that up to October 18 only five cases have occurred. After the first case had been authenticated a military cordon was established around the whole district involved. When the residents of that district, several blocks in area, awoke the next morning they found themselves walled in by a substantial board fence, eight feet high, closely guarded. A price was set on rats, and up to the present time some 2,000 have been destroyed in the quarantined quarter. Not content with cutting off this district, however, the authorities determined to remove its population bodily and began to build accommodations at Kanagawa Fort, an elevated point across the bay from Yokohama. Temporary buildings have now been run up and the first installment of 360 people taken there. Their houses in town will probably be burned. In the infected district is the office of the Toyo Kaisen Kaisha Steamship Company, which is somewhat inconvenienced by the quarantine, but the other houses, 162 in all, were mainly of the ordinary Japanese unsubstantial type, interspersed with wickware houses. The government undertakes the support of all the 1,240 people in the quarantined district. The expense of this for the twenty days considered neces-

sary is placed at \$20,000. The greatest precaution is taken to prevent the spread of the disease to other towns. The population is forbidden to walk barefooted, and innocent offenders in this respect are stopped and warned by the police. Passengers by the local trains are subjected to health inspection.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending November 1, 1902:

DISEASES.	Week end'g Oct. 25		Week end'g Nov. 1	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	154	24	126	31
Scarlet fever.....	118	8	129	7
Cerebro-spinal meningitis.....	0	0	0	1
Measles.....	53	3	60	1
Diphtheria and Croup.....	285	32	326	26
Small-pox.....	3	0	1	1
Tuberculosis.....	212	143	229	136

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending November 1, 1902:

Smallpox—United States.

California....	San Francisco....	Oct. 12-19.....	3 cases.	
Illinois.....	Chicago.....	Oct. 18-25.....	7 cases.	
Indiana.....	South Bend.....	Oct. 18-25.....	1 case.	
Maine.....	Biddeford.....	Oct. 18-25.....	2 cases.	
Massachusetts.....	Cambridge.....	Oct. 18-25.....	2 cases.	
"	Malden.....	Oct. 18-25.....	1 case.	
"	Marlboro.....	Oct. 18-25.....	1 case.	
N. Hampshire.....	Manchester.....	Oct. 18-25.....	1 case.	
New York.....	Nashua.....	Oct. 18-25.....	18 cases.	
"	New York.....	Oct. 18-25.....	3 cases.	
Ohio.....	Cincinnati.....	Oct. 18-24.....	4 cases.	
"	Cleveland.....	Oct. 18-25.....	24 cases.	7 deaths.
"	Youngstown.....	Oct. 18-25.....	4 cases.	
Pennsylvania.....	Erie.....	Oct. 18-25.....	7 cases.	
"	Johnstown.....	Oct. 18-25.....	6 cases.	
"	McKeesport.....	Oct. 18-25.....	7 cases.	
"	Pittsburg.....	Oct. 18-25.....	43 cases.	4 deaths.
Utah.....	Salt Lake City.....	Oct. 18-25.....	6 cases.	
Wisconsin.....	Milwaukee.....	Oct. 18-25.....	22 cases.	

Smallpox—Foreign.

Barbadoes....		Sept. 28-Oct. 13.....	290 cases.	11 deaths.
Canada.....	Quebec.....	Oct. 11-18.....	2 cases.	
Ecuador.....	Guayaquil.....	Oct. 4-11.....	1 case.	4 deaths.
France.....	Rhems.....	Oct. 12-19.....	1 case.	
Gibraltar.....		Oct. 5-12.....	1 case.	
Gt. Britain.....	Bristol.....	Oct. 4-11.....	1 case.	
"	Edinburgh.....	Sept. 27-Oct. 4.....	2 cases.	
"	Liverpool.....	Oct. 4-11.....	5 cases.	1 death.
"	London.....	Oct. 4-11.....	2 cases.	
"	Manchester.....	Sept. 27-Oct. 4.....	1 case.	
India.....	Bombay.....	Sept. 23-30.....	1 death.	
"	Madras.....	Sept. 13-19.....	1 death.	
Italy.....	Naples.....	Oct. 6-13.....	4 cases.	
"	Palermo.....	Sept. 27-Oct. 11.....	9 cases.	3 deaths.
Russia.....	Moscow.....	Sept. 27-Oct. 4.....	1 case.	1 death.
"	St. Petersburg.....	Sept. 27-Oct. 4.....	5 cases.	3 deaths.

Yellow Fever.

Colombia.....	Panama.....	Oct. 13-20.....	7 cases.	1 death.
Costa Rica.....	Port Limon.....	Oct. 16-23.....	1 case.	
Ecuador.....	Guayaquil.....	Oct. 11-19.....	2 deaths.	
Mexico.....	Mexico.....	Oct. 12-19.....	1 death.	
"	Tuxpam.....	Oct. 14-21.....	1 death.	
"	Vera-Cruz.....	Oct. 18-25.....	10 cases.	3 deaths.

Cholera.

China.....	New Chwang.....	Aug. 31-Sept. 13.....	68 cases.	64 deaths.
Egypt.....	Alexandria.....	Oct. 12-18.....	705 cases.	636 deaths.
"	Bombay.....	Sept. 27-Oct. 4.....	129 cases.	120 deaths.
India.....	Bombay.....	Sept. 23-30.....	1 death.	
"	Calcutta.....	Sept. 20-27.....	11 deaths.	
"	Madras.....	Sept. 13-19.....	1 death.	

Plague—United States.

California.....	San Francisco.....	Oct. 11.....	1 case.	1 death.
"	"	Oct. 16.....	1 case.	1 death.

Plague—Insular.

Hawaii.....	Honolulu.....	Oct. 16.....	1 death.
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Plague—Foreign.

India.....	Bombay.....	Sept. 23-30.....	76 deaths.
"	Calcutta.....	Sept. 20-27.....	13 deaths.
"	Karachi.....	Sept. 21-28.....	21 cases. 18 deaths.

Public Health and Marine-Hospital Service:

Official list of the Changes of Station and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine Hospital Service for the Seven Days ending October 30, 1902:

GEDDINGS, H. D., Assistant Surgeon General. Detailed to represent the service at the meeting of the Association of State and Provincial Health Officers at New Haven, Conn., October 28-29.

McINTOSH, W. P., Surgeon. Granted leave of absence for fifteen days from November 1.

ANDERSON, J. F., Assistant Surgeon. Detailed as Assistant Director of the Hygienic Laboratory.

HEISER, V. G., Assistant Surgeon. To proceed to Washington, D. C., for duty.

RAMUS, CARL, Assistant Surgeon. Granted fifteen days' extension of leave of absence from October 25.

McLAUGHLIN, A. J., Assistant Surgeon. Relieved from duty in the Hygienic Laboratory and directed to proceed to New York, N. Y. (Stapleton), and report to Medical Officer in Command for duty and assignment to quarters.

ALEXANDER, E., Acting Assistant Surgeon. Granted leave of absence for five days from November 1.

FORD, C. B., Acting Assistant Surgeon. Granted leave of absence for fifteen days from October 18, 1902, on account of sickness.

HARGRAVE, E. T., Acting Assistant Surgeon. Granted leave of absence for thirty days from October 12.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the Two Weeks ending November 1, 1902:

Medical Officers ordered to report at the Army Medical Museum Building, Washington, D. C., to Colonel CALVIN DE WITT, Assistant Surgeon General U. S. Army, president of the faculty of the Army Medical School for the course of instruction prescribed by paragraphs 542 and 543, Army Regulation 1901, viz.:

GRISSINGER, JAY W., First Lieutenant and Assistant Surgeon.

GILCHRIST, HARRY L., First Lieutenant and Assistant Surgeon.

GOSMAN, GEORGE H. R., First Lieutenant and Assistant Surgeon.

KIRBY-SMITH, RAYNOLD M., First Lieutenant and Assistant Surgeon.

MONCREIF, WILLIAM H., First Lieutenant and Assistant Surgeon.

COLLINS, GEORGE L., First Lieutenant and Assistant Surgeon.

GAPEN, NELSON, First Lieutenant and Assistant Surgeon.

DAVIS, WILLIAM T., First Lieutenant and Assistant Surgeon.

MORSE, CHARLES T., First Lieutenant and Assistant Surgeon.

LAMBERT, SAMUEL E., First Lieutenant and Assistant Surgeon.

HANSELL, HAYWOOD S., First Lieutenant and Assistant Surgeon.

GREGORY, JUNIUS C., First Lieutenant and Assistant Surgeon.

CONNOR, CLARENCE H., First Lieutenant and Assistant Surgeon.

PYLES, WILL L., First Lieutenant and Assistant Surgeon.

DEVELIN, N. THOMAS, First Lieutenant and Assistant Surgeon.
 SMART, WILLIAM M., First Lieutenant and Assistant Surgeon.
 PIERSON, ROBERT H., First Lieutenant and Assistant Surgeon.
 SNODDY, CARY A., First Lieutenant and Assistant Surgeon.
 PURNELL, HARRY S., First Lieutenant and Assistant Surgeon.
 BLANCHARD, ROBERT M., First Lieutenant and Assistant Surgeon.
 BOURKE, JAMES, First Lieutenant and Assistant Surgeon.
 DE LAFFRE, SAMUEL M., First Lieutenant and Assistant Surgeon.
 DUNCAN, LOUIS C., First Lieutenant and Assistant Surgeon.
 TALBOT, EDWARD M., First Lieutenant and Assistant Surgeon.
 CLARK, JOHN A., First Lieutenant and Assistant Surgeon.
 MORRIS, SAMUEL J., First Lieutenant and Assistant Surgeon.
 BARRON, NOEL I., First Lieutenant and Assistant Surgeon.
 COFFIN, J. MORGAN, First Lieutenant and Assistant Surgeon.
 HANNER, JOHN W., First Lieutenant and Assistant Surgeon.
 HATHAWAY, LEVY M., First Lieutenant and Assistant Surgeon.
 MURRAY, ALEXANDER, First Lieutenant and Assistant Surgeon.
 HUNTINGTON, PHILIP W., First Lieutenant and Assistant Surgeon.
 CARROLL, JAMES, First Lieutenant and Assistant Surgeon.
 FIFE, JAMES D., First Lieutenant and Assistant Surgeon.
 POWELL, WILLIAM A., First Lieutenant and Assistant Surgeon.
 LE WALT, LEON T., First Lieutenant and Assistant Surgeon.
 HARRIS, JESSE R., First Lieutenant and Assistant Surgeon.
 SCOTT, GEORGE H., First Lieutenant and Assistant Surgeon.
 KILBOURNE, EDWIN D., First Lieutenant and Assistant Surgeon.
 CARSWELL, ROBERT L., First Lieutenant and Assistant Surgeon.
 DAVIS, WILLIAM B., Major and Surgeon, granted three months' leave of absence.
 RHOADS, T. L., First Lieutenant and Assistant Surgeon, granted leave of absence for one month.
 USHER, FRANCIS M. C., First Lieutenant and Assistant Surgeon, granted leave of absence for one month.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy, for the week ending November 1, 1902:

GROVE, W. B., Passed Assistant Surgeon. Detached from the *San Francisco* and ordered to the *Prairie*, for duty with the marine battalion aboard that vessel.
 STUART, A., Assistant Surgeon. Ordered to duty at the naval hospital, Navy Yard, New York, N. Y.
 RODMAN, S. S., Assistant Surgeon. Detached from the *Alert*, and, when discharged from treatment at the naval hospital, Mare Island, Cal., ordered home and granted sick leave for two months.
 GORDON, F. T., Pharmacist. Detached from the *Wabash* and ordered to the naval hospital, Boston, Mass., for treatment.
 AMES, H. E., Surgeon. Ordered to the *Texas*.
 PAGE, J. E., Passed Assistant Surgeon. Detached from recruiting duty and ordered to the *Newark*.
 BALCH, A. W., Assistant Surgeon. Detached from the *Monongahela* and ordered to the *Machias*.
 DE LANCY, C. H., Assistant Surgeon. Detached from the *Buffalo* and ordered to recruiting duty with Ensign D. C. Hanrahan at Knoxville, Tenn.

Births, Marriages, and Deaths.

Born.

MILlicAN.—In New York, on Monday, November 3, 1902, to Dr. and Mrs. Kenneth W. Millican, a daughter.

Married.

BAILEY—FOOS.—In New York, on Saturday, November 1st, Dr. Edmund S. Bailey and Miss Alice Van Benschoten Foos.

CADWALLADER—BIDDLE.—In Philadelphia, on Wednesday, October 29th, Dr. William Biddle Cadwallader and Miss Mildred Lee Biddle.

COLBY—FULLER.—In Brooklyn, on Thursday, October 30th, Dr. George Warkington Colby and Miss Anne Henrietta Fuller.

DAVIS—CROWNSHIELD.—In Marblehead, Massachusetts, on Tuesday, October 28th, Dr. Lincoln Davis and Miss Katharine Crownshield.

DAWSON—MACHER.—In Baltimore, on Thursday, October 30th, Dr. Edward B. Dawson, of New York, and Miss Mabel S. Macher.

ELLIS—HARWOOD.—In Kansas City, Missouri, on Monday, October 20th, Dr. Sidney Allen Ellis, of Boston, and Miss Irene Harwood.

HAWKES—KNIFE.—In Philadelphia, on Tuesday, October 28th, Dr. Edwin G. Hawkes and Miss Mary M. Knipe.

HUTCHINSON—SMITH.—In Brooklyn, N. Y., on Thursday, October 30th, Dr. Charles Xavier Hutchinson, of New Jersey, and Miss Laura Smith.

SHEPARD—THOMPSON.—In Beloit, Wisconsin, on Wednesday, October 22d, Dr. John Shephard and Miss Hulda Thompson.

VAN EMAN—PULLMAN.—In Kansas City, Missouri, on Wednesday, October 22d, Dr. Frederick Taylor Van Eman and Miss Edith May Pullman.

WILLIAMS—LASSITER.—In Petersburg, Virginia, Dr. Ennion G. Williams, of Richmond, and Miss Anna Lassiter.

WUNDER—VAN DOHLEN.—In Brooklyn, N. Y., on Tuesday, October 28th, Dr. Charles Whitwell Wunder, of Philadelphia, and Miss Anita Van Dohlen.

Died.

ABELS.—In Cleveland, Ohio, on Sunday, October 26th, Dr. Charles W. Abels, in the thirty-first year of his age.

BAUSMAN.—In Chicago, on Tuesday, October 21st, Dr. Andrew B. Bausman, in the forty-ninth year of his age.

BAXTER.—In Chicago, on Saturday, October 25th, Dr. Andrew James Baxter, in the sixty-sixth year of his age.

BELL.—In Washington, D. C., on Wednesday, October 29th, Dr. David Charles Bell.

HOWARD.—In St. Louis, Missouri, on Friday, October 24th, Dr. John Henry Howard, of Fulton, Missouri, in the seventy-fifth year of his age.

MASSON.—In Paris, France, Dr. Luc Hyacinthe Francois Joseph Masson, of Montreal, Canada, in the thirty-fourth year of his age.

MCPHERSON.—In Palm Beach, Florida, on Wednesday, October 29th, Dr. Leo Edward Vincent McPherson, in the thirty-seventh year of his age.

MURPHY.—In San Francisco, California, on Tuesday, October 21st, Dr. Robert W. Murphy, in the twenty-eighth year of his age.

PACKARD.—In Philadelphia, on Saturday, November 1st, Dr. Frederick A. Packard, in the fortieth year of his age.

RAWSON.—In New York City, on Saturday, November 1st, Dr. Albert Leighton Rawson, in the seventy-fourth year of his age.

STOUT.—In Syracuse, N. Y., on Wednesday, October 29th, Dr. Oscar Cole Stout, in the fifty-ninth year of his age.

VAN ALLEN.—In Albany, N. Y., on Tuesday, October 28th, Dr. T. F. C. Van Allen, in the forty-first year of his age.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Treatment of Tetanus.—M. Vallas (*Gazette hebdomadaire de médecine et de chirurgie*, October 5th), in an elaborate review, concludes that serum therapy possesses a certain prophylactic action if it is systematically applied. Unfortunately, the disease is so rare, that the serum is rarely used in time in suspicious cases, or in cases in which eventually tetanus develops. When the disease has developed, serum therapy constitutes a valuable resource. In cases with a slow course, while it may not actually be curative, it may aid the organism in its efforts toward recovery. The intravenous and subcutaneous methods are the preferable ways of introducing the serum, the cerebral and subarachnoid methods being useless and dangerous.

Chloral and phenic acid are helpful in combating the seizures, but they must be considered solely as auxiliaries to be used in combination with the serum. Other methods of treatment are still *sub judice*. As far as surgical treatment is concerned, antiseptic of the wound is all that can be accomplished.

The Treatment of Atonic Dilatation of the Stomach by Means of High-Frequency Currents. By Dr. A. Crombie and T. J. Bokenham, M. R. C. S. (*Lancet*, October 18th).—The authors report a series of seventeen cases of atonic dilatation of the stomach, in which the use of rapid oscillatory currents of high voltage was followed by the most satisfactory and gratifying results. They were able conclusively to demonstrate that the primary effect of the treatment is to reduce the size of the stomach. The only effect of the high-frequency applications is to give tone directly, or indirectly through the vagus, to the unstriated fibres constituting the muscular walls of the stomach, which enables them to contract and diminish the size of the organ. The apparatus employed consisted of a Rhumkorf coil, the secondary wires of which led to the inner coats of two large Leyden jars, furnished with adjustable discharges after the plan of d'Arsonval. From the outer coats of the jars one wire led to earth, the other to the lower coils of an Oudin's resonator. The current for the treatment was obtained from one of the upper coils of the resonator, and it was a very rapidly surging alternating current of high voltage. The current was applied daily by means of either a unipolar brush electrode, a glass or ebonite "condenser" electrode, or a moistened plate electrode of sheet lead and large size. The amount of fluid taken with meals was reduced to a minimum, and articles of diet difficult of digestion forbidden—a "dry diet" in fact. In some cases this diet had been given for six months previous to the beginning of electrical treatment with but slight benefit.

Notes on a New System of Treatment in Pulmonary Phthisis. By D. Turner, M. R. C. P. (*Lancet*, October 18th).—The author's system of treatment consists in the external application of cod liver oil and creasote, together with electricity and massage. The patient after being hardened by repeated cold spongings for several days, lies on a couch all clothing being removed. The body is first sponged with a weak solution of sodium bicarbonate,

and then the oil solution is thoroughly rubbed in all over the trunk, the process taking a quarter of an hour. The solution employed consists of a mixture of four drachms of creasote or guaiacol, one drachm of oil of citronelle, and cod liver oil to make up four ounces. The author cites four cases treated by this method, in all of which marked improvement took place.

Pure Urea in the Treatment of Tuberculosis.

By Dr. H. Harper (*British Medical Journal*, October 18th).—The author again calls attention to his mode of treatment of tuberculosis by means of the administration of pure urea, founded on the theory that gout and its allied diseases are antagonistic to the tubercle bacillus, nitrogen being the protecting agent. He gives a table of forty cases of various forms of tuberculosis treated by urea, in all of which the greatest benefit ensued, complete recovery taking place in many. Only pure urea can be given, starting with twenty-grain doses and gradually increasing up to eighty or a hundred grains, three times daily between meals, dissolved in peppermint water. In conclusion the author directs attention to the three following facts: (1) Three per cent. of pure urea added to a virulent culture of tubercle bacillus in the incubator not only inhibits growth but kills the bacillus. (2) In cases of mixed infection calcium sulphide should be given with the urea, the drug being a valuable remedy in all staphylococcus infections. (3) In proportion as the author has increased the nitrogen in tuberculosis, the death-rate has lessened.

A Contribution to the Study of Nephritis in Smallpox Based Upon an Analysis of Urine in One Hundred and Twenty-eight Cases.

—Dr. William M. Welch, and Dr. Jay F. Schamberg (*Philadelphia Medical Journal*, November 1st) find as follows: (1) Albuminuria is more common in smallpox than is generally supposed, being present in 65 per cent. of the cases examined. The fact that tube casts were found in 45 per cent. of the cases warrants the assertion that the albuminuria in most cases is the expression of structural changes in the kidneys. (2) Cases of discrete variola and well-marked varioloid have, in the author's experience, been accompanied by nephritis almost as often as cases with more profuse eruptions. This would suggest that the kidney involvement is the result of the influence of the smallpox poison. (3) The daily fluctuation in the presence of the abnormal urinary constituents necessitates repeated examinations, in order to avoid misleading results. Microscopical examinations of the sediment will frequently reveal the presence of tube casts when albumin is not present in quantities not demonstrable by the ordinary tests. (4) The clinical symptoms of variolous nephritis are, as a rule, mild, and by no means so obvious as those observed in scarlatinal nephritis. (5) Arnaud's investigation demonstrates that albumin may persist in the urine in minute quantities after convalescence from smallpox. This occurred in 75 per cent. of his cases. The histological examination of the kidney would indicate that this minimal albuminuria represents interstitial changes in the kidney. (6) If it is true that the albuminuria accompanying infectious diseases is, in large part, the expression of a structural change in the kidney; is it not probable that the

damage thus done may, if unrecognized and uncared for, insidiously result in chronic Bright's disease? (7) The practical lesson which is contained in this proposition is that the urine of patients convalescent from infectious diseases should be carefully and repeatedly examined and the diet and mode of life of the patient be regulated accordingly.

SURGERY AND ANATOMY.

Treatment of Scoliosis in Adolescents.—M. Baqué (*Presse médicale*, October 4th) says that active and passive exercises, massage and electricity are the measures of treatment when the deformity is easily reducible and can be maintained, that is when, through his own ability, the patient can hold the vertebral column in good position. On the other hand, plaster jackets must be employed when the deformity is fixed or if powerful external force or redressment is necessary to retain the correct position. The corset, however, must be used only to teach the patient the habit of maintaining a good position, not for the purpose of exerting pressure. Simultaneously, suitable gymnastics must be included in.

Cancer of the Œsophagus Without Obstruction. By Dr. J. G. Emanuel (*Lancet*, October 18th).—The author describes six cases of cancer of the Œsophagus, in all of which the commonest symptom of the affection, dysphagia, was either altogether absent or obscured by other more prominent symptoms. In three cases the patients sought relief because of laryngeal disturbances (aphonia or hoarseness); in one, because of shortness of breath and cough; in one because of hæmoptysis; and in only one because of vomiting, apparently due to a simple gastritis. Where there was difficulty of swallowing, it was not due to stenosis of the Œsophagus, but to reflex spasms of coughing caused by perforation of the growth into the trachea or lung. This "cough immediately after swallowing" is very important and characteristic, and signifies a connection between the Œsophagus and air passages. When this symptom is present patients should be fed through a tube, by nutrient enemata, or by means of a gastrostomy, in order to prevent inhalation bronchopneumonia. In all the cases but one, the disease was situated mainly in the anterior wall of the Œsophagus. In three cases death was due to inhalation of food into the air passages, in two cases to pneumothorax, and in one case to hæmorrhage into the left bronchus. The frequency with which laryngeal paralysis forms an early symptom of Œsophageal growth was well illustrated by the fact that it was present in three cases. No laryngoscopic examination was made in the other three, but in all three the recurrent laryngeals were found at the post-mortem to be involved. Five of the cases were in men between the ages of fifty-one and fifty-five years, and only one in a woman aged thirty-three years. As in no case was there evidence of Œsophageal stenosis during life, so at the necropsies there was entire absence of any dilatation and hypertrophy of the Œsophagus above the growth.

Some Morbid Conditions of the Mouth. By E. W. Roughton, F. R. C. S. (*Lancet*, October 18th, Lecture II).—It has long been known that saliva possesses toxic properties, due to the presence of

microorganisms. Fränkel's pneumococcus, streptococci, and the diphtheria bacillus are sometimes to be found in the mouths of healthy persons. Many cases of infections following dental operations are due to self-infection, the open wound left by the extraction of a tooth furnishing a convenient point of entrance for bacteria. Death from septic causes is not uncommon after major operations on the mouth, the most common post-mortem condition being septic pneumonia.

Pyorrhæa Alveolaris. This condition, often known as Riggs's disease, is, strictly speaking, not a disease but a result of several morbid conditions. The initial lesion is nearly always a gingivitis, or inflammation of the gum margin, which faces and is in contact with the necks of the teeth. This gingivitis may be due to lack of cleanliness, to the use of drugs such as mercury, to scurvy, and to other diseases. A common cause is the deposit of tartar on the teeth. The edge of the gum is pushed down until the periodontal membrane is exposed and inflammation set up. Little pockets, running up along the fangs of the teeth, are formed, which contain pus. Eventually the whole periodontal membrane is destroyed, the tooth becomes loosened and falls out, the socket heals up, and the disease terminates. Pyorrhæa alveolaris is an insidious disease, and rarely produces any definite symptoms, but the discharge may be so profuse as to produce great distress and lead to mistakes in diagnosis. Contrary to the usual belief in America, the author does not think that constitutional conditions, such as gout, have anything to do with the disease, beyond the fact that they lower the vitality of the affected tissues and render them more prone to bacterial invasion. The prognosis is good if treatment is begun at an early stage. Hopelessly loose teeth should be extracted, all the others should be completely scaled of tartar, and the pockets in the gums should be treated with suitable antiseptics such as perchloride of mercury, 1 to 500, or peroxide of hydrogen.

Stomatitis. The different varieties of stomatitis are undoubtedly due to bacterial invasion, rendered possible by lowered vitality. Among them may be mentioned the ulcerative and gangrenous stomatitis of children, thrush, and nigrities, or black tongue. Pharyngomycosis benigna consists in the development of white spots on the base of the tongue, which disappear spontaneously. The constant presence of bacteria and their products in the mouth sometimes exerts a deleterious influence upon the normal mucous membrane, inhibiting taste and appetite, and producing a condition of things spoken of as "disordered stomach." The mouth acts as a breeding-place for bacteria, which set up fermentation in the stomach, and may even attack the wall of the stomach. Pulmonary diseases may be due to the inspiration of germs from the oral cavity (pneumonia, actinomycosis). One of the commonest and most important effects of carious teeth is enlargement of the cervical lymphatic glands; tonsillar enlargement may be due to the same cause. Ludwig's angina, characterized by diffuse cellulitis of the region between the lower jaw and the hyoid bone, is in some cases due to infection from a carious tooth. The bacteria of the mouth may also produce remote infections, such as malignant endocarditis, osteomyelitis, etc. The mouth may be the means of transmitting disease

to others, the transmission of the syphilitic virus by means of saliva and instruments employed in the mouths of syphilitics being of frequent occurrence.

Lecture III (*Lancet*, October 25th).—Mr. Roughton continues: *Alveolar abscess*. At the apex of the tooth socket there is an appreciable space known as the "apical space," the pulp cavity being continued as the root canal to the apex of the root. Bacteria in the pulp thus extend to the apical space by direct continuity of growth or by the mechanical forcing of infected material through the apical foramen. In the acute cases the apical space is soon filled with pus, pressure is brought to bear upon the surrounding walls, and the abscess cavity rapidly extends until it reaches the compact bone at the surface of the alveolus. This is penetrated more slowly, usually through the buccal wall. The periosteum is next attacked; it may be perforated or stripped up from the bone. In the lower jaw this stripping is liable to produce necrosis. The abscess, if in the upper jaw, may open and infect the antrum. The first symptom is usually one of tension and uneasiness; as pus forms the pain becomes more severe and throbbing, to lessen again as the pus escapes from the bone. In some cases, where the periosteum is much stripped up, the swelling of the face may be extreme. When the abscess bursts or is opened all the symptoms abate very rapidly. Although the great majority of cases terminate favorably, yet sometimes a fatal result ensues. The author has met with three such cases, which he cites. The treatment in the early stages consists in the removal of the gangrenous pulp and in irrigation of the root canals with antiseptic solutions. If the tooth is extensively decayed it should be removed, otherwise if milder measures fail, the root canal may be enlarged or an opening may be made under cocaine through the outer alveolar plate. Where the pus has perforated the alveolus a free incision should be made down to the bone. The practice of poulticing the face cannot be too strongly condemned.

Two forms of chronic alveolar abscess are described: the fistulous and the blind. The first variety is usually easily diagnosed, there being a small discharging sinus in the neighborhood of a decaying tooth. Extraction is not often necessary; on removal of the decaying pulp and repair of the tooth, the sinus usually heals. A chronic blind abscess is rarely recognized until the affected tooth is extracted.

The prevention of dental caries is to be brought about by careful, thorough mechanical cleaning with tooth brush, dental silk, and toothpick. Sugar, bread, and potatoes are the articles of diet which are most conducive to dental decay, as they produce an acid reaction of the mouth. Meat, on the other hand, may have a beneficial action, as it turns alkaline when it decomposes. The best antiseptic for use in the mouth is bichloride of mercury; used in 1 to 2,000 solution in connection with mechanical cleaning, it sterilizes the mouth perfectly. Unfortunately its taste and poisonous properties forbid its habitual use. Used before operations it is excellent. In fevers and other diseases, thorough cleansing of the mouth greatly increases the comfort of the patient and improves his appetite, thereby enabling him to take more nourishment. A careful inspection of the mouth should be a routine procedure in cases of digestive disorder.

Nasal Obstruction and Deformities of the Upper Jaw, Teeth, and Palate. By M. Collier, F. R. C. S. (*Lancet*, October 18th).—The object of this communication is to show that in impeded nasal obstruction there is a difference in the air pressure on the outside and the inside of the upper jaw. This difference of pressure, however small, is capable in the young and growing skull of altering and affecting the curves of the upper jaw and the shape of the face and palate. Ziem's experiments on young animals the nasal cavities of which had been obstructed for purposes of scientific observation, show that a profound alteration takes place in the development of the upper jaw and a marked alteration in the curves of the alveolar arch and position and height of the palate, just as is to be observed every day in cases of mouth-breathing children. Such changes are usually said to be due to "heredity," a most mischievous statement. Photographs of such children as infants do not show these changes; and, further, if the deformity is not too marked and the age of the patient is below that where complete ossification has taken place, much improvement in the size, shape, and symmetry of the upper jaw can be effected by simply restoring the normal calibre of the nasal passages.

Strangulated Hernia in a Woman Ninety Years of Age; Operation; Recovery. By Dr. E. F. M. Neave (*Lancet*, October 25th).—The author reports the case of a woman ninety years of age, who was taken with severe abdominal pain while at stool. On examination she was found to be suffering from a strangulated femoral hernia. All attempts at taxis having failed, operation was performed fifty-two hours after the beginning of the strangulation. The patient made a rapid and uninterrupted recovery, the stitches being removed on the tenth day.

X Rays in the Treatment of Cancer and Other Malignant Diseases.—Dr. Emil H. Grubbé (*Medical Record*, November 1st) demonstrates that, in properly selected cases of so-called "incurable conditions" the x ray has brought about remarkable results. Relief from pain is one of the most prominent features of the treatment. Retrogressive changes in all primary cancer or tuberculous growths, and a pronounced effect upon internal cancers are noticed. The greatest value of the x ray, however, lies in the treatment of postoperative cases to prevent recurrence. The proportion of clinical cures by this treatment is greater than that obtainable by any other method of treatment. There is an idiosyncrasy to x rays, and the peculiarities of each case must be studied in order to get the best results. Dermatitis, if properly produced, is within certain limits a desirable feature of x-ray treatment. The x ray has a selective influence upon cells of the body; abnormal cells being affected more readily than the normal. Hemorrhages and discharges are decidedly lessened, and ultimately cease in the majority of cases. Even in the hopeless, inoperable cases, the x rays prolong life, and make the patient comfortable and his last hours, free from pain. Only tubes which allow of perfect control of vacuum should be used.

OBSTETRICS AND DISEASES OF WOMEN.

Vaginal Hysterectomy for Carcinoma During Pregnancy.—Dr. E. Schröder (*Centralblatt für Gynäkologie*, October 4th) reports a case in which he extirpated the uterus in the sixth month of pregnancy. The operation was performed by Schuchardt's method, so that by ligation of the uterine arteries Schröder believes that the fœtus was killed, although a few weak beats of the heart were detected after its birth. He suggests, therefore, that in similar cases in which a living child is desired, delivery be accomplished before any ligatures are placed in the broad ligament. Schröder favors Schuchardt's operation and believes it furnishes as good results as any other vaginal method.

Complete Spontaneous Uterine Rupture.—Dr. F. Kleinertz (*Centralblatt für Gynäkologie*, October 4th) reports the case of a thirty-nine-year-old woman who complained of a sharp abdominal pain immediately after the rupture of the membranes, which occurred half an hour after the beginning of labor. The pain lasted but a few minutes and was followed by slight, drawing pains of an intermittent character in the abdomen. Immediately over the pubes the foetal head could be felt, the foetal heart sounds were not distinguishable. Internal examination disclosed a rupture of the anterior wall of the uterus above the internal os. Laparotomy was performed and it was found that the left uterine artery was intact, although it had been torn from the broad ligament. The right appendages were densely adherent to the intestines. The patient made a good recovery. No assignable cause for the spontaneous rupture of the uterus could be found.

NERVOUS AND MENTAL DISEASES.

Mental Dissolution the Result of Alcohol. By Dr. R. Jones (*Lancet*, October 25th).—The effects of alcohol upon man vary with the dose and the length of time the habit has prevailed. Acute alcoholic insanity presents a rapid course and a short duration. It is the form of mental derangement due to a toxic cause which is soon eliminated, after which the organism readjusts itself and the individual recovers. Chronic alcoholism on the other hand implies an altered nutrition of all the tissues, particularly parenchymatous elements, and epithelium such as that of the blood vessels, causing thickening and ultimately fibroid changes. The degeneration of the tissues—nervous and non-nervous—consequent upon altered nutrition is so general and far-reaching that the resulting symptoms are of a protean nature. The particular form of alcohol taken influences the symptoms; as for instance convulsive discharges from absinthe, analgesia from wines, and hyperalgesia from essences. Among the modifying factors as regards symptoms are: (1) The diathesis, idiosyncrasy, or inheritance of the individual. An inheritance of insanity is found in about 25 per cent. of such cases in asylums. In other cases the nervous system escapes and the strain falls almost entirely on other organs, such as the kidneys, or liver. (2) Sex has a marked influence; women recidivists are more common and less curable than men. (3) Elimination is a personal factor dependent upon the activity of the various excretory organs. (4) Exer-

cise influences the symptoms, as life in the open air favors tolerance. The more frequent incidence of peripheral neuritis in women is probably due to their indoor life. (5) Age. The period of greatest incidence of the pernicious effects of alcohol corresponds closely with that period upon which falls the greatest mental strain. Men between twenty-five and thirty, and again between thirty-five and forty years, are more susceptible to alcohol than at other ages.

Alcohol acts preferentially upon the brain. Mentally the higher states of consciousness, such as discrimination, judgment, and association, are generally the first to be impaired in alcoholism. The impulsiveness of alcoholic affections is notable, and whether motor or sensorimotor they are of an essentially spasmodic or convulsive character. They are sudden and violent, their mania is often destructive, brutal, and irrepressible, and is often accompanied with terror—*panophobia*. The great tendency is to experience hallucinations, not only of sight and hearing, but also of the visceral and systemic organs.

OPHTHALMOLOGY.

Perforation of the Walls of the Eyeball by Fragments of Iron.—Dr. A. V. Nathanson (*Roussky Vrach*, September 21st) reports two unusual cases in which there was a complete perforation of the eyeball by fragments of iron, due to explosions. Such cases are rare, very few being recorded in literature. These accidents, the author notes, are more frequent of late than formerly on account of the development of various industries making such forms of traumatism to the eyes possible. The fragment of iron had remained in the right eye, and the left eye was the seat of a sympathetic ophthalmia. The right eye was removed, with the result that the sight of the other eye was restored nearly to normal, and the patient recovered. The fragment of iron was wedge-shaped, had penetrated through the eyelids and the walls of the eyeball, and was arrested only by the belly of the rectus externus muscle. The second case was one of penetrating injury to the cornea followed by traumatic keratitis, and cataract the fragment of iron having penetrated through the eyeball and protruded into the cellular tissue of the orbit. The eye was removed and the patient made an uneventful recovery.

CUTANEOUS MEDICINE AND SURGERY.

Chloric Electrolytic Dermatitis.—M. Fumouze (*Gazette hebdomadaire de médecine et de chirurgie*, October 5th) describes this ailment as a "professional" disease, due to the action of free chlorine evolved from the electrolytic action upon sodium or potassium chloride in the manufacture of chloride of lime. It appears as an acne-like eruption following an erythema of the exposed parts of the body. It resembles an erysipielatous rash. There is no fever or glandular enlargement. Edema follows, the ears especially being involved, often showing hypertrophic nodules after the disease has run its course.

Prophylactically, the author recommends daily baths with soap on the completion of work, and the smearing of the exposed parts of the body with vaseline. Good ventilation of the factory is advised, and the employees should be compelled to drink milk in abundance during the day, avoiding alcoholic liquors altogether.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Some Experiments with Paraffin.—Dr. A. E. Comstock (*Medical Record*, November 1st) finds that the best melting temperature for use in subcutaneous injections is one of 106° or 107° F. This temperature gives a substance firm enough to hold its form very well, especially when confined by the surrounding tissues; and at the same time with a melting point out of reach of the system at all times. The toxic dose would be anywhere from ten to fifteen pounds, so there can be no danger from an overdose. The pain is trifling, the only anæsthetic necessary being a one-per-cent. solution of cocaine at the point of puncture. It would seem that we now have a substance which will fill in spaces of lost tissue, and not remain a capsulated foreign body, but become a bridgework and in fact part of the new tissue. The evidences warrant an extended trial of this method.

To What Extent, If At All, Should Physicians Dispense?—Dr. H. C. Masland (*Medical News*, November 1st) answers this question by bringing forth the conclusion he has reached in his own judgment, that all physicians should be equipped with a few of the standard tablets for immediate administration in emergency cases; that the more extensive dispensing is purely a matter of policy and to be decided by the individual physician; and finally, that while the physician should never permit himself to lose grasp of the complete armamentarium at his disposal, he should be prepared at all times, to avail himself of the advantages which the careful prescription will secure.

The Serum Treatment of Anthrax.—Dr. A. A. Jurgelunas (*Roussky Vrach*, September 21st) reports the results of his investigations with the serum treatment of anthrax. Toussaint was the first to propose a method of producing immunity in animals with dilute cultures of anthrax bacilli after heating these to 55° C. for ten minutes. Pasteur modified this method of securing a lowered virulence of the germ, and several other observers have since then introduced modifications of the original method. Pasteur's method of vaccination against anthrax is generally used in cattle. Michoux, in 1895, published an article on the serum treatment of anthrax, but, of 24 rabbits inoculated with anthrax and treated with his serum, only seven remained immune. Scavo, in the same year, obtained more favorable results in rabbits with the use of his serum, and in a few cases since then has reported cures in man. Mendez, in 1899, reported 25 cases treated with a serum prepared by him. Sobernheim, in 1899, reported negative results with the serum of animals inoculated against anthrax. In 1899, the present author rendered a goat and a sheep immune to anthrax. The serum of these animals was taken a year later, and injected into guinea pigs. Four guinea pigs died, though they had been inoculated with this serum, after having been poisoned with anthrax. In further series of experiments, however, he obtained the immunizing effects of the serum. If the serum was injected simultaneously with the anthrax culture, or a few hours later, some of the animals died, while others recovered. The serum of animals

immunized against anthrax was found, to the author's surprise, to be a more favorable medium for the cultivation of the anthrax bacillus than ordinary sterile bouillon. The author explains this according to the theories of Ehrlich and Morgenroth, Metchnikoff, and others, by assuming that in an immunizing serum there are two substances, the cytase, and the phloctyase. The protective action of the serum depends upon the presence of one of these. At first the serum probably acts as a destroyer of the germs that are planted into the culture medium, but later, when the cytase is destroyed, and the phloctyase alone remains, the serum is no longer able to kill the germs, and hence they grow upon the serum luxuriously. The antitoxic action of the serum in the organism is explained by the supposition that, on entering the body, it unites with some other substance in the system, rendering it more actively antitoxic. The author believes that the curative effect of his serum is such that it can be hopefully used in man, and he will report the results of this treatment in anthrax shortly.

Arsenic in the Treatment of Chorea. By Dr. F. M. Pope (*British Medical Journal*, October 18th).—Certain cases of chorea should not be treated with arsenic. These are: (1) Cases obviously unsuited: (a) very acute cases with coma or paralysis; (b) those which have been treated for some time with small doses of arsenic; (c) cases in which the rheumatic process is active; and (d) cases of advanced cardiac disease. (2) Cases that are intolerant of the treatment. (3) Cases that resist it and are unaffected by it. But in all suitable cases arsenic should be given in accordance with the following principles of administration: (1) See that the tongue is clean before beginning treatment; if not give a mild mercurial purge. (2) Put the patient on a bland and easily digested diet. (3) Give the drug in a much diluted form and in the same dilution throughout. (4) Do not discontinue on the first attack of vomiting. This is often due to accidental causes. (5) Increase the dose daily. (6) Keep the patient in bed throughout the treatment. (7) If the vomiting persists, discontinue the drug for twenty-four hours, and then give the same dose as the last. (8) Examine the patient daily for any sign of toxic action.

Synthetic Purgatives; the Purgative Action of Dihydroxyl-phthalo-phenone Phenolphthalein, Purgen). By Dr. F. W. Tunnicliffe (*British Medical Journal*, October 18th).—The author discusses the various synthetic purgatives, and concludes that phenol-phthalein (for which he suggests the name "purgen") is a most useful purgative. For children, in doses of from three quarters of a grain to two grains and a quarter, it is a useful aperient. For ordinary adults it must be given in doses of from one grain and a half to four grains and a half. It produces purgation in jaundice. It has no irritating action on the kidneys; its depressant action upon the circulation is less than that of magnesium sulphate.

Hypodermic Purgatives. By D. W. E. Dixon (*British Medical Journal*, October 18th).—Drugs producing a purgative action on injection may be divided into four classes: (1) Vegetable purgatives. These, while effective, cannot be used because of the local irritation they produce. (2) Sa-

lines. It is very doubtful if these substances have any purgative action when given hypodermically. (3) Drugs acting peripherally on (a) motor nerve endings, (b) involuntary muscle, and (c) inhibitory nerve fibres. The general action of these drugs throughout the body prevents their use as purgatives. (4) Drugs of the morphine series. Apocodeine, a drug belonging to this series, offers the greatest hope for a successful solution of the problem of purgation by hypodermic medication. It produces purging without vomiting. It lowers blood pressure, produces vasodilatation, and increases peristaltic movements, all probably as a result of its sedative action on sympathetic inhibitory ganglia. A one-per-cent. or two-per-cent solution of the hydrochloride should be used; it should be neutral and filtered before use, two or three cubic centimetres being injected for a dose.

On the Use of Alkalies in Relieving Pain. By Sir Lauder Brunton (*British Medical Journal*, October 18th).—The author calls attention to the fact that the pain in carious teeth or other sites of local inflammation is often due to the presence of acid, and may be relieved by the application of a solution of sodium bicarbonate. He describes an attack of furunculosis from which he suffered, in which the local pain was always worst about three hours after meals, the time when the blood is least alkaline. Local applications of sodium bicarbonate were found to relieve the pain almost at once.

HYGIENE AND SANITARY SCIENCE.

The Recent Measures Taken Against Leprosy in Russia. By Dr. K. K. Dehio (*Roussky Vrach*, September 21st).—In April, 1902, the Russian Ministry of the Interior issued a circular in which it was stated that, inasmuch as the non-contagiousness of some forms of leprosy was not as yet absolutely proved, this disease should be dealt with according to the rules established for other infectious and contagious diseases. The rules established especially for dealing with leprosy in Russia are as follows: In every province where a case of leprosy is reported, there shall be appointed a commission consisting of the medical inspector of the province, and of two physicians who are acquainted with the disease, and this commission shall determine in each case whether the individual reported as suffering from leprosy is affected with a contagious form of the malady, and if so, what his surroundings and conditions of living are. In cases in which domestic isolation is impracticable in such a manner as to protect the persons surrounding the patient from contagion, the patient shall be isolated according to the provisions of the laws concerning contagious diseases. The provincial physicians must keep the persons declared to be lepers under constant observation, and in case of violation of the rules of the commission as regards isolation, they must report to the commission. When a patient's leprosy lesions show such changes as to render the disease non-contagious, he may be permitted to return to his home, if he has been isolated, upon inspection by the commission, provided his means are such that he can be kept isolated from the rest of his family. These rules are framed on the supposition that some, if not all, the forms of leprosy are contagious. The question as to the particular

forms that are or are not contagious is still unsolved, and it is difficult to solve it without much more material than is at present available. Physicians who have seen leprosy as an endemic have no doubt that the disease is a contagious one. The author cites a series of data recently collected to show the contagiousness of leprosy. Thus, von Bergmann, in Riga, in 1900, found that 60 per cent. of 106 cases of leprosy in that city occurred in persons who had at some time or other lived in close contact with lepers. But very few of these cases showed any relationship between the patient and the antecedent leper, so that it is probable that there was no question of heredity entering into the cause of the disease in these cases. In the workhouse, in Riga, there were found 23 lepers, of whom 19 had contracted the disease after admission; the other four had entered with it. In nine instances the disease developed in women whose neighbor in the next bed had been a leper. An interesting investigation conducted by Dr. Lochk, on the Esel Island, Finland, in a district in which leprosy is endemic, showed that not only was the disease concentrated in certain villages, and comparatively absent in others, but that it was present in foci of infection in certain families and groups of houses in these villages. The author, basing his opinion on these facts, says that leprosy is a contagious disease, communicable by contact, and that it is a disease, not of the family, but of cohabitation and close contact in daily life. Dirt and poverty promote its spread, just as in the case of any other contagious diseases. Leprosy, however, is not a markedly contagious disease, *i. e.*, many persons who come even into close contact with the patient are spared. Why this should be so, no one knows, except that the resistance of individuals, as well as the virulence of germs, differs. Both Lochk and Hansen, of Norway, conclude from a study of their cases that, while tubercular leprosy is contagious, the anæsthetic form is not contagious, or very rarely so. Isolation is required practically only for the tubercular cases, and in this respect the Russian laws are just.

PHYSIOLOGY AND PATHOLOGY.

Some Physiological Factors Involved in the Origin of Scurvy (Scurbutus).—Mr. Roy Ravone Rogers (*Journal of the American Medical Association*, November 1st) asserts that the direct cause for the appearance or continuance of an attack of scurvy does not depend upon the activity of microorganisms, although the latter may establish conditions favorable to the onset of scurvy or may aggravate a case already existing. The direct cause for the appearance or continuance of an attack of scurvy he believes to lie in the establishment of the condition known as "lack of oxygen" in the tissues. Those conditions which tend to prevent the formation of acid, *i. e.*, of hydrogen ions (and possibly other products also) in the tissues and tend to increase the store of available alkalinity, *i. e.*, hydroxyl ions, in the blood and lymph, are the conditions most antagonistic to the development of scurvy or its continuance, and those most favorable to its cure.

Tuberculosis of the Myocardium.—Dr. James M. Anders (*Journal of the American Medical Association*, November 1st) suggests that tuberculosis of the myocardium is more common than has been sup-

posed. At present not more than three pathological varieties are justifiable. It is practically always secondary to a lesion in some other situation, most commonly in the bronchial or mediastinal glands. Transmission to the heart occurs most frequently by the lymph stream, less often by the blood current, and more rarely still as the result of extension by continuity. Myocardial tuberculosis, in a considerable proportion of cases, is secondary to pericardial tuberculosis, and the latter to disease of the bronchial glands. The symptomatology is extremely variable and indefinite and diagnosis is excessively difficult, but is possible with great care and under favorable circumstances. In addition to the suspicious features that may be present, the existence of generalized tuberculosis or of pericardial tuberculosis, or both, is essential to a diagnosis.

Gastric Digestion in Hanot's Disease.—Dr. Kirikow (*Roussky Archiv Patologii, Klinicheskoy Meditsiny i Bakteriologii*, August 31st) concludes a study of the gastric digestion in cases of Hanot's cirrhosis with the following statements: Hayem's assertion, frequently repeated by him, to the effect that in Hanot's disease (hypertrophic cirrhosis with chronic jaundice) there is a hyperpeptic gastritis, and that in atrophic cirrhosis there is a hypoepesia, cannot be confirmed. It is impossible to establish the type of cirrhosis from a knowledge of the gastric digestion. In fourteen cases of Hanot's cirrhosis hyperacidity was found in only four instances. Therefore, in the majority of cases, hypertrophic cirrhosis with chronic icterus gives a marked hypoepesia, and occasionally there is even an absence of hydrochloric acid in the gastric juice. The motor functions of the stomach in these cases remaining normal, the principal rôle in gastric digestion is probably played by the inferior segments of the digestive tract. The variations in the stomach contents do not depend entirely upon the course of the jaundice in Hanot's disease. The inflammation of the gastric mucosa and the functional condition of the secreting cells and of their nerve-endings also play an important part in the variations of the stomach contents in these cases. In cases of Hanot's cirrhosis accompanied by diarrhoea, the gastric juice loses its acidity rapidly, until the hydrochloric acid may even disappear. As soon as the diarrhoea is over, the normal acidity reappears. Even when the gastric mucosa is atrophied, there may be hyperchlorhydria due to the hypersecretion on the part of the cells that have remained and that are still active. A secondary chronic gastritis occurs in the advanced stages of Hanot's disease, and is often not manifested by dyspeptic symptoms, but the appetite remains normal or exaggerated. Hyperchlorhydria does not always coincide with hyperpepsia in Hanot's disease.

Elastic Tissue of the Uterus during Pregnancy.—Dr. N. Iwanoff (*Virchow's Archiv*, August 4th) concludes from many examinations that the uterine elastic fibres have the same direction as the muscle fibres and the collagenous fibres, and hence are parallel with these. The elastic fibres are first found in some number in a recently impregnated uterus and increase with the pregnancy by a running together of elastic substance.

The Fallacies of the Copper Reduction Test for Sugar in the Urine.—Dr. F. D. Boyd (*Scottish Medical and Surgical Journal*, October) urges that only under the most exceptional circumstances can kreatinine or uric acid cause any error in the copper reduction test. The change in color caused by the bodies grouped under the term alkapton is so characteristic that there should be no difficulty in its recognition. No reduction of copper is likely to occur in the presence of glucose, if the observation is carried out at a temperature below the boiling. The practitioner usually boils his mixture of Fehling and urine. In this manner errors may creep in from reducing bodies other than sugar. When the urine and copper solutions are boiled separately, the test tubes then removed from the flame, and, after an interval of thirty seconds, the urine is added to the copper solution; if glucose is present reduction takes place, but no reduction occurs from the presence of the less actively reducing bodies. If any doubt remains, the phenylhydrazin and fermentation tests are easily applied and will give very satisfactory results.

A Study on the Conditions Favoring the Formation of the Specific Precipitates of Kraus. By Dr. B. Beliajeff (*Roussky Archiv Patologii, Klinicheskoy Meditsiny i Bakteriologii*, August 31st).—The author performed a series of experiments with the serum of patients with typhoid fever and of animals immunized against the bacillus of Ehrlich, in order to compare the reaction of agglutination described by Gruber and Widal, and the phenomenon of precipitation described by Kraus. He found that when the agglutinating power of the serum was developed at its utmost, it did not always evoke the precipitation of Kraus, and that after this precipitation had taken place, the agglutinating power was not diminished. In order to obtain the Kraus precipitation reaction it was necessary to immunize the animal for a longer time, while one injection of typhoid cultures (three in number) and of a bacillus coli culture into rabbits sufficed to produce the agglutination reaction. The author concludes, therefore, that there is no parallelism between the Widal reaction and the Kraus reaction, and that the precipitation is independent of the agglutination, as Bordet and others have already stated. In order to study further the physical and chemical nature of the precipitates obtained in Kraus's reaction and in similar experiments, the author examined the specific gravity, the depression of the freezing point, the coefficient of refraction, the alkalinity, etc., of normal rabbit's serum after immunization with the bacillus of typhoid, the colon bacillus, the cholera vibron, and with Adamkewitch's peptone. The properties of serums taken from immunized animals vary within the same narrow limits as the properties of serums from normal animals, and there is no relation between the alkalinity of the serums and their concentration on the one hand, and the power of inducing precipitation on the other.

New Experiments in the Reviving of the Heart; Resuscitation of a Human Heart.—Dr. A. A. Kouliabko, of the Laboratory of the Academy of Sciences, of St. Petersburg (*Roussky Vrach*, September 28th), showed, in February, 1902, that the heart of a warm blooded animal could be made to

beat forty-four hours after it had been removed from the animal's body. Since then he has had the opportunity of watching, in many instances, hearts beating even five times twenty-four hours after death when artificial circulation was maintained. At first, he used exclusively the hearts of animals that had just been killed, and were supposed to be healthy. But later, he began to use hearts from animals that had died from some natural cause, and found that he could restore the beat in these organs in the same way as in others, by maintaining an artificial circulation even four days after the heart had been excised from the animal's body.

Very recently, in August, the author excised the heart of a cadaver of a three-months'-old child, and succeeded in producing contractions on the second day after the child's death from pneumonia. This heart was taken to the laboratory without any special precautions, and a cannula was tied into the aorta, through which Locke's solution (calcium chloride, potassium chloride, sodium carbonate, of each 0.02 per cent.; sodium chloride 0.9 per cent.; dextrose 0.1 per cent.) was introduced after having been slightly warmed. For a long time (about twenty minutes) this heart remained flabby, but, afterwards, there began to appear contractions of the auricles, at first feeble and irregular, then stronger, then the right ventricle began to contract, and finally the whole heart began to beat. The contractions lasted for over an hour. More or less marked irregular contractions were afterwards observed by the author on several occasions in human hearts that had been taken out thirty or more hours after death. These experiments are interesting, not only theoretically, as showing the wonderful vitality of the heart muscle, but also practically, for the heart ceases to beat in many morbid conditions, not from exhaustion, but from the presence of toxic substances in the walls of the organ, and the removal of these toxic substances by washing with saline solutions produces a freshening of the muscles resulting in resuscitation of the organ, enabling it to contract rhythmically again. The practical significance of these experiments cannot be estimated as yet.

Resection of the Liver and the Influence of this Operation Upon the Gaseous Metabolism in Animals.—Dr. J. J. Postoyeff (*Roussky Vrach*, September 28th) finds, in a series of experiments, that resection of the liver has a marked influence upon the gaseous exchange in animals. The liver occupies the first place among abdominal organs as regards the variety of its functions. Its importance in the gaseous exchange and in the generation of body heat is well known. For a long time, therefore, this organ has been considered as surgically unapproachable, and wounds of the liver were regarded as necessarily fatal. No attempts were made to resect the liver in animals until the eighties of the past century. The first experiments of this kind were performed by Glück, who came to the following conclusions: Resection of the liver is a perfectly feasible operation. One half of the liver may be removed in rabbits without causing marked disturbances in health. Four or five days after the removal of two-thirds of the liver, however, the animals die. Ponfick places the limit higher, and states that four fifths of the liver should not be removed in rabbits, as the animals

die in all cases after this operation, while in animals in which two thirds of the liver were removed, seventeen out of twenty-eight died within fifty hours. Experimental evidence shows, therefore, that the liver is endowed with a remarkable power of regeneration, and yet cases of resection of the liver for malignant growth, etc., are still very rare, though means have been devised to arrest the dangerous hæmorrhage which results during such operations. Experiments are lacking, however, to determine the effect of resections of the liver on the organism as a whole. With the object of clearing up this question, in a measure, the author instituted a series of experiments to determine the effect of resections of the liver on the gaseous metabolism of animals. He concludes as follows: Resection of the liver undoubtedly has a marked influence upon gaseous metabolism. In removing large pieces of liver (40 grammes) the activity of the liver is diminished, the amount of CO_2 and H_2O given out, as well as that of the O taken in is less than normal. The removal of pieces smaller than forty grammes produces an increase in the gaseous metabolism. The smaller the resected piece, the more CO_2 is eliminated and the more O is absorbed. Resection of the liver may therefore be regarded as a perfectly admissible operation.

A Contribution to the Cultivation of the Pneumococcus. By Dr. Felix Rymovitch (*Archiv Patologii, Klinicheskoy Meditsiny i Bakteriologii*, August 31st).—The author publishes his observations on the growth of the pneumococcus upon gelose containing hæmoglobin. He found that the pneumococcus preserved its vitality for two months on this medium, and that, thanks to changes occurring in the medium when the pneumococcus grows therein (clouding, softening, change of color) the presence of the pneumococcus in mixtures with other germs might be detected. This test is especially valuable in examining the flora, for example, of normal conjunctivæ.

Bacillus of Malignant Œdema.—Dr. R. Grassberger and Dr. A. Schattenfroh (*Münchener medizinische Wochenschrift*, September 23rd) summarize their studies of this organism. Under different cultural conditions, the bacillus appears as rods or threads. Treated with iodine, the cultures always show the presence of a certain amount of granulose. It is a powerful anaerobic bacterium and may give evidence of strong or weak motility. In cultures and in animals, it forms spores, and grows easily and quickly in the usual culture media. It is above all a fermentative and putrefactive agent, although it does not possess the power of dissolving coagulated albumin. Sugars, especially dextrose, are most easily fermented by it, the latter forming evanescent acids, lactic and formic especially, sometimes butyric acid, and regularly small quantities of ethyl alcohol. It develops soluble toxins. It is highly pathogenic for guinea pigs, being found *post mortem* in the blood of the heart and *intra vitam* on the surface of the liver. The authors have developed a powerful antitoxic and anti-infectious serum from anthrax bacilli, and, on account of the similarities of the two organisms, hope to achieve the same with the bacillus under discussion.

Proceedings of Societies.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS.

Fourteenth Annual Meeting, held in Washington, D. C., September 16, 17, and 18, 1902.

The President, Dr. EDWIN RICKETTS, of Cincinnati, in the chair.

An address of welcome was delivered by Surgeon-General Sternberg (retired), which was responded to by the president.

Pelvic Disease in the Young and Unmarried.—Dr. C. L. BONIFIELD, of Cincinnati, read a paper with this title. He dealt only with gynæcological diseases which occurred in women not subjected to sexual intercourse. Physicians were now more frequently consulted about such troubles than formerly, but this was probably because the modern woman bore discomfort less well than her ancestors did, rather than that there was an increase in the number of patients suffering from such disorders. Disorders of menstruation, undeveloped uterus, tuberculous disease of the appendages, and acute displacements were the most common pelvic affections in such patients. When menstruation did not make its appearance at the age at which it was to be expected, a thorough investigation of the general condition of the patient was indicated, and her health should be made as nearly perfect as possible. A local examination was not required unless there were severe local symptoms. The same was true of amenorrhœa occurring after menstruation had been established. The possibility of pregnancy was always to be borne in mind. Dysmenorrhœa might be of constitutional or local origin. Local treatment was not required in the first variety, and the endometritis which caused a majority of the latter cases could often be relieved by hygienic and medicinal treatment. Menorrhagia was often caused by a depraved state of the blood, or an interference with its circulation by disease of the heart, liver, or kidneys. The uterus, whose development had been arrested at the time of puberty was the most important type of undeveloped uterus. It was generally sharply ante-flexed, but occasionally retroflexed, and the cervix was long and narrow, the body dilated. Dysmenorrhœa was a prominent symptom. Thorough dilatation, curetting, and tight packing, repeated one or more times, if necessary, constituted the best treatment.

Tuberculosis of the pelvic peritonæum was often mistaken for typhoid fever or appendicular inflammation. When tuberculous peritonitis began in the uterine appendages, they should be removed by abdominal section.

Acute prolapse or retroversion of the uterus was found as a result of a fall or heavy lifting in young women of lax fibre.

Young unmarried women were best examined under anesthesia, and when possible the treatment of their local disease should be operative.

Removal of the Gall Bladder through the Lumbar Incision.—Dr. WALTER P. MANTON, of Detroit, read this paper. He reported a case of removal of the gall bladder through the lumbar incision. The patient, aged thirty-eight, the mother of five children,

with two abortions, had never been robust, but was able to attend to her domestic duties. She had suffered from a number of gastric attacks, but there had been an entire absence of symptoms pointing to the disease of the biliary tract. Examination showed the left kidney to be loose, while the right kidney appeared to be of double its normal size, displaced downward and inward, and with certain projections which led to the diagnosis of nephroptosis with probably cystic metamorphosis of the kidney. At the operation, through the nephropexy incision, the fatty capsule of the kidney was found to be embedded in a mass of adhesions which had given rise to the appearance of the enlargement. The kidney, which was normal in size and structure, was extracted on to the back and placed astride the wound. Below the kidney pouch a distended gall bladder containing fluid and nineteen gall stones of the size of hazelnuts were found surrounded by adhesions. This was enucleated, tied off at the cystic duct, and removed. The fluid contents of the sac contained a bacillus having the morphology and staining qualities of the colon bacillus, also a long, large rod which stained violet by Gram's method, but no staphylococci or streptococci. The kidney capsule was split and peeled off to the lateral line, fixation sutures were introduced, and the organ was returned to its place. A strip of gauze for drainage was carried from the upper angle of the external wound to the stump of the cystic duct. The patient made a good recovery.

It was impossible to state whether the condition was a congenital anomaly or the result of the walling off of the gall bladder by adhesions. The operation was entirely extraperitoneal. This was the first recorded instance of extirpation of the gall bladder through the lumbar incision. Dr. Manton believed that on account of the anatomical position of the gall bladder in uncomplicated disorders of the biliary tract the anterior abdominal incision was the one of choice, but that when nephroptosis or a morbid condition of the kidney existed demanding operative treatment, together with enlargement of the gall bladder from stones or fluid accumulation, the lumbar route offered certain advantages. He paid tribute to Edebohls as the pioneer whose work had opened up this previously uncultivated field of surgery.

Drainage in Abdominal and Pelvic Surgery.—Dr. JOSEPH PRICE, of Philadelphia, in a paper on this subject, stated that the more progressive and successful specialist doing painstaking operations in every detail, where filth and complications or adhesions were found to exist, practised most extensive sponge packing or drainage. The modern operator did the same by his gauze pack or the drv operation. A number of operators doing fairly good work by the suprapubic route condemned or partially rejected drainage. He said some of them never learned and never would learn how to handle drainage well. After abandoning the suprapubic route these men were placed in the uncomfortable position of admitting that drainage did what they had refused to do by suprapubic surgery. Nothing had pleased the speaker more in the last few years than a knowledge of the fact that the young school of surgeons used drainage with great success and skill in spite of the fact that these young men had been under the instruction of that class of men about the country and

in the hospitals condemning it. About all the repeated operations were coming from operators in hospitals opposing drainage or practising it only when they were compelled to do so, and he thought it was curious that these men favored drainage when they abandoned procedures or practised incomplete ones.

The Vaginal Route for Operations upon the Uterus and Appendages.—In this paper Dr. J. H. BRANHAM, of Baltimore, stated that the most common condition threatening the life of gynecological patients, caused by gonorrhea, abortion, tuberculosis, and other conditions not always discernible, and often requiring prompt action to save life, was pelvic inflammation. Here the vaginal method of treatment made its best showing. He had operated in more than a hundred cases by this method, with but three deaths. He concluded that vaginal drainage was the natural method. It was far more effective and safer than any other. Extensive pelvic inflammation associated with pus formation rapidly walled off the general peritoneum. This wall should not be broken through, in his opinion, and could not be interfered with without danger of general peritonitis. Opening through the vagina was associated with a minimum amount of shock and hemorrhage, and was thus indicated in extreme cases accompanied with severe toxic symptoms.

The Use of Ice following Abdominal Section.—Dr. F. F. SIMPSON, of Pittsburgh, advocated the local use of ice for the relief of pain, to prevent or control peritonitis, and to limit the morbid products following the operation. These things, he thought, were due almost wholly to inflammation, which was very slight and purely traumatic in the vast majority of cases, but might be bacterial in a very few others and in unclear cases. This use of ice he had begun after observing its effects in several hundred cases of pelvic peritonitis of all grades prior to an operation. In this connection he said that after having seen many grave cases of this kind yield so favorably to this measure, and having seen a few patients die later from peritonitis following an abdominal section, which removed the great bulk of filth, leaving but little behind in a fairly clean cavity, it seemed to him that with the same infecting organisms active in large numbers before the operation, and in small numbers after it, we might expect like results if the same treatment was employed in the two classes of cases. Further, by beginning the use of ice before peritonitis had actually developed, we might succeed in preventing that condition. He further asserted that the use of ice after the operation in some hundreds of cases during the last four years had been highly satisfactory.

Regarding theoretical objections, he said that they disappeared as physicians became familiar with the use of ice. In his experience no injury to the skin had followed its use, the healing of wounds had not been retarded by it, and no depression of the general system had been noticed.

He attributed the beneficial effect of cold to its direct and deep penetration. This opinion was based upon the known effects of cold on surface inflammation; upon the satisfactory results he had got at the bedside; upon the observations of Boklikoff, who had shown that cold actually penetrated deep into the

human cavities and tissues; and upon his own experiments on dogs, which showed that by the local use of ice there could be produced within the abdominal cavity, and without detriment to life or tissue, such a degree of cold as would retard the growth of pathogenic bacteria and contract the blood and lymph channels, thus depleting the hyperæmic areas and checking serous weeping into the peritoneal cavity. He related several cases in substantiation of his views and gave in detail his experiments on dogs.

Two Fatal Cases of Tetanus following Abdominal Section, due to Infected Ligatures; with a Plea for the Angiotribe in Abdominal Surgery.—The author of this paper was Dr. WALTER B. DORSETT, of St. Louis. Both cases, which were detailed at length, were in women who had undergone ventrofixation of the uterus. The choice of the operation was made on account of adhesions of the uterus to the surrounding tissues, due to previous inflammatory conditions. The material used for fastening the uterus to the anterior abdominal wall was kangaroo tendon a little above the average in size.

Speaking of the angiotribe, the author had used it successfully twenty-five times, as follows: Abdominal hysterectomy, ten times; pyosalpinx, five times; hemorrhoids, once; extrauterine pregnancy, four times; dermoid cyst, once; ovariectomy, three times; and once in a case of vaginal hysterectomy. His observations were that (1) patients upon whom it had been tried suffered less postoperative pain; (2) no adhesions to stumps had followed its application; (3) no secondary hemorrhage had followed its application; (4) it could be applied, when two instruments were used, alternately by the operator and the assistant without the fear that was incident to the slipping of a ligature knot, and in less time.

Some Problems in Exploratory Laparotomy.—The author of the paper with this title, Dr. WALTER B. CHASE, of Brooklyn, said that the physical signs and rational symptoms as related to certain diseases of the contents of the peritoneal cavity being insufficient for purposes of diagnosis, surgical intervention might be necessary to determine the exact state of affairs. Exploratory abdominal section for diagnostic purposes was of comparatively recent date. Its growth had been progressive, but the limitations as yet were not clearly formulated. Training and skill in diagnosis, judgment, having in it the planning of sobriety and daring, coupled with years of apprenticeship, would guide one to safe conclusions. In chronic cases there might be ample time for study and analysis, with comparison of the progress and fluctuation of symptoms which would furnish valuable data for forming a deliberate judgment. Surgical intervention was looked upon much more favorably by a discriminating public to-day than formerly, so that the suggestion by the surgeon that an operation was required found a more ready response by the patient or the patient's friends. The surgeon, however, owed a duty to the public which had in many instances been neglected, namely, to make it clear to the patient or the friends, and thus to the public, that there was such a limitation to our knowledge that we were perforce required to explore for causes. He believed that a frank confession of this truth would, with right thinking people, strengthen

the position of the operator. There was a widespread belief among the laity, not founded on fact, that deaths following laparotomies and other major operations were due to the operation *per se*, and not to the causes for which the operation was done. The sooner these false beliefs were eradicated the better it would be both for the profession and for the public. The duty of correcting this erroneous impression lay with the medical profession.

(To be continued.)

Letters to the Editor.

THE PROPOSED TWO-YEAR ACADEMIC COURSE.

NEWPORT, R. I., October 27, 1902.

To the Editor of *The New York Medical Journal*:

SIR: Your editorial in the last number of the *Journal* in regard to the shortening of the academic course in various colleges touches upon a most important subject. I have as yet seen no protest against what to my mind would be a most dangerous innovation, and I desire here to enter my most earnest protest.

The hope of the profession in the future, as it has been in the past, is that its members should eventually become an educated body of men. We know only too well that a man may hold the degree of M. D. with very slender claims to any education. In a certain form this is a harking back to the old vexed question as to whether a college education is not after all a hindrance to success. The antieducationalist and the so-called self-made man are fond of pointing to the examples of Lincoln and themselves. They even go so far as to assume that if Lincoln had received a college education he could not have been what he was. The single example of Lincoln proves nothing, and in their individual cases, even if dollars and cents are accepted as the criterion, there is still some doubt. For my part, I should be willing to have this question examined seriously, and if there is any strong ground in this contention, to have it followed out to its logical conclusion. If it can be reasonably shown that a college education is in even a small way a hindrance to success, or is in no way necessary to such success, then our colleges should be abolished as a waste of time and money. Institutions which drive away the time and energies of a large number of our young men are a public evil.

The argument is raised that our system of medical education has become so cumbersome that a man is not ready to begin now until he has reached middle age. Life is short and we have only one life, etc. Such an argument is not one against education, but is a serious imputation against our present methods and curricula. If to the subjects of the old schoolmen, when the sum of knowledge was comparatively limited, we keep adding the fresh stores of later times, the mass must eventually become unwieldy. Hence the necessity of abridgment, condensation, and pruning. Brooks Adams has recently very ably pointed out how the energies of some of our universities are frittered away on every conceivable and inconceivable branch of study. They boast of the extraordinary number of courses they offer. Many of these can only make of the student a dilettante, and it is a question whether we should raise up any young men, no matter how independent their posi-

tion, who are unfitted to grapple with the serious matters of life. It is the duty of a college to concentrate its energies on the important, not to diffuse them over the universe.

Looking back in my own case, I believe that every year spent in college was worth double that spent in the medical school—not simply for the purpose of training the mind, but for purely professional purposes. No man who has not become familiar with the exact sciences can view with a proper perspective the weaknesses and deficiencies of our profession. I have often been astonished at the lack of logic and even common sense in the medical education we received years ago. Much that we were taught has long since gone by the board, but the exact knowledge we acquired at college remains untarnished because it was true. Not only that, but a perception of the truth enabled us to recognize it afterward in other matters. One can imagine the difference between the mental attitude toward medicine of a man like Thomas Young and that of a recent drug-giving graduate who has concluded that education is not necessary. Although Young lived nearly a hundred years ago, the comparison would not be wholly to his disadvantage.

You speak of the jealousy of the men who have worked four years of the proposed innovation. Jealousy is not the word, but their feelings would naturally be those of a man who has bought a four per cent. gold bond and subsequently finds that it is declared a two per cent. payable in silver.

In conclusion, therefore, if life is too short, if you must cut down the time for a medical education, you must not touch the college course. Cut down the preparatory courses so that a man may enter college earlier. Do away with the classics, which were well enough for monkish times, but which have little place in this busy electrical world of to-day. Keep the medical course to three years. A college man will do more work in a well presented scheme of medical education in three years than an uneducated man will in four. In many schools the course is adapted to men with only a slight education, and the college men are thus kept back. Time can undoubtedly be saved, but it must not be at the expense of the college course. The medical man must be educated, and the technical education of medicine is in no sense an education.

X. Y. Z.

The Body Snatching in Indiana.—On October 25th the Grand Jury reported *inter alia* on twenty-five indictments in the grave robbery cases which have been under consideration for the last three weeks. Of the indictments returned, ten only were made known. It developed later that five indictments had been returned against physicians who were charged with complicity in the "body-snatching business" for failure to keep records of bodies received, among whom is the demonstrator at the College of Physicians and Surgeons.

From the evidence given by the chief of the gang 100 bodies have been stolen from cemeteries near Indianapolis during the last year. There have been nineteen arrests and twelve graves opened have been found empty. Ten bodies were found buried beneath a few inches of earth in the basement of one of the colleges, four bodies were found in sacks on the streets, one body was concealed for two days in a saloon, and thirty were found in cold storage in an ice cream factory at Louisville.

Book Notices.

Sewage and the Bacterial Purification of Sewage. By SAMUEL RIDEAL, D. Sc. (Lond.), Fellow of the Institute of Chemistry, of the Chemical Society, and of the Sanitary Institute of Great Britain, etc. Second Edition. London: The Sanitary Publishing Company. New York: John Wiley & Sons, 1902. Pp. iii-308. (Price, \$3.50.)

This, the second edition, following so closely upon the appearance of the first, but thirteen months having elapsed, verifies the high character and usefulness of this work. All the chapters have been rewritten and revised, and the book still continues to be one of the most complete treatises upon the subject of sewage which have appeared since this subject has assumed the importance it now occupies.

The subdivision Bacterial Purification is most ably treated, and the general appearance of the work and the excellence of the half tone illustrations of plants in operation, serve to make this volume most valuable.

Clinical Essays and Lectures. By HOWARD MARSH, F. R. C. S., Surgeon to and Late Lecturer on Surgery at St. Bartholomew's Hospital, London, etc. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xii-303. (Price, \$3.)

This volume is a collection of twenty previously published essays and lectures in which Mr. Marsh has sought to present, from his personal experience, some observations on surgical disease not usually given in the standard text book descriptions. There is an interesting chapter on rare forms of bony ankylosis, and another is entitled By-ways in the Diseases of the Spine.

Diagnostic gynécologique. Organes génitaux et mamelle. Par Le Docteur CLADO, Chef des travaux de gynécologie à l'Hôtel-Dieu, etc. Avec 109 figures dans le texte. Paris: A. Maloine, 1902. Pp. ix-7 to 821.

A very thorough review of the elements necessary for a diagnosis and the methods of making it, thoroughly French in its teachings, and not burdened by too much verbiage and unnecessary clinical data. These are the characteristics of M. Clado's book. It is strange, however, that in a work so complete as this and which embraces such secondary genital organs as the breast and the influence of female genital disease upon the nervous system, not one word is uttered upon vesical disturbances (except the secondary urinary troubles dependent upon neoplasms in the pelvis) or upon methods of examination of the bladder. In all other respects this manual is a model of what a book of this kind should be. The clinical pictures and the pathological entities are exquisitely set forth, and particularly fine are the paragraphs on differential diagnosis. Perhaps the author draws it a little fine in attempting to teach histological diagnoses, but even this is a step in the right direction and it can assuredly be accomplished at times by experienced men. Altogether, the book is most worthy of praise. The illustrations are very good, and many of them are new.

Les dilatations de l'estomac. Par MAURICE SOUPAULT, Médecin des hôpitaux de Paris. Avec figures dans le texte. Paris: J. B. Ballière et fils, 1902. Pp. 95.

Few diseases of the stomach have recently received quite as much attention, especially from French and German authors, as the one which forms the subject of this book. Although the author apologizes for the existence of the book upon the score of adding to the great bulk of the literature upon this subject, yet the reader will find that it contains much that is both interesting and instructive.

Various mooted questions, such as that of the distinction between atony and stasis, are dealt with in a most masterly way. The author's conclusions that atony is merely a subdivision of the general subject of dilatation, and that dilatation is essentially a congenital condition, do not meet with universal acceptance; his reasons, however, for all his conclusions are at all times logical and to the point. The fallacy of continuing the use of the word "dilatation" is pointed out; the author agrees with the German writers in preferring to substitute the term "motor insufficiency," in that way emphasizing the importance of the functional over the pathological condition.

In the division upon treatment, a very complete although necessarily brief, *résumé* of the whole subject is given. The entire book is written in a most clear and concise manner. Although short, it is remarkably complete, and the author displays a wonderful power of observation and reasoning which at times is quite startling. To anyone interested in the subject the book is to be recommended most highly.

La longévité ou l'art de prolonger la vie. Par le Dr. L. DE PLASSE, Ex-prosecteur d'anatomie à l'Université de Louvain, etc. Préface par AUGUSTE GEORGE, Professeur à l'École Supérieure de Filles de la ville de New York. New York: Louis Weiss & Company, 1902. Pp. 5 to 206.

This is a well printed volume on hygiene which does not purport to give anything new from the point of view of scientific value. It is of popular interest from the style in which it is written.

Le traitement médical des inflammations du cæcum. Typhlite, pérityphlite, appendicite. Par le Dr. BOURGET, Professeur de clinique médicale à la Faculté de Médecine de Lausanne (Suisse). Genève: C. Eggmann et Cie, 1902. Pp. 67.

This is one of the numerous writings intended to show that every case of appendicular inflammation can be cured by castor oil and enemata.

Miscellany.

Entomological Dietetics.—M. Dagan (*Popular Science News; Old Dominion Journal*, October), a French entomologist, states that cockroaches make delicious soup, and caterpillars are palatable and easily digested. He also declares that locusts, fried or boiled in milk, may be regarded as delicacies.

The Effect of Electricity on the Eyes.—Galezowski (*Rec. d'ophth.*, September; *Giornale internazionale delle scienze mediche*, September 30th) describes two kinds of morbid action exercised by electricity on the eyes: (a) Direct traumatic action; (b) an injurious action of the light on the retina. *Traumatic electrical ophthalmia*, when the eye is exposed to the action of a powerful electric current burns of the eyelids and of the globus may ensue. Alessandrini has related such a case.

Electrical Amblyopia. This is a lasting visual disturbance provoked by habitual exposure of the eyes to electric light indoors. According to the author, the electric light can produce three kinds of injury: (1) Amblyopia without any material lesion of the ocular fundus; (2) photophobia following on lacrymation due to intense retinal excitation; (3) Central scotoma, *simulated amblyopia*, which must be recognized to avoid falling into error. These cases are usually in operatives who seek to obtain an increased premium. Finally, lead amblyopia must not be overlooked in electricians.

The treatment consists in the use of uranium spectacles. Panas recommends a cocaine ointment and cold compresses. The author recommends a spray douche for four or five minutes, using the following solution:

R Distilled water. 275 grammes (8½ ounces);
Cherry laurel water. . 25 grammes (6 drachms);
Dionine. 0.30 grammes (⅓ grain);
Sodium bromide. 1 gramme (15 grains).

Icebags, also, may be applied to the eyes two or three times a day.

Why Doctors become Doctors.—The *Lancet* for August 30th in its address to students in the yearly "educational number" cites from the *London Hospital Gazette* the results of a very interesting inquiry by Dr. Keith, of the London Hospital, as to the considerations that led one hundred men of his hospital to take up medicine as a profession. Dr. Keith found that "seven had their profession chosen for them; 30 were born in the profession and grew up in it; 10 adopted it as a boyish ideal, at a very early age; 12 adopted it by a process of exclusion—it was the profession they had the least objection to; seven chose it because it was the nearest akin to their favorite subjects—zoology or chemistry; 31 were led to adopt medicine from some accidental circumstance"; while "three drifted into it—(they) could not tell why."

The *Lancet* adds: "In early life it is somewhat rare for a lad to have any very definite ideas as to his future. The real work of life seems to all but a few lads, in whom environment or an innate seriousness has implanted an unusual sense of responsibility, so vague and distant that they do not regard it with any particular gravity. Anxiety is generally absent, though hope may irradiate the path before them with the golden light of fancy, which, alas, as they pass onward, is too apt to fade away. Yet Dr. Keith's analysis shows that ten out of one hundred medical votaries resolved to take medicine as their profession when aged only six or seven years. It is interesting to learn that these ten children made no mistake in their precocious choice of a profession, for all of them have proved successful or are in a fair way of becoming so. This group of early devo-

tees to medicine might probably have been enlarged, as Dr. Keith suggests, from the thirty who were born in the profession. The son of a medical practitioner who sees his father beloved and notes the position of delicate responsibility that he holds in the neighborhood is very likely to wish to enjoy the same privileges. The father, whose professional career has brought him the sweets of success, is certain to encourage in his son any early desire that may appear to follow in the parental footsteps."

The Dangers of Hair Dyes.—*Médecine orientale* for October 10th, citing the *Annales d'Hygiène publique*, says that in addition to the poisonous hair dyes containing silver, lead, bismuth, copper, etc., a new one is derived from a coal-tar product, paraphenylene diamide. Dr. Laborde recently communicated to the Society of Biology the case of a woman who complained of anorexia and vomiting, and of digestive troubles severe enough to occasion a loss in weight of ten kilogrammes (twenty-two pounds) in three months. The symptoms quickly disappeared on the suppression of the hair dye.

The Diagnosis between Perityphlitis and Intussusception.—Dr. Joseph C. Verco (*Australasian Medical Gazette*, August 20th) reports two interesting cases, the first of an appendicitis producing an abscess in the right hypochondrium, the second of a postcæcal abscess with marked paroxysmal abdominal pains. From the first case the author draws the following lessons: (1) An abscess presenting apparently in the region of the gall bladder and with no manifestations in the iliac region may be due to an appendicitis. The absence of a history of biliary colic should rather negative its biliary origin and suggest appendicitis, which would be supported by freedom from icterus and biluria. While gall stones would be more probable than appendicular trouble in a woman aged fifty-eight years, age does not by any means preclude the latter. (2) Immediate operation is advisable in probable suppuration about the gall bladder. Although from the situation of this abscess, deep in the lumbar region between the bowel and the kidney, it would have been a difficult one to deal with and to drain efficiently, still if it had been attacked before bursting it would have been of a much greater size and might have been more readily reached from the front, and might have been stitched to and drained through the anterior abdominal wall. (3) The difficulty of deciding, even when the abdomen is open, what is being dealt with. With an abscess so near the gall bladder, and a foreign body of the size and shape and color of a gall stone, how naturally would one suppose he was dealing with the consequences of a calculous cholecystitis. The slough, in the shape of a tube, if encountered would, however, suggest an appendix, even close to the liver, and the foreign body would then be recognized as an appendicular concretion.

In regard to the second case, the author considers that the points of diagnosis between perityphlitis and intussusception may be stated as follows:

Given a mass in palpable in the right iliac region, extending in the direction of the ascending colon, which of the two complaints is it?

1. In intussusception the lump may be quite free from tenderness; in perityphlitis it may be so acutely tender as to render manipulation impossible.

2. In intussusception the mass may be well defined, easily and distinctly mapped out; in perityphlitis its limits may be very obscure.

3. In intussusception the sausage-shaped body may be so movable as to be rolled about in the abdomen; in perityphlitis it is quite fixed.

4. In intussusception the right thigh can be extended without pain; in perityphlitis it may be kept flexed, and passive extension inflicts pain.

5. In intussusception there is generally frequent movement of the bowels with sanious mucous stools; in perityphlitis the bowels may be confined.

6. In intussusception there are marked tormina, the pains seeming to focus in the lump; in perityphlitis these may be absent (sometimes, however, they are present, and severe).

7. In intussusception the temperature may be normal or subnormal; in perityphlitis it is raised.

Bilious Hæmoglobinuric Fever.—Dr. Cardamitis, chief of the clinic at the Faculty of Athens (*Grèce médicale*, August 15th) divides the pathogenic causes of hæmoglobinuria in general into (1) endogenous, and (2) exogenous. To the first class he assigns (a) toxic, and (b) microbic (or "idiopathic") hæmoglobinurias; and to the second, those hæmoglobinurias that take their rise from (c) diatheses and (d) organic affections. The endogenous class comprises paroxysmal hæmoglobinurias, or those *a frigore*, those determined by deleterious substances of vegetable, animal, and mineral or inorganic origin, and those following on burns and cauterizations. [In an infant suffering from acute gastroenteritis with complications, he administered on the second and on the tenth days of the illness, calomel in combination with salol, and on each occasion this was followed by an attack of hæmoglobinuria.] In the second category, (b) microbic or idiopathic, have been placed the hæmoglobinurias that attack horned beasts and herbivorous animals, those that are sometimes found in newly-born children, those that depend on infectious or acute diseases, and finally, the bilious hæmoglobinuric fever commonly regarded as paludal in character. Of the exogenous class, the diathetic conditions (c) are those originated by syphilis, rheumatism and arthritis; and among organic are (d) those arising from certain diseases of the heart, kidneys, and liver. But all these causes of hæmoglobinuria, in spite of their great number and variety independently of the distinctions above made, from a general point of view determine only one unique and identical symptom, presenting differences only in intensity relatively to the acting cause in each case. They act upon the blood in a similar fashion identical as to the result; determining the release of hæmoglobin only of the bodies of the red blood corpuscles.

This point of view cannot too strongly be insisted on, especially since it is wished, so far as concerns the pathogenesis of hæmoglobinuria considered as a distinct disease, to demonstrate the fact that bilious hæmoglobinuric fever does not constitute an essential disease, is not a morbid entity, independent, and self-existent, like measles, scarlatina, typhoid fever, and the other diseases that acknowledge for a single virus a special microbe, but that it represents simply a symptom which is not a disease but only varies as a clinical type, like atrepsia.

Considering such an ætiological variety as one en-

counters, besides, in diseases of diverse nature, one should, consequently, assign the pathogenic cause of hæmoglobinurias, as well as that of bilious hæmoglobinuric fever, not to the malarial parasite alone, or to quinine alone, or to these two causes combined, but should look for it particularly in the blood, and especially in the blood serum. It is to be hoped that this research will result in some way in the discovery of the unknown hæmolytic substance, which springs from many causes; so only will the question of the positive treatment of hæmoglobinurias of every kind be resolved. Such are the considerations which have induced the author more than once to think of the dysthreprias and to consider them as one of the numerous causes of the hæmoglobinuric condition; from which has been formulated the opinion, still maintained by him, that the pathogenic cause, not only of hæmoglobinurias in general, but also of the bilious hæmoglobinuric fever which is commonly held to be paludal in character, arises exclusively neither from the malarial parasite, nor from quinine, nor from the two combined, but is due to causes more general and relating to the blood itself. Paludism and quinine have, in consequence, only a secondary significance, whence it follows from a therapeutic point of view that one should not intervene in any special form against these two elements.

But independently of the dysthrepic cause and the multiplicity of mediate causes of hæmoglobinurias in general—hæmoglobinurias which are by nature dissimilar and which may be encountered in the course of divers diseases—the identity of result, the symptom unique and always the same, the hæmolytic phenomenon, in other terms, which differs in each case only in intensity, all these considerations lead to the consideration of bilious hæmoglobinuric fever, not as a disease, but as a simple syndrome of a morbid state, determined by varied and dissimilar causes.

The Indications and Contraindications for Great Altitudes in Treatment.—Dr. Suchard (*Revue internationale de thérapeutique physique: Polyclinique*, October 1st) has examined the climatic factors which allow of even the most delicate patients supporting low temperatures at great altitudes. These are: (1) *The lesser atmospheric pressure.* The higher we go the less the cubic metre of air weighs. At the sea level its weight is 1.293 kilo; at an elevation of 1,450 metres, it is only 1 kilo. On the other hand, as the air possesses a constant chemical composition, a less oxygenation results, which sets in action two mechanical factors, the one pulmonary, the other blood vascular. The first is an augmentation of the number of respirations; the second, an increase in the number of red blood cells, which compensates in a great measure for the deficiency of oxygen. (2) *The purity of the air.* (3) *Its dryness,* due to the fact that evaporation proceeds more easily in a stratum of air of lesser density. Often in winter, the hygrometric degree of the atmosphere is only 30, 20, or even 10 per cent., while at the plain level it is 99 per cent.; thus, the dry air appears less cold. (4) *The energy of the sun's rays.*—Everyone knows that the influence of the solar rays on the nutritive and nervous functions and on the pulmonary function is exceedingly beneficial. (5) *The low temperature;* this acts as a temperature reducer in febrile cases, and also stimulates the appetite. (6) *The tranquility of the atmosphere* which allows of walking and life in the open.

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WHOLE No. 1250.

Lectures and Addresses.

THE PRESIDENT'S ADDRESS DELIVERED AT THE FIFTEENTH ANNUAL MEET- ING OF THE AMERICAN ASSOCIA- TION OF OBSTETRICIANS AND GYNÆCOLOGISTS.

By EDWIN RICKETTS, M. D.,
CINCINNATI.

Of our shortcomings,
"Let us reason together!"

Since our last meeting death has taken from us one of our most valued and honored members, Professor James Thomas Jelks, of Hot Springs, Arkansas. Our ranks are broken, and while we say "close up" we will think of him as not dead—who lives in the memory of his works. "We live in deeds, not words."

In making a line for this paper, I was profoundly impressed, while looking over your fourteen presidential addresses, by the fact that they had thoroughly covered the scientific ground pertaining to our society. It was with some timidity that I chose the title given above. In doing this I was not unmindful of the fact that I was to criticise our profession in a general way in order to best consider our special shortcomings. In any or all of your discussions you have been so fair in legitimate criticism, and with it so full of forbearance, that I am encouraged to speak plainly. I fully appreciate and am thankful for the distinction conferred on me in being thus honored with the presidency of this society of special workers. With this honor comes my first opportunity and privilege of being requested to say what I think of you, at least collectively, without fear of a reply. My position is not without responsibility, and I will make duty my only monitor. Friendly and honest criticism, offered without prejudice, can do no harm; it may do good.

It is with pride that I call your attention to the five hundred original articles, with the one thousand pages of discussions, that stand as the result of your fourteen years' work toward erecting a monument that is to be in honor of your unselfish efforts of true special work. Your *Transactions* are to be read by the coming men in medicine, and it is for these that you have sown deep and well the seed of abdominal and gynæcological knowledge. The work of our most worthy secretary always speaks for itself, and

does it with no uncertain sound. While it is evident that you have accomplished much, it is also as evident that you should have done better work and more of it. All of this goes to prove that not everything has been accomplished that was promised not long before this society was organized. Your work has surely evidenced the fallacy of such a statement.

For the study of ancient gynæcology, showing that all surgical procedures were done yesterday, are done to-day and are lost to-morrow, I refer you to the book recently brought out by Stewart McKay, of Sydney, Australia. In this he clearly shows and kindly points out the uneven chart lines of progress from near the time the rib was removed for the making of the first woman, that Celsus gave us his well written observations on the anatomy of the uterus, and Galen gave his work on the dissection of the Falloppian tubes. I am yet to be convinced that anæsthesia was a lost art to Galen and his followers. Our professional troubles, of so complicated a nature, began with its unfortunate marriage to the priesthood. This brought incantations and superstitions that honest efforts on lines of true philosophical reasoning have not been able to eradicate. The worst of it is that our profession is still a willing slave to the priesthood, which flatters itself that it is able to make better the chances for our future, knowing that it has rewards of present positions to extend.

Like the church, medicine is denominational. Thorough organization is not ours, and for this we lack independence and the desired highest dignity possible, which would bring greater usefulness and better work for rich and poor alike.

For the association of our profession with the priesthood, as coming from many denominations, its members have had their views on practical Christianity broadened. Notwithstanding our open-handed charity, for this we have been criticised (but pills do act without ceremony, even to increasing the dose). Similar ceremonies without pills or scalpels are being taken up by many of the laity to-day. With some the patient is to recover with ceremony and without pills, while with others the recovery is to be more satisfactory if the doctor will only fail to ask for his fee; just let it be optional. Such demands were once of a more personal nature, while now they are strengthened by coming from denominational priesthood medical trusts—and no questions to be asked for the receiving.

The general practitioner of this or any other country is the backbone of medicine. It should not be otherwise. With just and mutually considerate relations, the best interest of the physician and specialist is not to suffer. With changed relations toward the general practitioner complications are sure to arise.

Our former old-time medical true allegiance must be renewed, and in no uncertain manner. For this lack of consideration the general practitioner has felt aggrieved, and he has not failed to retaliate on special lines and with a high mortality. Reestablish the better and old-desired relationship, and even a division of fees will not be requested. He sees the cases long before they come to you, and many times long after their return. You must have his confidence first; yours, to him, is secondary. He knows, long after your patient has returned to him, of some of your failures, when possibly you are well under the impression that they are successes. You are to be his handmaid in surgery, ready to respond to his call. Show him that he can trust you under any and all circumstances, just as so many of his families have learned to trust him—you must never forget that he has many delicate problems to overcome in order that you may be called into any of his cases.

After Ephraim McDowell established the fact that ovariectomy was legitimate and could be performed to save many, many lives, ovariectomy fell into disrepute—not for the failures of McDowell, but for that of incompetent general surgeons; so the general practitioner decided that, on account of such high mortality in the hands of general operators, it should be abandoned, and it was.

It was to be taken up again after more than a third of a century—beginning with 1809—had passed; and in the mean time thousands of women with ovarian tumors alone, not operated upon, died. Progress in the art of operating for the relief of these conditions ceased. For the efforts of the second generation of operators—such as Alexander, Dunlap, Sims, Peaslee, and others—for the relief of ovarian tumors and for vesicovaginal fistula, the mortality was lower than it had been in the hands of the best general surgeons for the fifty years following 1809. It remained for the Birmingham school (the third generation of special operators) to take up the scalpel in the best interests of surgical diseases of women, and to lower the mortality as never before; and with this pelvic surgery was given birth, and Lawson Tait reestablished an old operation for the repair of the completely and incompletely lacerated perinæum.

There is every reason to believe that abdominal surgery and gynecology, in the hands of general operators, result in a higher mortality than the work that is done by the special workers. The work in all hands is not so thorough on conservative lines. For the "all told high mortality" the doing of abdominal

surgery and gynecology undoubtedly is on the down grade; and it remains to be seen whether the brakes are to be reached, and if the general surgeon and general practitioner are the best to manipulate them. Some that have filled the demands of special workers in abdominal surgery and gynecology for a time seem ready to join hands with the general surgeon, feeling that this society and similar organizations should cease to exist (notwithstanding the fact that these special efforts have made abdominal surgery and gynecology famous), and that special operators should become general surgeons and accoucheurs. They would revive, in fact, the practice of doing an amputation for gangrene to-day and an amygdalectomy to-night with a case of erysipelas or some other infectious or contagious disease continually on hand. Under such conditions, even the strictest attention to and observance of surgical asepsis or surgical antisepsis is to give a mortality that will put us back fifty years. That is, the general practitioner will so judge us, and justly so, too.

He rendered judgment that settled the high mortality for the fifty years referred to, and it looks very much as though he would have the opportunity of doing as much again. The lowest mortality that we have ever had to record in our special work was not the result of the efforts of general surgery, for it long and loudly denied, with none less than Sir Spencer Wells, that Tait had found a "pus tube" and pelvic surgery. The first lowest mortality came to us as the result of the arduous labors of a most trying and sacrificing personal kind, through the efforts of Tait, Bantock, Thornton, Keith, Savage, Sinclair, and others coming from England—the country (and let it be said to her great honor) that has recognized longest and with the greatest respect the true specialist.

It has been most unfortunate for the very best desired results in abdominal surgery and gynecology, and for the best financial interests of the profession at large, that those few general surgeons with wide reputations in general surgery should do abdominal surgery and gynecology as a secondary matter. Such frequently comes as the result of large and unwieldy clinics that are responsible for aiding in seductive and delusive "six-weeks-touch" courses called polyclinics.

It is refreshing to see and read so frank an expression as that coming from James Hawley Burtenshaw, adjunct professor of gynecology in the New York Polyclinic (*New York Medical Journal*, August 30, 1902), on Gynecology and Country Doctors. He says that "the teaching is often over the head of the average postgraduate student, and he nearly always takes it too much for granted that his listeners have been well grounded in the principles of a particular branch, and that he therefore fails to enter sufficiently into the details of his subject. This is particularly

likely to be true when a large number of patients are present at the clinic, necessitating rapid and more or less cursory attention to each in order that the routine work may be completed in a specified time." He adds: "A six-weeks' or three-months' course at a postgraduate medical school will not serve to make of the most earnest worker a competent specialist in any branch of medical work." This is a frank and manly acknowledgment. I have purposely talked with men, east and west, who are connected with some of our best polyclinics, and they frankly admitted—in confidence—that the polyclinics were greatly at fault.

The final rapid polyclinic equipment, which is the result of the hurried and incomplete teaching, is not to bring the demanded low mortality for the work done after returning to their respective fields of general practice, or general surgery, or of both. For any one seeking the special field, ten years of active general practice, studying symptoms vigorously, to then spend a year working with leaders in the special surgical art will undoubtedly accomplish more. There are no short roads to the successful general practitioner any more than there are to our special line.

There are reasons why the physician and all those engaged in the practice of the specialties should enter the political arena. He owes this to his country and to the city, town, village or district in which he may reside. It will teach him what organization is, what and how a power can best be wielded for good. It will result in pronounced efforts for the organization of the medical profession, which in due time is to command the most respectful consideration from political parties as well as from the national, State and county government. To adopt such a course will make us a free and independent profession, and exact respect from church as well as state. Our commercialism is not judicious nor well applied. I say that the medical and surgical laborer is *always* worthy of his hire; but there is a right and there is a wrong way of obtaining an equitable financial remuneration. Commercial agencies can be made to serve you as they do business men.

Is the number of specialists to be decreased? I would say, "Yes, for a number of years, and surely with a higher mortality." On those remaining true to the special work and their followers will be imposed the task of working on new lines—the surgery of the pancreas; the earlier diagnosis of hydrosalpinx and pyosalpinx, with abdominal, vaginal, or combined drainage for restoration of function; earlier diagnosis and treatment of limited pathological lesions of one or both ovaries; stenosis, with or without fimbriated occlusion of the Fallopian tubes and their relief; the study and diagnosis of diseases of the spleen that are to be amenable for relief as com-

ing from surgical intervention; the prophylaxis of many of the surgical diseases peculiar to women—this to be taught to the sex in the most approved way, though delicate it be; the remarriage of obstetrics to abdominal surgery and gynecology. Then we are to be in line with Germany, France, and England.

While the laity is to be the last to appreciate the importance of the lowest mortality possible, they will come along in due time, and their decision will again create desired special demands that will be gladly catered to by a less capricious and wiser profession. With this our specialty is to be again popularized, until the general surgeon is to consider the invading of our new field which we have made possible for the redemption of our specialty. For the reason of our pioneering, if the general surgeon cannot do the work better, in justice he should stand aside. If he can do it better, we are ready to yield to him the special surgical palm. With medicine thoroughly organized, each specialty, along with the higher grade of merit demanded for the recognition of the surgical worker, knocking at the door, that competitive commercial spirit which now exists as one specialty against another would not receive the undesired recognition of to-day. All other professions and trades have said of us—and not without truth—that we have no thorough organization. Granting the truth of the assertion, the fault lies within ourselves; for the correction, we cannot expect or ask that others begin the work for the solution of this very important problem.

Now that women are on a coequal footing in medicine for the same prescribed laws, State and medical, as men, it should be our duty and our pleasure, to assist in the correcting of certain abuses. For instance, the obstetrical practice, as coming from the poorer classes, should be liberated from the too oft dirty midwife and placed in the hands of the lady physician, and financially, if necessary, at the figures of the midwife. Ten per cent. added on the lines of infection comes from the deliveries at the hands of the midwife.

The true working relationship of the neurologist, as bearing on our special work, must be better and far more appreciated. He should be called into consultation oftener, and he in turn should consult with the gynecological and abdominal surgeon before sending any of his patients to an institution for partial or permanent detention.

It is maintained by some that all men cease to be aggressive in the trades and professions at fifty years of age. If this is true, there is much food for thought as to the best interests of many of us in this society. If this is true, then we must console ourselves with the fact that others passed from the arena as we came in. It is with such a possible transitional state in view that we have in reserve young men who, we are sure, will plant our standard farther toward

the desired pole. In doing this, they are to prove, by their good work, that all has not been accomplished.

What would come from that which we have considered? A national secretary of medicine. It would be medicine, not priesthood and medicine. It would be medicine on its highest and broadest plan; and for this the members of the specialties would duly consider and honor each other. It would mean dignity, higher regard, influence, and an equitable financial remuneration. It would be for the medical profession to assist in making the world better. It would be for the higher education of our boys and girls who may determine to enter the ranks of medicine. It would be that our profession would know better how to ask and how best to obtain that which it has so long needed and justly deserved.

Original Communications.

PATHOLOGY AND TREATMENT OF EPILEPSY.*

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(Concluded from page 798.)

As regards treatment, we should always begin with a careful examination of the patient all over, to search for the possible existence of some one source of abnormal afferent excitation. Such a cause is too often found in an intracranial focus of irritation following upon an injury to the head. The history of a severe fall, it may be years before, is therefore always worth noting. But, in my experience, virtually the same organic cause of intracranial irritation can be found as the sequel of a venous thrombosis in the meninges occurring in the course of one of the specific fevers, such as typhoid, scarlet fever, etc. One of the most curious instances of the kind in the form of quasi-Jacksonian convulsions occurred in a middle-aged woman after an attack of diphtheria. The history of an attack of sunstroke also is not an uncommon antecedent. This entire class of epileptics very often admit sensations of discomfort about the head on barometric changes in weight of the atmosphere presaging a storm, or on exposure to a hot sun. I always prescribe for such patients, in conjunction with other remedies, a long continued dosing with 1-25th of a grain of mercury biniodide t. i. d. and the application to the mastoid processes and nape of the neck of the biniodide ointment, according to the recommendation of Dr. Fuller, of the London Hospital, many years ago before the bromides were thought of.

One of the most curious of the vagaries of epileptic attacks as regards symptoms occurs where the primary focus of irritation is in the nose. They are almost invariably associated with growths or thickenings which cause pressure on the ethmoid. Vertigo is a frequent symptom, with distress in the ears and sensitiveness to sound. The coma following the attacks is sometimes quite prolonged. Constant tendency to weep and loss of memory are very common in them, but it is remarkable how promptly and permanently many of these patients are relieved by a removal of the cause of the irritation. When we consider how intimately the nose is associated with the respiratory nervous mechanism in the medulla, as is often illustrated in the ætiology of asthma, the further implication of those centres by similar chronic changes in the upper nasal passages becomes quite probable, and therefore should lead to a careful examination of those passages in every epileptic.

The greatest area of reflex excitability in the whole body, however, is in the throat, just at the crossing of the tracts of respiration and of deglutition. The nervous mechanism which presides there over muscular movements may be likened to that of a railroad switch, which is ever summoned to prevent instantly anything which is to be swallowed from going down the wrong way into the larynx. Rapid eating and drinking keeps that nervous mechanism in a perpetual state of excitement, and I feel sure that I have met with cases in which the first epileptic attack was caused by the habitual hurry of the patients in this respect. Now nothing is more common than to find overexcitability in the throats of epileptics. I have no doubt that the common habit in them of bolting their food before it has been sufficiently masticated is often due to their inability to keep from swallowing as soon as a morsel passes near the posterior surface of the tongue. I would strongly recommend in such patients the application to the whole pharynx of a solution of silver nitrate, ten grains to the ounce, once a week, and after a time the tincture of iodine instead.

The gastrointestinal tract is well known as often the seat of afferent irritations whose radiation may be wide enough. We need not be surprised, however, that the precise focus here may elude our search, for a large proportion of them may start from some hidden branch in the great distribution of the vagus. Sometimes the characters of an aura may afford a probable clue here, as they may do on further investigation in intracranial cases, but the whole mechanism of auras needs more study than has been given to it. In all epileptics troubled with constipation I prescribe the constant use of belladonna.

On the other hand, the transmission of an abnormal afferent impression frequently can be prevented or turned aside, so to speak, by an artificially induced

* Read at stated meeting of the New York Academy of Medicine, October 16, 1902.

counter impression. Acting on this principle, I have for many years employed the red pepper pack at night to the whole surface, of an infusion of the strength of from one half to one drachm of capsicum to the pint of boiling water, and applied until the whole skin is reddened. At one of my clinics I had a very confirmed case of a boy aged ten years, who had almost daily attacks. I told the class that, to test the effects of this measure, I would give no medicine but would prescribe the pack with directions to the mother to report at the end of the week on the number of fits. She did not return for five weeks and explained her absence by saying that he had not had a fit until the previous day.

Medicinally, the action of our most widely accepted remedies for the cure of epilepsy would seem of itself to be decisive as to the primary seat in the nervous system of the disease. Thus, the bromides, according to the universal consensus of experimenters, act on the peripheral sensory apparatus exclusively, when administered to animals in doses corresponding to therapeutic doses in man. Under their influence, a frog or a rabbit may have its reflex activity wholly abolished, and may even show cutaneous anaesthesia to be complete, and yet, when alarmed, it jumps vigorously, thus proving that its cortical efferent functions are intact. In man, if a patient shows such excessive excitability in his pharynx that you cannot touch it with the mirror of a laryngoscope, a dose of thirty grains of potassium bromide will soon enable you to make the examination without trouble. The bromides, however, are too often administered most carelessly, just as if they were specifics for every case. But as they have to be administered in free doses for prolonged periods, we should never forget that they are unnatural to the body, and therefore sooner or later they will act as poisons. As soon as they do so, which is shown by their specific poisonous symptoms familiarly known as brominism, they begin rapidly to lose their remedial properties. It is our duty to postpone brominism as long as possible, by careful attention to the general health of the patient and by counteracting the deleterious influence of the drug on the blood. For this purpose I would strongly advise the administration of cod liver oil and phosphorus.

There is no reason why the peripheral sedative effect of the bromides should not be reinforced by the simultaneous administration of other agents possessing similar properties. The coal tar series supplies us with drugs of the kind, particularly antipyrine. These medicines not only possess analgetic properties, but they seem likewise to increase the specific action of the bromides. I have found excellent results from adopting the prescription of Professor Horatio Wood, of adding one grain of antipyrine to every two of the ammonium bromide in each powder. As

these agents, however, are nervines, and therefore sooner or later lose their effects, it is well to vary them and substitute for a time other members of the coal tar series. Chloral, also, is an excellent adjunct to the bromides, though it should not be given in larger doses than ten grains. With such precautions and with such adjuncts these great peripheral sedatives are simply invaluable in the treatment of epilepsy, and failure with them is like failure with quinine in ague, sometimes real but oftener owing to faulty administration.

The great aim, however, in the treatment of epilepsy is prophylaxis. Anything which increases the intervals between the attacks is so much gain against the great evil of the pernicious epileptic habit. Mere routine administration of drugs and undue reliance on them alone is the chief cause of want of success in the treatment of this deeply seated disease. An epileptic should always be regarded as having a profoundly perverted constitution, and no measure should be neglected to improve his general health and to discover any cause of ill health in him. Now, one of the commonest causes of ill health is toxæmia from autoinfection. Blood poisons may at any time of life cause a person to acquire epilepsy. We see this in the epileptic convulsions caused by a prolonged drunken debauch, in uræmic convulsions, and in the case of puerperal convulsions. These attacks are often termed epileptiform. But there is no such thing as an epileptiform convulsion, even in infants. These attacks are just as typical in their clinical accompaniments as any attack of grand mal, with the same biting of the tongue, clonic spasms, and subsequent coma, and all the other details that ever occur in an epileptic paroxysm. The toxæmia which produces them may be temporary, but that does not alter the nature of the attacks themselves. All that is needed to have them graduate into the full degree and title of epilepsy, is to have them recur often enough to establish the epileptic habit. That they often do so in the case of infantile convulsions is well known, and the reason why epilepsy in general is the more difficult to cure, the younger the patient, is because that is the age for easily contracting lifelong habits of every kind.

It is in the gastrointestinal tract that the source of the commonest autoinfections is to be found. Hence the prime importance of diet in the treatment of this disease. I always tell patients that they cannot get well if they continue to be hearty meat eaters. I cannot understand why some writers maintain that deprivation of the red meats is not important in the treatment of this convulsive disease. Carnivorous animals when they die from natural causes most commonly die from epilepsy, and the difference between them and the herbivora in proneness to convulsive attacks, is certainly known to all. So far as my ex-

perience goes, a return of the disease has been too often the case in patients who have resumed a meat diet to make me doubt the reason. On the other hand, everything indigestible, whether on general or on personal grounds, should be carefully avoided by the patient, particularly at the evening meal.

Intestinal antiseptics are always prescribed by me sooner or later in treatment, particularly if a bad breath accompanies or follows the attacks; and also in those cases characterized by attacks coming in groups. It is the peculiarity of toxæmias with nervous accompaniments that the poison has to accumulate up to a certain critical point before the nervous explosion takes place. This is shown in the case of uræmia, gouty asthma, and in migraine, which affection, I have taught for many years, is due to a toxæmia and not to a neurosis, and should be treated as such. I believe, therefore, that those epileptics whose attacks come at short intervals, to be followed by comparatively long periods of freedom, are pretty surely connected with autoinfection from the intestines.

Imperfect elimination by the kidneys of urine is another cause of blood contamination, but of late years I have been much struck with the nervous derangements which characterize those patients whose elimination of urea is much below the normal, though no other evidences of kidney disease could be discovered in them. Thus two gentlemen recently consulted me for a characteristic variety of nervous symptoms, which variety itself led me to ask for an examination of the urine. They both assured me that they had passed life insurance examinations within a year and nothing wrong had been found in the kidneys. I found, however, that the first patient eliminated only 13 grammes of urea in the twenty-four hours, and the second only 15 grammes, while they should have eliminated between 24 and 30 grammes. An epileptic may have his disease largely kept up by insufficient renal elimination, though he never has either albumin or casts in his urine.

Lastly there is one remedial measure to which I would assign the very first rank, and that is life in the open air. Though I do not believe that this will greatly avail in those cases where the disease is dependent upon an organic focal irritation within the cranium, yet in all other conditions there is nothing which will compare, for its sedative and healthy effect on afferent excitability of any form, whether with sensory or motor accompaniments, with open air life. This may be partly due to the fact that open air life is our most effective preventive of toxæmia from autoinfection. But, on general principles, open-air treatment is as much indicated in the treatment of epilepsy as in the treatment of tuberculosis. If to this can be added the great nervous remedy of

frequent change of scene, so much the better, as by this means we have our most effective agency for breaking up vicious settled nervous habits.

Epilepsy, whatever its form or manifestation, is a grave disease, because its seat is at the foundation itself of nervous life. Often, it is the most ruinous to the mind and directly leads to insanity, not infrequently homicidal, when its attacks show the fewest external signs, simply because the process did not involve the motor area, but turned inwards to other cerebral centres. So the greatest interior damage may take place in an edifice of which the exterior walls show but little evidence. It is because the startling symptoms of its convulsive motor forms so deceptively suggest instability of efferent centres as its cause that I have endeavored to show that everything in epilepsy is secondary to abnormal conditions in the afferent system, and to advocate dealing with them in our measures for treatment. I have heard it said that if afferent derangements were the cause, we should all be liable to convulsions from the action of our peripheral nerves. The answer is that only *abnormal* afferent stimuli can be disturbing, and that we have many examples of epilepsy due solely to such abnormal afferent excitation; while, on the other hand, the same objection might be made to the theory of central instability by asking why we all are not liable to convulsions from the working of our brains.

After an experience of fully thirty years in the treatment of this disease I would state the prognosis for complete cure in average cases as being quite 70 per cent. The chief reason why the percentage of actual cures does not ordinarily reach that figure is owing to the difficulty of getting the patients to persevere in the whole details of the course. After a more or less prolonged freedom from the attacks, they grow careless and neglectful. They should be enjoined to regard themselves as still epileptics until fully two years at least have elapsed from the last sign of an attack, and that they must continue in strict observance of the measures recommended for that period. The incurable patients are those in whom an intracranial cause of afferent derangement has been operative from early life, such as malformations of the skull, premature closure of the fontanelles, or injury to the head from difficult labor at birth. Aside from these, there remain those in whom the epileptic habit has been engrafted upon a poor constitution from youth, but even in these it is encouraging to know that many of them can be cured altogether, as I know personally to have occurred in a number who have been under my observation for from ten to more than twenty years.

A CASE OF RINGWORM OF THE FACE.
AND TWO OF THE
SCALP CONTRACTED FROM A
MICROSPORON OF THE CAT;
WITH SOME OBSERVATIONS ON THE
IDENTIFICATION OF THE
SOURCE OF INFECTION IN RINGWORM.
CASES BY MEANS OF CULTURES.*

By A. D. MEWBORN, M. D.,

NEW YORK.

(FROM PÆDIATRICS LABORATORY, N. Y.)

While the large-spored and small-spored ringworm in the scalp of a child may be easily distinguished microscopically or by cultures, nevertheless it is in ringworm of the face or body that it is at times impossible to say whether the cause is a trichophyton or a microsporon. This difficulty seems to be due to the modification of the small spore into the type of the chain-like trichophyton. This may be explainable by differences of soil, and its identity can only be established by cultures. These cases become all the more perplexing if a patch of small-spored ringworm is found in the scalp and a few scattered efflorescences on the neck and face show large chain-like spores. Since the publication of Sabouraud's classical work on ringworm, it is generally accepted that the abundant cutaneous efflorescences of the herpes circinate type, are due to the trichophyta. He asserted that the *Microsporon Audouini* was not contagious to the adult, but that it was confined to the scalp of the child (no secondary inoculations) and that it healed spontaneously at puberty, and was difficult to inoculate on animals. These cases which present exceptions to the above generalizations are due, in the writer's opinion, to a microsporon of animal origin. The cat and dog being the most petted animals, are the most common sources of infection. Bodin (1) describes two distinct forms of the small spore of animal origin, microsporon of the dog, and microsporon of the horse. The microsporon of the dog produces patches in the scalp of the child which are indistinguishable from that of the *Microsporon Audouini*, and, like it, do not attack the glabrous skin. He states that it is inoculable on all the laboratory animals, although he fails to mention the cat as a host of this fungus. The microsporon of the horse is rarely found in the human subject, and then only on the non-hairy skin as a very superficial and benign affair. Fox and Blaxall (2), in their masterly study of the plural-

ity of ringworm fungi as found in London, report fourteen cases of microsporon of the cat. In only one case, however, were they able to trace the infection directly to the cat. In this case the mistress of the institution had a circinate patch on the chin, which she had contracted from a pet cat or a kitten, both of which were affected with a typical small-spored ringworm. They give as characteristic of this fungus its rapid growth on culture media. A round, white, downy tuft shows on the fourth day. The whole surface becomes covered with the radiating hyphæ which are coarser and more bristling than the *Microsporon Audouini*. At the end of two weeks there develop concentric, brownish-yellow rings, and a peripheral fringe. The principal means of identification, however, are the chlamydospores. These are very abundant, multilocular, and have bristles. In nine cases only was the scalp affected; in two, the scalp and glabrous skin; in three, the glabrous skin only. Two of the head cases presented marked kerion. Fox draws the conclusion, from the lack of its description by the French authorities, that it does not exist in France.

Truffi (3) in a recent and able study of the trichophyta, mentions the exceeding rarity of the microspora in Italy, and describes carefully the microsporon of the dog. He agrees in the main with the description of Bodin and does not mention the cat as a host.

The following cases are considered interesting as throwing some light on the difficult question of the polymorphic clinical appearance presented by the same parasitic fungus—the microsporon of the cat.

CASE I.—Miss X., aged sixteen years, was referred to me by Dr. E. A. Ayers, on account of an eruption of the face of ten days' duration. The eruption commenced as a small circular patch, red, scaly and itchy. Three other patches developed on the left side of the face and one on the neck, became covered with silvery white scales, and increased in size to about half an inch in diameter. The largest patch under the left eye differed from the others in having a circinate border of papulo-vesicles, resembling slightly a "herpès iris vésiculeux" (Fig. 1).

When questioned as to a possible source of infection, the patient described a pet kitten which had been losing its hair in spots for three weeks, and stated that she had often held the kitten to her cheek.

Scales and downy hairs were taken from the different patches, fixed on slides with acetic acid, dried, passed through the flame, washed with absolute alcohol and ether to remove fat, and stained.

Polychrome methylene blue of Unna or that of Goldhorn sufficed in the scales to bring out the long chains of trichophyton-like spores, as well

*At the author's request we state that this article was received at the office of the *New York Medical Journal* on August 4, 1902.



FIG. I.—*Microsporon felinum*. Miss X (aged 16). Ringworm of the face. Description: two small scaly patches on the nose between the eyes. Two similar patches on the temple and on the jaw. Under the left eye a patch about one half inch in diameter, scaly with papulo-vesicular margin, resembling herpes iris of Bielt.

as slender, jointed, and branched mycelium. The two downy hairs shown in Fig. 2 were removed from the centres of two vesicles in the herpetic patch; these were stained by the method of Malcolm Morris¹, and presented what I considered a typical picture of the *Trichophyton megalosporon*, i. e., a sheath of large, longitudinal, chain-like spores. These spores varied in size from $4\ \mu$ to $8\ \mu$, and, although entirely ectothrix, they in no wise resembled the closely packed mosaic of small spores subsequently found in the hairs of

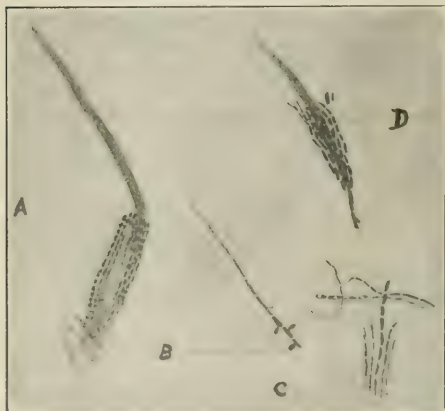


FIG. II. Scales and hairs from the face of Case 1. Stained by method of Malcolm Morris. Scale of drawing same as FIG. IV. A and D, epilated downy hairs from the impetiginous patch. Showing the sheath of large chain-like spores. B, budding mycelium with grape-like spores. C, cluster of chain spores.

¹ The Malcolm Morris method of staining the trichophyton is as follows: (1) Alcohol and ether. (2) Stain for five minutes in gentian violet, 1; absolute alcohol, 20; aniline water, 30. (3) Iodine solution, one minute. (4) Aniline, plus two drops of nitric acid. (5) Aniline, 100; Xylol, 100; Balsam, 100.

the kitten suspected of having conveyed the infection. In the specimen taken from the herpetic patch, containing some of the serum from the vesicles, was found a long chain of mycelium bearing grape-like spores, one attached to each segment. This development of the external spore in the parasitic life of the ringworm fungi has never been described before, unless we except Caraté and Tokelau, the fungus of which is more of an aspergillus than a trichophyton. It is possible that the fluid in the vesicle afforded an ideal culture medium for this form of spore reproduction.

The kitten, which was brought for examination on the next visit, was found to have a number of ringworm patches on the face, ears, abdomen, and sides of the body. The two patches here shown (Fig. 3) in sharp contrast by an epilated zone around each patch, were oval in shape and about an inch in the long diameter. The skin was thickened and covered with fine



FIG. III. *Microsporon felinum*. Source of infection in case of ringworm of the face. (X.) Description: The two oval patches here shown in sharp contrast by epilation of a surrounding band, were about an inch in diameter, stubby hairs many of which were coated with spores; skin scaly and thickened. There were patches on the kitten's face, abdomen, chest, and back.

white scales and spores of the fungus. The hairs were broken and stubby. When the diseased hairs were epilated they broke off just below the skin and to the naked eye could be seen to have a coating of spores. These hairs examined under the microscope in caustic potash solution, or fixed and stained as before described, revealed the closely packed, tessellated arrangement of the *Microsporon Audouini*, the only noticeable difference lying in the absence of the long endothrix mycelium, in the spores being smaller by one or two micra, and in their being entirely ectothrix. In the scales, only isolated spores, but no mycelium was found.

A biopsy was made on one of these patches by means of the Fordyce skin punch, the section was hardened in alcohol and imbedded in paraffin. Sections stained by the method of Morris (Fig. 4) reveal graphically the manner by which the fungus invades the hair follicle. The large bulbous and branching ends of the invading mycelium can be seen to extend between the inner

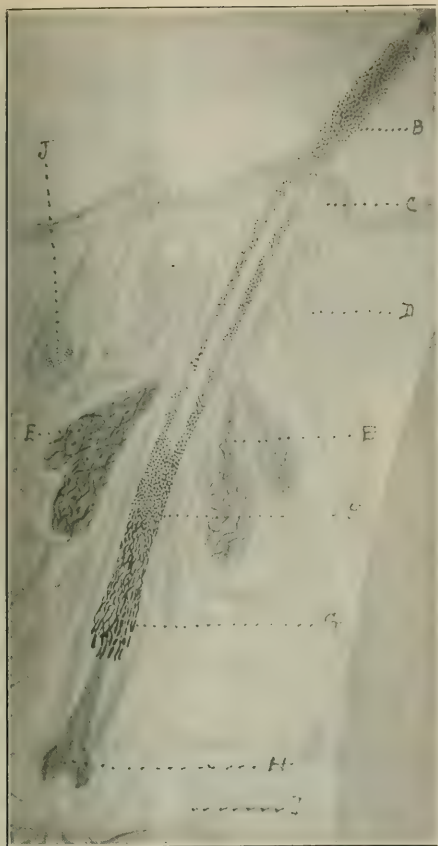


FIG. IV. Semi-diagrammatic drawing of a section of cat's skin. Hair follicle invaded by the microsporon. Stained by M. Morris method. Scale of drawing is in such proportion, that each spore at (B) represents a spore four micra in diameter in the section. A, hair shaft. B, sheath of spores, enveloping but not invading hair shaft. Entirely ectothrix. C, Epidermis. D, Dermis. E.E. Sebaceous glands. E, Point at which the invading mycelium breaks up into cuboidal spores which become packed into the mosaic or tessellated appearance. G, Bulbous ended portion of the invading mycelium. Root sheath widely separated from the hair shaft. H, Hair bulb. I, Connective tissue. J, Cross-section of hair.

root sheath and the hair shaft down to the level of the junction of the derma and connective tissue (Fig. 4. G). At the point marked F (Fig. 4) the filaments seem to break up into cuboidal segments, which can be seen at first to preserve a distinct chain-like arrangement until, becoming more closely packed by the continual crowding up from below of more spores, they assume the typical polygonal or mosaic appearance. As the hair grows this sheath is carried one or two millimetres above the surface of the skin as a white powdery mantle. A cross section of one of the

hairs fails to reveal the presence of the fungus within the hair shaft. When a comparison is made between the chain-like spores in Fig. 2 and the large bulbous mycelium in the deepest portion of the follicle, Fig. 4, an explanation of the mistaking of a microsporon for a trichophyton can be found, *i. e.*, the large jointed mycelia around the downy hairs were immature forms of the microsporon which had not yet broken up into the closely packed mosaic of spores.

Cultures made from the hairs of the kitten and from the ringworm patches of Miss X, gave, on malted agar, on glucosed agar, on beer-wort agar, and on placenta-glucosed agar, absolutely identical growths. On beer-wort agar (made by adding one-and-one-half per cent of agar-agar to the sterilized and filtered beer-wort obtained from a brewery, neutralized and found to contain about four per cent. of maltose) the most abundant and striking cultures were obtained. In Erlenmeyer flasks, kept at room temperature, the growth showed itself on the fourth day as a downy tuft which rapidly spread radially, the hyphæ being very coarse and "hairy." About the tenth day the centre became decidedly yellow. At the end of two weeks, the culture presented its most typical appearance and might be described as a large, flat, circular, silky growth with a central button around which was a depressed "chamois" colored area. Around this was an elevated white zone, surrounded by another brownish-yellow circle. The margin was a delicate feathery fringe with a decided *tangential inclination to the left*. This tangential fringe has only been observed in this cat ringworm and only on beer-wort agar, and gives to the margin of the culture the appearance of a "circular saw." This uni-

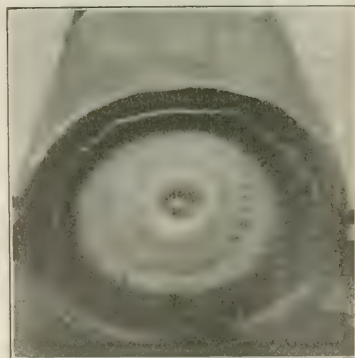


FIG. V.—*Microsporon felineum* (X. aged 16). Culture on beer wort agar from ringworm of the face (2 weeks' growth). Description: large, flat, circular downy growth. Central button in buff-colored area. Concentric ring of buff color, with tangential fringe radiating to the left.

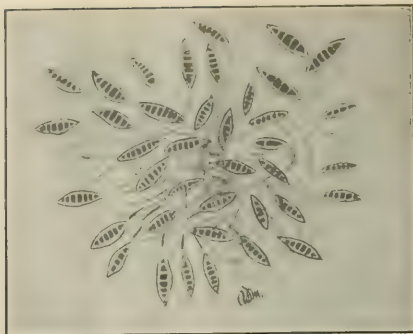


FIG. VI.—Multilocular spindles or chlamydospores in hanging drop culture of beer wort. Inoculation made from ringworm of the cat. Spindles are about 20×60 micra, and are divided into from five to eight compartments. When the spindles are mature the mycelium bearing them dwindles and ceases to take the stain.

form deviation of the fringe cannot be explained by any trick of inoculation or contraction of the medium, or it would appear in other fungi which were tried, such as the *Microsporon Audouini* and the *Trichophyton ecotothrix*. The case of Miss X and the kitten gave cultures which were identical with Fig. 5. The "chamois"-skin colored and brownish rings owe their color to the abundant development of fusiform, multilocular spindles, or chlamydospores. These chlamydospores are oval in shape and vary in size up to 20μ by 60μ , and their granular protoplasm is divided



FIG. VII.—*Microsporon* of the cat. Taken from the face of Miss X. Two weeks' growth on placenta agar (glucosed).

into from five to ten quadrangular compartments, by partitions which seem to be continuous with the cell wall. When stained, the quadrangular spaces are deeply colored, while the partitions and cell wall remain clear or only faintly colored. These fusiform bodies are reproduction forms common to the trichophyta and the microspora, but have numerous points of distinction. The microsporon chlamydospores present numerous short spines at the apex of the external cell wall.

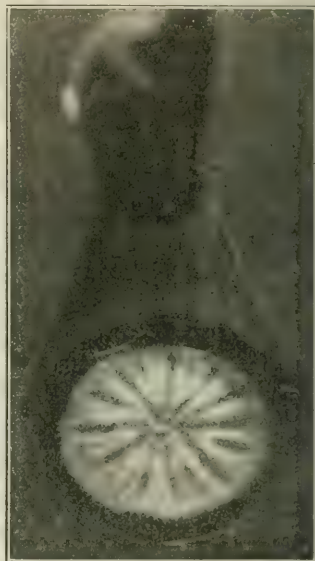


FIG. VIIa. *Microsporon* of the cat. Culture taken from the cat. Two weeks' growth on placenta-glucose agar. (Culture from the scalp of case E, identical with the above.) Note: The entire flask is shown in two cultures to illustrate the method of photographing without destroying the flask. The camera is tilted to an angle of forty-five degrees to the surface of the culture. The flash is placed so that the rays of light will fall upon the growth from the side opposite to the camera and at the same angle. The rays of light thus entering and leaving the Erlenmeyer flask at right angles to the sloping sides, all reflection from the flask is avoided.

These bristles are not found in the trichophyton spindles. The trichophyton chlamydospores are much narrower, and usually have long and pointed filaments projecting from the distal end of the spindle, which Fox calls "whips." These "whips" are absent in the microsporon spindles.

Studied in the hanging drop of glucose bouillon or beer-wort, in the moist cell of Sabouraud or Bodin, the inoculated spindle can be seen to send out branches of mycelium from each compartment. These branches form a dense interwoven trellis, which at the end of ten days reaches maturity and develops chlamydospores at the end of the filaments. The hanging drop can then

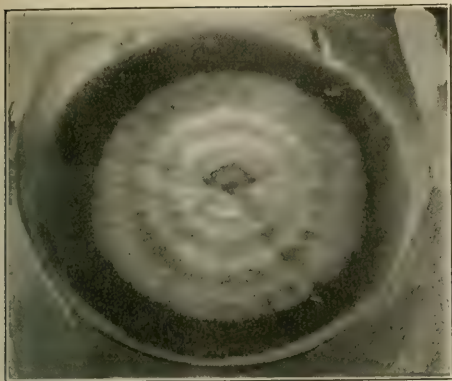


FIG. VIII.—*Microsporon felinum* (E. aged 10.) Culture in Erlenmeyer flask on maltose (2%), lactose (1%) agar. One month's growth at room temperature. Description: large, downy, circular growth with a pentagonal buff-colored depressed center from which radiate five plications. Concentric buff-colored bands.

be dried in the incubator, fixed with acetic acid in the flame, and stained as before described. When the chlamydospores are mature the mycelium shrivels and ceases to take the stain (Fig. 6).

On a three-per-cent glucose agar, made with placenta bouillon, the growth has particularly long aerial filaments, which have a silky gloss and most geometrical plications. There is only a faint development of the yellow color, due to the scarcity of spindles. The identity of the fungus from the two sources is well shown in cultures at the end of two weeks on placenta-glucose (three per cent.) agar. Figs. 7 and 7a.

This placenta-glucose agar is made in the following manner: A human placenta, weighing about five hundred grammes, is chopped fine and

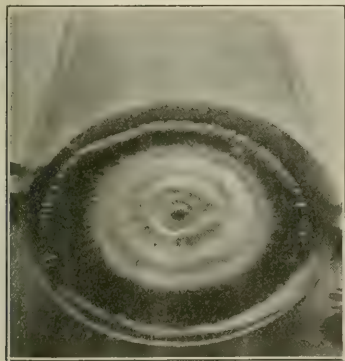


FIG. IX.—*Microsporon felinum* (E. aged 10.) Ringworm of the scalp. Culture on beer wort agar (2 weeks). Description: large, flat, circular growth with a central button around which is an area of a buff color. Concentric buff colored rings with a tan-colored fringe.

soaked over night in one litre of water. Squeeze out, boil, and skim. Add glucose 30, peptone 10, sea salt 5, boil, neutralize, and filter. Add agar-agar 20, sterilize at 120° C. for ten minutes, filter, distribute in flasks. After these are sterilized at 115° C. for fifteen minutes and allowed to solidify, they are ready to be used. This medium is particularly good for all the hyphomycetæ, and has been recommended by Gaston (4) as a medium on which he has obtained a culture of the *Microsporon furfur*.

This microsporon of the cat shows a marked tendency to pleomorphism, or the development

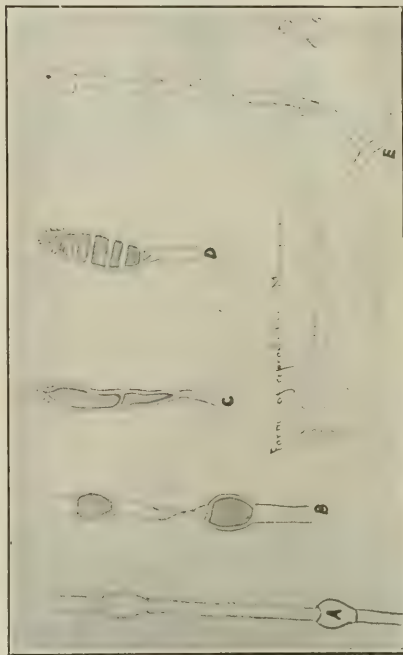


FIG. X.—Diagram showing the three forms of reproduction of the microsporon. A. B. Endoconidial. C. D. Chlamydospores. Each segment capable of giving origin to a mycelium. E. Accladium form of spore bearing. Found in old cultures that have undergone pleomorphism (after Bodin).

on cultures kept at 37° C. for some weeks, of heavy white tufts which Bodin (5) has called accladium. This form of pleomorphism, which he has studied and described in microsporon of the horse and of the dog, once developed, can be carried on indefinitely in cultures and can only be brought back to its original form by inoculation in an animal. In the accladium form he describes the tufts as being composed of erect, slender, long jointed aerial hyphæ, bearing small round or oval spores. These spores are from two to

four micra in size, and are attached laterally to the mycelial segments (Fig. 10, E). My own study of the pleomorphism of the microsporon of the cat has not been carried far enough to report, except to say that the hyphæ do not bear external spores, that the type remains constant, and that it is not a mould.

Experiments on animals.—Two young guinea-pigs were prepared for inoculation by shaving an area, an inch by two inches, on the back. The skin was scrubbed with soft soap and ether, then scarified, and inoculated from pure cultures on beer-wort agar. Cultures were taken from the tangential type of two weeks' growth. The guinea-pig inoculated from the culture obtained from the cat showed, on the eighth day, an erythematous patch, which, on the tenth day, was well marked and circular, with accumulation of epidermic scales. At the end of two weeks the ringworm was typical, and presented almost the same aspect as in the cat, i. e., stubby hairs, red and thickened skin, with powder-like spores and scales. The epilated hairs showed typical mosaic of spores. A section of skin taken from the patch showed, on staining in the microscopical section, the same ectothrix sheath of small spores. In addition, specially well marked in the downy hairs, were endothrix chains of mycelium; not slender filaments, but larger even than the spores comprising the sheath.

The guinea pig inoculated from the culture of the case of Miss X developed a patch of ringworm at the end of two weeks, in which there was not so much inflammatory reaction, but which gave the same mosaic of spores around the hair roots. All the foregoing data were useful in tracing the source of infection to a microsporon of the cat in the following two cases.

Case II.—E., aged ten years, the daughter of well-to-do parents, came under the care of Dr. P. A. Morrow, for an obstinate ringworm of the scalp as well as two circinate patches on the neck. Some of the suspected hairs were sent to me for an examination, and under the microscope the hairs presented the typical appearance of the *Microsporon Audouini*. Pure cultures on maltose-lactose agar in Erlenmeyer flasks gave, at the end of two weeks, the typical rapid growth with concentric yellow and brownish rings, and the white feathery fringe at the margin (Fig. 8). On beer-wort agar, at the end of two weeks' growth, it gave a culture absolutely identical, even to the tangential fringe (Fig. 9) with that obtained from the cat, and from case I. In glucose-bouillon drop cultures the same form of reproduction by chlamydospores was found. The color bands contained the same profusion of spindles. On glucosed (three per cent.) placenta agar the identity was still further established, as shown in Fig. 7a. The child's mother, who was questioned

as to the source of infection, admitted that, while the child was most carefully watched as to children associates, she was very fond of cats and could not be restrained from picking up and caressing strange cats or kittens.

Case III.—Charles T., aged eight years, applied for treatment at the New York Hospital, outpatient department, Dr. Morrow's class this year, for a patch of ringworm in the scalp. The patch was about an inch in diameter, on the back of the head, and seemed to be a typical small-spored ringworm. The boy admitted as source of possible infection another boy in the public school, whose head showed a number of bald spots. A microscopical examination of the hairs revealed a *Microsporon Audouini*, but cultures on beer-wort agar and glucose agar gave the same yellow and brownish concentric rings with the same forms of chlamydospores. In this case the ringworm was of undoubted animal origin, although the patient might have contracted it from his schoolmate.

As to Treatment. On the glabrous skin the affection is a trivial one, yielding to a few applications of tincture of iodine, but in the scalp it requires all the patience and skill of the practitioner, and from the number of remedies prescribed, all the resources of the materia medica.

Truffi (6) in conclusions drawn from experiments made by Calderone and previous experimenters, as well as from his own, on the antiseptic action of different agents on the hyphomycetæ—experiments made on cultures, on the affected hairs, and on the patient's scalp—comes to the conclusion that the resistance of all the parasitic fungi (achorion, trichophyton, and microsporon) to chemical agents is diminished by using an agent which removes the fat from the scalp and hairs, such as alcohol and ether, or carbon bisulphide. Hence it follows that ointments having an oily base are not so good as solutions in alcohol and ether. He finds that salicylic acid ten per cent. in either, kills the trichophyton spore in five minutes. Chloroform for twenty minutes prevents its growth. Resuming, he states that the substances most active against these fungi in parasitic life are, corrosive sublimate, carbolic acid, salicylic acid, tincture of iodine, chloroform, carbon bisulphide and among gaseous substances, sulphur dioxide. But he insists upon the necessity of epilation. Calderone (7) finds confirmation of the favorable use of tincture of iodine and glycerin, equal parts (such being part of the treatment at the École Lailler, Paris) in the fact that infected hairs placed in this solution for five minutes fail to give cultures. Morrow uses chrysorobin ten per cent., salicylic acid five per cent. in traumaticin (liquor gutta perei).

In view of the long and tedious treatment of

ringworm of the scalp, as well as of the enforced absence from school, the danger of contracting these diseases from caressing animals should be called to the attention of parents.

Résumé and conclusions.—First, that differences of soil modify the clinical picture of a skin ringworm as well as the microscopical appearance of the fungus.

Secondly, that in the fluid of a herpetic vesicle the mycelium of a microsporon may produce external grape-like spores.

Thirdly, that the yellow and brownish bands and the tangential fringe on beer-wort agar can be used to identify the source of infection in ringworm of the cat.

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DEPRESSED FRACTURE OF THE MALAR BONE, WITH REPORT OF THREE CASES.

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ETC.

Three cases of fracture of the malar bone have come to me during the past year. Two of them presented themselves immediately after the accident, and the third was seen within ten days after the injury. They are of some interest to the profession, owing to their rarity and because the method used to elevate the bone is not emphasized by writers.

CASE I.—Thomas A., aged forty-four years, received a blow of stone falling from the hill. The cheek had a small wound. The entire bone, including the frontal process, was driven in so far that the eye ball was forced outward about half an inch. Vision was temporarily destroyed. An effort was made to force the bone outward with the finger in the

mouth, but this was impossible. It was decided to make a free incision down to the bone and make an effort to get under the edge of the bone. This was found impossible. It was then decided to screw a



FIG. I.—Case 2 after operation.

gimlet into the outer surface of the bone and elevate it in this manner, but a sufficient grip could not be secured. A screw was asked for, but this was not at hand. The hospital orderly said that he could get a coat hook from his wardrobe. While he was doing so a sixteenth-of-an-inch hole was made through the bone. The hook was sterilized and screwed into the bone. This gave a hold on the bone firm enough to permit its being pulled from its position of impaction. Once placed in a proper elevation, it remained so. Repair followed, and there was no deformity, but sight was permanently impaired. An abscess formed, which required an incision in two weeks, but this was followed by permanent closure in a few days.

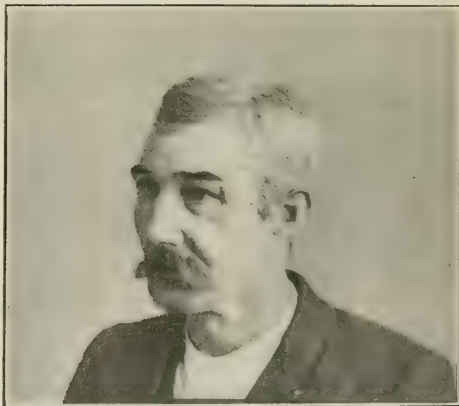


FIG. II.—Case 3 before operation.

CASE II.—An engineer fell from the tank of his engine, striking his face against a rail. The fracturing was described as like the breaking of a window, so audible was the crush to the injured.

Experience in the former case led me to proceed at once with the coat hook operation. There was no skin wound, and an incision had to be made down to the bone. The transverse facial artery was cut and



FIG. III.—Case 3 after operation.

required ligation. The details were the same as in the former case. There were no complications. The result is shown in Fig. 1.

CASE III.—This case is that of a man who had received a blow from a fist or blackjack. The patient came on the seventh day and was operated on on the ninth. Here, as in the former cases, the coat hook was used. Experience led me as much as possible to avoid the blood vessels, first, because of the hemorrhage, and, second, because when a vessel is severed a larger incision is required to ligate the artery. In this case a half-inch incision was made down to the bone between the two branches of the transverse facial artery, and no vessels requiring ligation were severed. The bone was drilled and the coat hook

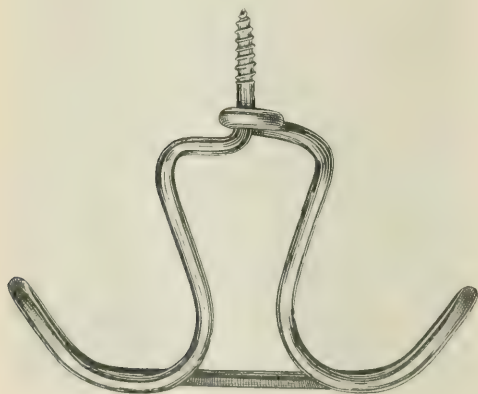


FIG. IV.—The coat hook used.

screwed into it. Since this was a delayed case, some effort was required to effect an adjustment, but this was satisfactorily done. Fig. 2 shows the case before operation and Fig. 3 afterward.

Other surgeons have used screws for this purpose, but a strong forceps or pliers is necessary to secure proper adjustment. With the coat hook it can be accurately determined just how much force is being made, and the surgeon has perfect control of his fragment.

In operating, care must be taken to avoid the temporomalar canal on the external surface of the bone. There is also danger of wounding the alveolar branch of the internal maxillary artery with the drill point as it passes through the bone, since this artery passes forward and downward between the malar and maxillary bones.

Fig. 4 shows the coat hook used in the third case. It is now a part of my outfit.

EXPERIMENTAL INVESTIGATIONS WITH RÖNTGEN RAYS UPON LIVING TISSUE.

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It would be of the greatest interest to trace the progress of our knowledge of the electrical phenomena, and the bombardment of particles in a Crookes's tube, from the early time when the Greek philosopher, Thales, first observed that a piece of amber rubbed with various substances was capable of attracting light objects, to the famous experiments in radiant matter by Sir William Crookes, F. R. S., and the final discovery of the x ray by Professor Röntgen. But this would demand a volume to itself. I will try, therefore, to set forth, as briefly as possible, the present state of our knowledge of the effect of x rays upon the living tissues, and to give the results of my experimentation with the electrical actions produced, showing that we have to deal with a special inflammatory process, or electrochemical inflammation, as a process of repair, where radiotherapy is possible. The simple fact that the x rays act directly upon the film of a photographic plate in skiagraphy and that a chemical process takes place there is the best proof of their action and of its character.

The process of cicatrization, or, better, of the restitution of the tissues exposed to raying, is altogether different from what has hitherto been observed in pathology and the irritation produced by the rays. When the effect to be obtained is clearly realized and the means employed adequate and appropriate, the use of the rays will often be of the greatest benefit; in the absence of these conditions it is far more likely to be harmful.

It is not necessary to prove this fact, if we take into consideration the "so-called x ray burn" on one side, and the beneficial results of the radiation in some malignant growths, lupus, cheloid, glandular enlargements of uncertain character, acne, eczema, etc.,

on the other. If the raying is unnecessarily prolonged or the rays themselves too strong, the living tissue will not prove to be a resistance in the sense understood by Ohm, and we may do harm, but a proper raying may be of great value therapeutically.

To find out the amount of raying, the proper dosage or the measure of resistance, to have a certain standard in our treatment of cases suitable for the x ray, I have exposed ten guinea pigs and ten rabbits to intense irradiation daily, first for ten seconds, and later for ten minutes, the low vacuum tube being at the distance of six inches in the beginning, and a little less at the end of the experiment. The guinea pigs began to lose their hair after twenty exposures, and in two cases we already by that time had necrobiosis, but in each individual case the animals acted altogether differently. In three cases simple erythema developed, followed by dermatitis. There was no protection of any part of the bodies. The rabbits were under raying and observation a little longer, and were living and seemingly in good condition after twenty-eight exposures. One rabbit partly lost its hair along the spine after thirty-two exposures; at thirty-four exposures we had two cases of very bad necrobiosis, which was aggravated when a very low tube was used, backed by a spark gap of four inches with a strong current.

From now on, we could study the direct anatomical changes in the tissues exposed, and found out that the longer the low vacuum tube backed by a strong current was in action, the lower the resistance of the animals sank. The guinea pigs especially seemed to suffer generally. The appetite of all the animals was good during the raying, but at the end of the experiment two guinea pigs died, after the last exposure, the fiftieth. The bodies of the two guinea pigs were dissected. Degeneration was found in the entire gray matter in the posterior tracts, and in the posterior horns of gray matter; the spinal canal seemed to be dilated due to hemorrhages. Both animals had very extensive "burns" along the spine.

Microscopical examination of the destructive process, or "so called burn," showed a special inflammatory process with a development of fibrous tissues; the walls of the blood vessels, especially the intima, were thickened and the lumina contracted; a thin layer of necrotic tissue was destroyed, as were also the nerves. In what order these tissues were attacked it is hard to say. In my opinion, the vasomotor fibres bear the brunt of the attack of the irritation, with a corresponding contrast of the symptoms in the tissue cells, and we have, perhaps, a nerve affection or atrophic neurosis with mortification proper. This all happens in contrast with a direct electrical burn, which occurs at all points of strong resistance externally, as we know.

From the foregoing, we can readily judge that the

x ray, if we wish it to, may not only act as an irritant upon the skin, but may penetrate the tissues underneath, the irritation being of a marked electrochemical character. If we apply a chemical or electrochemical irritant to the cells of living tissue—the cells, which are the offspring of one original cell, the ovum—we produce in a comparatively short time a regeneration of tissue with new cells derived from some preexisting cells by a division of their bodies, and bring about a proliferation or other changes. In this irritation we have three factors in determining the special effect on the cell:

1. The condition of the cell, that is, the amount of resistance which the rays will encounter;

2. The amount, and the intensity of the rays; and

3. The character of the rays.

Under the influence of such an irritation the parenchyma cells, connective tissue, and endothelial cells are likely to swell, and become more granular. These granules being albuminous seem to be developed from the protoplasm of the affected cells. When the irritation is moderate in degree the cells may return to their normal condition, but if the irritation is prolonged or given in excess, the change may be progressive, leading to regeneration, absorption, reabsorption, or to the total destruction of the cell. The destruction may begin with the decomposition of hæmoglobin from extravasated masses of red blood cells, or with simple pigmentation in the skin, and may end with the death of a circumscribed portion of tissue. In other words, we have produced, by means of an irritant, an inflammatory process with varied structural changes in the tissues. And such an irritant, of electrochemical action, we truly have in the ray of Professor Röntgen.

What are these rays? We do not know just what the x rays are, or why they are produced under the conditions existing in a vacuum tube. But we do know that, by following certain processes and making certain chemical combinations, we can produce as much x rays, and in such proportions as we want or need for penetration of certain objects or for therapeutic purposes in those cases, where the proper, intelligent and systematic irritation may lead to special electrochemical inflammation with regeneration, absorption, reabsorption, or total disappearance of malignant growths, often without any apparent sloughing.

Death of tissues in raying is caused by permanent stasis in the blood vessels, giving us the proof that certain x rays are similar in their actinic properties to the rays of light at the violet end of the spectrum, and that various tissues and cells react differently, their resistance being regulated, so to say, according to the quality of the plasma, and the degree of the liquid they contain. I refer to my article: The So-Called X Ray Burn, in the *New York Medical Jour-*

nal for March 17, 1900. This seems to explain the reasons for variation of the resistance of the human body to raying, especially if we take into consideration that the different tissues present different resistances, and that the resistance in the same tissue varies greatly under different circumstances in the same individual, perhaps. The power to absorb those rays of the x ray order from our tube, may be called, also, the conducting power of the tissues, especially in regard to the skin. And here we have to remember, again, that various animals offer degrees of resistance according to the condition of the skin at the time of raying, and in other cases the degree is referable to specific susceptibility.

As we see, it is not every patient that we can submit to raying, and it is our duty to find out, and to judge in which cases, and how, to use this force. Persons with blue eyes, light hair, and fair skin are very sensitive to raying, and will tolerate only very short exposures, and these with comparatively long intervals between *séances*; while dark haired, dark eyed, brunettes seem quite immune to the unpleasant results of erythema or dermatitis. In those with organic spinal lesions, and where the sensation is somewhat diminished, and where also some trophic lesion might be supposed to exist, as in anæmia or hysteria, we always have to be on our guard. In some cases, too frequent treatments may provoke general debility, and all acute cutaneous eruptions may be aggravated, but the pain in all malignant growths, such as lupus, etc., may be controlled in nearly every case right at the start. In other cases, again, the rays seem to exercise an absorptive power, as for instance in tuberculosis of the joints, subcutaneous extravasation of blood, etc. Very frequently we may have patients, suffering with internal growths, who experience such a great fatigue that they can hardly breathe, and who vomit; others who are inclined to perspire freely under raying, so that a small portion of their body exposed becomes covered with profuse perspiration, which has to be watched as to its alkalinity or acidity, vasomotor irritability, the irritability of the tissues altogether, and a multiplicity of conditions which make a living organism react differently under the rays.

In our experiments with rabbits of different color, different age, and from different families, while the intense rays passed through their bodies, we produced only in some of them dermatitis and necrobiosis; others showed under the same conditions and comparatively the same raying no symptoms of prolonged raying whatever, and again few of the animals seemed to be in a peculiar disposition. But in no case was there a proper shock. In other words, we have no electric shock which is caused always by a change in the amount of electricity passing through the body or a portion thereof. The amount of rays in action has not any direct mechanical or irritative

effect on the tissues, as we see, but the amount and the intensity of the rays of the x ray order, the character of the same, and the condition of the tissues seem to play the main part.

In using a Ruhmkorff's coil with the electrodes applied directly to the flesh or wet skin, we may easily produce a shock which will kill guinea pigs or rabbits, but not frogs; with the raying we can not produce such a result. All these and other experiments seem to show that the effect of this form of electricity on the tissues is first stimulating, and then irritating, and altogether different from other effects produced with other forms of the electrical current. The raying consists in a very rapidly interrupted current going through the vacuum tube, where the bombardment of particles takes place, and this, being of an electrochemical character, gives us the distribution of the rays so frequent and different in kind and degree in the field of action itself, that the different rays are not singly perceptible until given in excess. The time when the so called stimulation ends and the irritation proper begins, is not, however, so definite as to enable us at the present time to distinguish in man, at once and at the first sitting, the results of injuries produced, and to find the proper dosage of the beneficial action of the rays. The dosage varies in each individual case, just like the action of the tube, which may behave very differently at different times. We therefore keep on hand a number of tubes supposedly of the same vacuum and make, so that our treatment with the rays may be conducted throughout under as nearly as possible uniform conditions as to the dose.

For protecting the healthy tissues in radiotherapy, especially the hair and eyes, after experimenting with various substances, I have found that paraffin, wax, etc., give no protection whatever. I have produced intentionally very bad "burns" in three guinea pigs protected in that way. Lead, being opaque, so far as yet known, is the best and safest protection, and therefore I have adopted the following method in my laboratory: The parts unexposed are oiled with olive oil, and protected with a few layers of tinfoil covered with one layer—towards the tube—of sheet rubber. The tinfoil itself or sheet lead may become charged with a current by induction or from the wires of the tube, and may give us or the patient unpleasant shocks. The rubber will prevent this.

From the experiences related, and from actual treatment of many cases with very good results, we may judge about the possibilities for the x rays in the near future, and learn how to use them. But my communication would be not complete if I did not recommend at least the following rules, in addition to the other rules which every operator by his own experience in radiotherapy will find out himself:

1. Know the capacity of the apparatus, remembering that the so called x ray burns will be produced

with a static machine, just as well as with a coil, and that it makes no difference what apparatus is used. We must look for the proper source of electricity to excite our tube, and nothing more. Know the tube in which you have learned to observe the quality of the vacuum backed by a certain length of spark gap before radiance appears, and know all other points of individuality of the tube. No tube is to be held so that the field of the rays is not established properly, and the ray not at its best. For superficial growths, etc., use a "soft" or a "soft medium" tube with a spark gap of two inches; for internal a "high vacuum" tube with a spark gap of four inches. Try the tube before each application. The only essential to the production of x ray effects is that the x rays proper reach the tissues.

2. Make a thorough examination of your case to be treated. Know your patient well, observe the corpulence and age, the disposition and resistance, and the complexion also. Remember that an x ray effect on the tissues will be produced, whether the rays are grounded or not, through any substance which is not opaque to the rays, whether aluminum, paraffin, wax, or what not. Protect the hair and eyes, and the healthy tissue if necessary, with lead and rubber; the latter to prevent shock by induction. Ray all suspicious parts in as large an area as possible.

3. The length of exposure depends not so much on the time during which the tube is in action, as on the actual time of best x ray production, tested occasionally by means of the fluoroscope. Exposure is to be made according to each individual case, for five minutes at first, and after a week, for ten minutes. If, two weeks after the first exposure, no reaction has been shown, the patient is not the subject of any idiosyncrasy, and may be irradiated every second or third day, and finally every day until intense reaction shows itself. During the first exposures the distance of the tube should be six inches, later less than that. If a high vacuum tube is preferred, the exposure must be comparatively shorter. If itching of the skin ensues during the course of treatment a pause of few days should be made, the parts exposed observed, and a static brush discharge with a wooden electrode given; or, if there should be a peculiar irritability of the nerves or tissues, the skin should be washed with alcohol and warm water. When there is too much sloughing, powder the growth itself with little salicylic acid. In internal growths, however, we expect to get tanning of the skin.

4. If it is thought unwise to treat the whole of the diseased surface at once, begin to treat the growth, etc., at its edges. If it should happen that one or a few isolated nodules remain after the general surface of the growth begins to look better, a change of treatment is indicated, and the nodules have to be attacked most vigorously.

5. Watch the progress and results of the treatment carefully, and see whether the case is one for operation or not, or whether the raying should be combined with a radical operation before and after. Experience in all these and similar cases is the best guide.

6. Protect yourself and be prepared for all occasions, having in your office or laboratory a sign, perhaps like this: "X ray examinations and treatments at the risk of the patient. All possible and professional skill used."

STUDIES ON HEREDITY*

By RAYMOND WALLACE, M. S., M. D.,
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There lies concealed in the almost unfathomable problems of heredity the secret of the phenomenon of life. The subjects are, however, complementary, and no discoveries in the realm of the one can be made without flashing light upon the mysteries of the other. That the total heritage of a species may be evolved in a short space of time from a single cell is the greatest wonder in the whole realm of science, and we at once ask how the ancestral qualities lie latent in the germ cell and how they are quickened into reality as development proceeds.

The details of the processes of spermatogenesis, oogenesis, and fertilization need not concern us here, but within the fertilized ovum are undoubtedly contained potentially the qualities of both parents and the determining qualities of a new individual. How this exists, in what form, how distributed and in what manner it is reacted upon to cause diversity of structure in the developmental process may, perhaps, with some profit engage our thought.

The fertilized ovum, we must believe, contains within its chromatic network the force which determines, primarily, the species of the new individual. The definite interpretation of this fact is as yet not fully understood, but the chromatin upon segmenting, ultimately breaks into chromosomes (Waldeyer '88), and it is now a cytological law that "every species of plant or animal has a fixed and characteristic number of chromosomes, which regularly recurs in the division of all its cells; and in all forms arising by sexual reproduction the number is even." Thus in the ovum after throwing off the second polar body the total number of chromosomes is reduced to one-fourth the total species number, or one half the somatic number. We have, then, in this the physical evidence that heredity must be carried by the chromosomes, and owing to the equal contribution of chromosomes from each pronucleus, it would seem satisfactory evidence that the two sexes play an equal part in hereditary transmission.

* Read before the Tri-State Medical Society of Alabama, Georgia, and Tennessee, October 7, 1902.

But what causes the fertilized ovum to segment and to differentiate? There is a progressive transformation of the idioplasmic substance, under the influence of certain forces—chemical, physical, and, as Loeb suggests, electrical. De Vries assumes the character of each cell to be determined by “pangens” that migrate from the nucleus to the cytoplasm, and there becoming active, set up certain changes which initiate and are a part of the segmentation process, and which determine the character of the cell.

But the force which leads these pangens to migrate—whence comes it? Dreisch and Oscar Hertwig attempt to explain it by what they call “intraembryonic environment,” or a reaction of a given cell to all the other cells of the mass. Dreisch again expresses this in a slightly different manner, laying somewhat more stress on position, and thus the consequent intercellular influences—in fine, the prospective value of a cell is a function of its position. But when does differentiation first occur? Is it not before the conjugation of the pronuclei, male and female, before the ovarian and testicular history; in fact, in the long line of spermatogonia and oögonia from the first forms of life down to the present highly differentiated germ-cell?

From the experiments of Morgan and Born, it has been conclusively proved that each of the first two blastomeres of the frog's egg may give rise to a half-embryo or to a whole embryo of half-size, according to the arrangement of the idioplasmic material. It seems evident that, when segmentation begins, a definite axis is established in the egg, and upon distortion or destruction of the normal relation of a single blastomere definite results may be obtained. He concludes that each of the two blastomeres contains all the materials, nuclear and cytoplasmic, necessary for the formation of the whole body; according to the grouping which they assume. After the first cleavage it would seem that each blastomere is “set for half development,” but upon change of condition a rearrangement might there take place whereby a complete but undersized development would occur. Wilson has attained practically the same results with the amphioxus and the echinoderms.

This power of a single cell, however, to produce the entire body is in general limited to the very earliest stages of cleavage and, rapidly diminishing, soon disappears entirely. When the three primary germ layers have become definitely separated, the power, except in a very few cases, is completely lost of regenerating cells of one layer from cells of another.

Thus, whether the process of fertilization is one of chemical combination, into which some of one or the other pronucleus does not enter, or whether it is a simple amphimixis, there is very early in the segmentation process a qualitative differentiation, which is at once anatomical, chemical, and physiological.

In explanation of these facts, we have two distinct elements to deal with: Forces arising from within the chromatin which are inherent (heredity), and the reaction of the living cells to external stimuli (environment). But the relative value of each it will be difficult to estimate.

The process of growth is evidently more or less involved in the process of differentiation, and yet this is true only to a limited extent, namely, with the fertilized ovum. For after epithelial structures have once differentiated, the process of cell growth goes on *ad infinitum*, reproducing all the time the same specific cells; while, with the germ cell, there is not only this process of growth or numerical increase of cells, but there begins a differentiation.

Developing the thought of differentiation somewhat more in detail in an attempt to come to a more or less final conclusion, it would seem that the geometrical and physiological position of a blastomere, in general, determines what shall develop from it.

We may then argue the rôle of position thus: The layer of cells (hypoblast) lying directly upon the yolk of the egg or upon the endometrium of the uterus (taking two parallel cases), finds that the nutrition which comes from the yolk or the endometrium vessels must be conveyed to the cells outside that layer. Therefore a specialization begins, a reaction to needs,—the cells become columnar and take on the peculiar properties of the cells which can best carry on processes of assimilation, *i. e.*, of the alimentary tract. Then this nourishment must be carried to the growing organism after it passes through the alimentary cells,—and lymphatics and blood-vessels are formed to do this work. The mesoblast begins to differentiate. There must be some motor power for these blood-vessels and one of them gradually dilates, differentiates, and becomes the heart. The secretions must be taken care of and transformations and storage of alimentation must be made, thus the liver and kidneys are differentiated for that purpose. The above differentiation would seem to depend very largely upon the physiological relation of these cells to the inherited organization of which they form a part. They develop, as it were, as a function of their physiological position. The cells of the epiblast, being outside of all these tissues, come in contact with the external world and thereby become a support and covering for the rest of the body. Hence the skin and bones appear.

Such a fancy—so very briefly suggested—undoubtedly explains in part the phenomenon of specialization, but at the same time it must, sooner or later, as the Roux-Weissmann theory proposes, “involve a specification of the nuclear substance which differs in degree in different cases.”

Boveri's remarkable observations upon the primordial germ cells of ascaris throw additional light

upon the subject at this point. He concludes that in the process of differentiation "all of the somatic nuclei lose a portion of their chromatin, and only the progenitors of the germ nuclei retain the entire ancestral heritage."

Adami, in his recent article on Cell Differentiation and Proliferative Activity, has called attention to the fact that very early in the developing embryo certain cells alone appear to be undergoing active proliferation, and that the resultant cells, although characteristic in appearance, do not actively proliferate. Thus very early there is noted the presence of "mother cells"—embryonic in structure—but giving rise to more highly differentiated and specialized cells. Later on in adult life, the mother cells are represented in the spleen by the follicles, by the areas of Langerhans in the pancreas, by the cells of the rete Malpighii in the skin, and so on, establishing the principle that all the most highly specialized cells of the adult organism arise in part, if not entirely, from various nests of mother cells, embryonic and less differentiated in nature. This accords with the well accredited fact that highly differentiated nuclei cannot become actively proliferative (evidenced by nerve cells, which are of all cells the most highly specialized, and which show the least capacity for proliferative activity or regeneration).

But the cell which has potentially the greatest power of growth and differentiation, *i. e.*, the fertilized ovum, would seem to be of a very complicated chromatic and molecular structure. We must, then, conclude, either that this premise is false, or that specialization does not involve complexity of chromatic and molecular constituency. This is probably the case, and specialized cells when first thrown off from the mother cells are more or less embryonic until, as a result of the influence of their physiological and geometrical position and consequent reaction to that (intraembryonic reaction), they assume a new arrangement of the side chains of the molecules—by discarding or assumption or both—they eventually become more highly specialized. To illustrate—the columnar epithelium of a baby's stomach is present as such at birth, but its power of carrying on the processes of digestion is not developed until by ascending gradations the molecular structure has become habituated to the function, a process then of final differentiation.

Thus we may summarize the process of cell differentiation as being largely a function of the geometrical and physiological position of the cells, involving both intraembryonic and intercellular influences and reaction to external stimuli such as heat, cold, moisture, nutrition, and the like.

Transmission of Resemblances.—Through the phenomena of growth and differentiation there appear, in the mature individual, certain defi-

nite resemblances to and variations from the parent organisms. These are referred in general to the species, the variety or class, and the individual. The zoological demonstration of these facts is obvious and a detailed demonstration would here be needlessly adventitious, but a careful consideration of the subject from a cytological standpoint may now very profitably engage us.

Congenital resemblances may be divided into anatomical, physiological, and psychical. Anatomical resemblances include similarity of general corporeal conformation, approximate size and weight of bones and organs, analogous location of organs, preservation of a general relationship, with a more or less exact repetition of the detailed structure of the sense organs.

Physiological resemblances comprise a similar longevity or brevity of life, approximately similar methods of muscular activity, as in locomotion and gesticulation, a tendency to obesity or thinness. Here is also included any predisposition to disease, such as tuberculosis, hæmatophilia, and numerous other pathological conditions.

Psychical resemblances include various idiosyncrasies of thought and morals involving the whole realm of psychology, and the transmission of pathological conditions of the mind and nervous system. The possibility of the transmission of resemblances—or in other words the perpetuity of the species type—lies in the facts of sexual reproduction and the reaction in general of the parental organisms of various generations to approximately the same external conditions (stimuli). We may assume, with Dreisch, that the structure of the cells in a multicellular organism is a function of their position, and that the greater the change impressed upon the idioplasm as a function of this position, and the longer the time during which the idioplasm is subjected to that change, the more permanent will be the modification in the daughter cells. The species homo, which we take as our type, has arisen, as Darwin so satisfactorily proves, from lower forms of life through the action of certain definite laws, namely: A struggle for existence, survival of the fittest, natural selection, sexual selection, and inheritance, whereby the progress of the species is realized by the transmission of the improved type from generation to generation.

To explain in the human being the transmission of resemblances from parent to offspring, we must at once refer to the constitution of the germ cells. As above shown, the differentiation into species has given rise to a characteristic species number of chromosomes, which is constant in both sexes, and after being halved in maturation is again equalized in conjugation. The species resemblance is undoubtedly thus maintained, although the explanation, if we

thoroughly understood it, might penetrate more deeply the minute structure of the chromosomes.

The sperm and ovum arise from individuals of a definite physical, physiological and psychical structure. These pronuclei arise from the parent cells of the ovaries and testes. They have, during the life of these parents, been unvaried, except so far as they are influenced; (*a*) by an improved or poorer nutrition, whereby their molecular constitution may have been altered (*i. e.*, certain side chains may have been added or detached); (*b*) by certain toxins, such as syphilitic poisons circulating in the blood, and thus acting directly—through the circulation upon the germ cells, or causing the germ cells to react in a definite matter—by either method, causing an alteration in the chemical constitution of the pronuclei; (*c*) by the absence or presence, either in the blood or lymph, of certain secretions, which give rise to probable molecular disturbances that result in certain diseased conditions (*e. g.* cretinism); or (*d*) perhaps by an indefinite sort of an intercellular relationship which is ill understood, if it exists at all, but which may be present as a cellular affinity, based undoubtedly, primarily, upon chemical activity and resultant forces, either chemical or electrical.

These pronuclei, after being acted upon by one or all of the previously mentioned conditions, and after the processes of maturation, whereby the chromatin is reduced in amount (*i. e.*, from each individual cell one-half or three-quarters of the "resemblance-bearing substance" being extended), come together either as an amphimixis or as a new chemical product, the result of a true chemical combination.

The exact nature of the process is only theoretical, but the fertilized ovum in the species homo always develops under approximately the same conditions, whether the pregnancy is normal, *i. e.*, uterine, or abnormal, *i. e.*, tubal, tubo-ovarian or the like,—the temperature, nutrition, blood pressure, environment and electrical conditions always approximately approaching a norm.

Thus, to summarize: the possibility of the transmission of resemblances depends, first, upon the fact that the germ cells, arising from parent germ cells of a certain type, possess a definite number of chromosomes, which determines the species; that these chromosomes, being directly descended, possess a definite structure, which, although varied by maturation and other conditions mentioned above, yet possesses, let us say more or less definite central ringed molecules, although the side chains may have been varied (as we shall discuss later); that these pronuclei bring together at least a portion of the chromatin or molecular substance which determines certain approximate resemblances to the parents from which they came; that the first segmenting nucleus, or fertilized ovum, develops, in general, under the same

somatic and environmental influences. Thus, for example, the human ovum is not implanted upon a feline uterus with its different nutrition, temperature, and intercellular relationships, but the various proteid and carbohydrate substances which are carried by the blood have been prepared, both analytically and synthetically, so that they are of a definite chemical composition, *i. e.*, so that they may be ingested by the growing cells of the human organism, and enter into combination and give rise to the various phenomena characteristic of a human cell, a fertilized human germ cell.

In fine, the explanation of the transmission of resemblances is based upon, first the inherent method of sexual reproduction, and secondly, approximately constant environmental influences.

Appearance of Variations.—Inasmuch as an equal quantity of nuclear material is contributed by each parent, it might be reasonable to suppose that the resultant offspring would be a more or less exact composite or counterpart of the two parents; but from observation it is most obvious that such a supposition is remote from the exact facts, and indeed a close analysis of the cytological details will afford some, if not all, of the factors which interpose.

In the first place, the process of maturation disposes of a large part of the bearers of hereditary resemblances from each parent, but we must antecede this and make the statement for which there is only definite clinical proof—that there may exist within the germ cell, undeveloped in a given generation but transmitted latent through it, certain characteristics which become active and developed in the succeeding generation. Likewise, there is also the possibility of a reversion to certain ancestral or atavistic types.

The theory which most satisfactorily explains these facts, and indeed very largely all the phenomena of variation and inheritance, is Adami's chemical theory as modified by an antecedent force which places the molecules in a vital constituency.

Adami lays down the law "that inheritance depends essentially upon the chemical constitution of the idioplasm; and that variation, whether slight and individual or extensive and leading to the production of species, is ultimately the expression of modification in the constitution of the idioplasm brought about by environment."

Thus variations appear as a result of a changed molecular constituency of the chromatic substance of the fertilized ovum due to the process of maturation, and, because of more or less altered environmental influences, resulting in the taking on or abstraction of side chains to the central immutable rings.

To summarize, then: 1. The process of cell growth and differentiation is a function of geometrical and physiological position and the permanency of the advanced differentiation is a function of the time it has

endured. 2. The transmission of resemblances and the appearance of variations is dependent upon sexual reproduction, with its phenomenon of maturation and the reaction of the developing cells to various environmental influences.

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Therapeutical Notes.

Calcium Hypochlorite for Burns.—F. Tichy (*Deutsche Medicinische Wochenschrift*, July 17th; *British Medical Journal*, October 11th) calls attention to the virtues of calcium hypochlorite as an antiseptic for burns. He applies a cool bandage with oil on the first day, which he finds causes the vesicles to form quickly, which he opens after twenty-four hours under antiseptic precautions. He then applies compresses steeped in the following solution, and renewed after twenty-four hours, but kept moist by pouring on fresh solution during that time. It is of importance to leave the compresses on as long as possible, and to keep them constantly damp. Great care must be exercised in removing the old compresses not to disturb the scabs under which the wound is to heal. The solution which he uses is:

- ℞ Calcium hypochlorite.....
2.4 to 5 grammes (36 to 75 grains);
Distilled water...9.900 grammes (35 ounces);
Dissolve, filter, and add
Spirit of camphor.....5 grammes (85 minims).

For Hæmaturia.—Dr. Liégeois (*Journal médical de Bruxelles*, October 23rd) says that turpentine is only successful in those hæmaturias due to hæmorrhages from the calyces and pelves in subjects affected with inveterate pyelitis. The following prescription he ascribes to Albert Robin:

- ℞ Ergotine.....4 grammes (60 grains);
Gallic acid.....0.50 gramme (7½ grains);
Syrup of turpentine.....30 grammes (1 ounce);
Linden water.....120 grammes (4 ounces).
M. A tablespoonful every two hours.

For Spasm of the Larynx.—*Progrès médical* for October 11th ascribes the following to S. Bernheim:

- ℞ Zinc valerianate....} of each 0.05 gramme (¾ grain);
Asafœtida.....}
Powdered gentian.....} of each enough for one pill.
Extract of gentian.....}
M. ft. pil. xx. One to be taken morning and evening.

Aperient Medication for Children.—Dr. Henri Gillet (*Annales de la Policlinique de Paris*, October) gives the following formulæ.

- ℞ Castor oil...from 2 to 2.50 grammes (30 to 40 minims)
for each year of age;
Powdered scammony.....from 4 to 6 centigrammes
(¾ to 9/10 grain);
Sugar with vanilla flavor.....5 grammes (75 grains);
Milk...from 20 to 30 grammes (5 drachms to 1 ounce).
M. To be given in the morning, fasting.

By this prescription a mild purgative is combined with a drastic one. The castor oil minimizes the irritant of the scammony, while the aperient properties of each drug are enhanced.

- ℞ Sicilian manna.....5 grammes (75 grains) for
each year of age;

Boiling water.....30 grammes (1 ounce).
Filter. To be given in the morning, fasting, in a small cup of milk sweetened with white honey, or in some other fluid well taken by the child, e. g. weak coffee (with plenty of chicory). It may be administered as an enema.

The following is an excellent formula, ascribed by the author to Huchard:

- ℞ Manna.....30 grammes (1 ounce);
Senna pods.....4 grammes (1 drachm);
Coffee.....100 grammes (3½ ounces);
Boiling water.....enough to make 100 grammes
(3½ ounces).

- M.
℞ Cassia pulp.....5 grammes (75 grains);
Syrup of violets.....4 grammes (1 drachm);
Sugar.....1 gramme (15 grains);
Essence of orange.....1 drop.
M. To be taken at one time.

To Mask Castor Oil.—Dr. N. V. Obrastzor, according to the *Province médicale* for October 11th, finds the following preparation mask the flavor of castor oil, with the additional advantage that it exercises an intestinal antiseptic action:

- ℞ Castor oil.....30 grammes (1 ounce);
Menthol.....0.50 gramme (7½ grains);
Tincture of iodine.....10 drops.
M. A dessertspoonful for a dose.

Before administering this mixture, it is a good plan to make it tepid in a water bath, to dispel the viscosity which is, of itself, such a disagreeable feature of castor oil to invalids. The dose of menthol may appear large, but it must be borne in mind that this drug becomes dissolved in the oil, and is thus in great part eliminated by the intestine.

For Paralysis Agitans.—*Province médicale* for October 11th gives the following:

- ℞ Hyoscine hydrobromide.6 milligrammes (9/100 grain);
Saturated chloroform water...180 grammes (6 ounces).
M. ft. mixt.

Two teaspoonfuls of this mixture may be taken daily at first, and the dose progressively increased according as tolerance is established, until six teaspoonfuls, or one milligramme (1-64 grain), daily, is reached, which limit must never be exceeded. The daily quantum is best given in two parts; immediately after breakfast, and in the evening at bedtime. Hyoscine exerts on the tremors of paralysis agitans a sedative action, more marked when given by the mouth, as recommended by Williamson & Bury.

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CHOLERA AND THE CHINESE IN THE PHILIPPINES.

Our own latest information from the Philippines, sent on September 24th, is to the effect that the prevalence of cholera in the islands is still a matter of grave concern. Our correspondent says: "At present Iloilo, second city of the archipelago, is the storm centre, and when it is considered that not over forty per cent. of the cases are reported—so many of the towns and barrios in the interior of Negros, Cebu, Panay, and Samar having no physicians—the picture becomes rather gruesome." However, in Manila, he adds, where the most strenuous measures are again being taken to combat the plague, the conditions are daily improving and the number of deaths has dwindled to six or eight a day. The rainy season had been on for three months, at the time of his writing, and had not materially modified the virulence of the epidemic, so that the authorities believed that the pest would continue until the approach of the cool, dry season, in December. In Manila alone, since last March, there have been 5,055 cases and 3,041 deaths; in the whole archipelago there have been 65,691 cases and 45,541 deaths. The cases and deaths in Manila were distributed among the races as follows: Filipinos, 3,535 cases, 2,787 deaths (mortality, 78.80 per cent.); Chinese, 305 cases, 146 deaths (mortality, 47.86 per cent.); Americans, 130 cases, 69 deaths (mortality, 53.07 per cent.); Europeans, 53 cases, 33 deaths (mortality, 62.26 per cent.); others, 29 cases, 15 deaths (mortality, 51.72 per cent.).

An interesting feature of the epidemic is the comparative immunity of the Chinese. The Chinese population of Manila, furnishing but 305 cases, amounts to 45,000, while the Americans, numbering only about 6,000, have been attacked in 130 instances

—a morbidity of not quite 0.68 per cent. among the Chinese and of a little over 2.16 per cent. among the Americans. This apparent relative immunity of the Chinese, says our correspondent, has been ascribed to various reasons. Some attribute it to the fact that the coolie invariably eats his food cooked and served hot, and drinks tea instead of water. This fact, we can understand, would go far toward guarding the Chinese against the ingestion of the bacilli and probably also toward restricting the number ingested in any particular instance. If we assume the second of these probabilities as an actually operative factor, we may perhaps admit that the Chinaman's diet reduces the mortality of cholera in his race relatively to the number of cases, besides cutting down that number, the mortality being 53.07 per cent. among the Americans and 47.86 per cent. among the Chinese attacked. Possibly, as affecting the mortality, we may entertain the idea which has suggested itself to some observers as accounting for the low prevalence of the disease among the Chinese, namely, that the opium habit has its effect. Virtually, we take it, the habitual use of opium is general among the Chinese, but it is our impression that as a rule they do not carry the habit to excess, so that it seems quite possible that the moderate extent to which they take the drug may be sufficient to give them the benefit of its undeniable tonic action, and that this action may contribute somewhat idea as this, however, ought to be subjected to careful investigation on a large scale before being accepted as to their comparative immunity to cholera. Such an well founded, for its general acceptance would be almost sure to lead to a dangerous spread of the opium habit. As regards this one infectious disease, cholera, if the Manila experience is borne out elsewhere, we may probably say that the presence of a large Chinese element in a population is advantageous, for every case is a possible source of other cases, and the fewer susceptible persons there are in a community the less danger is there of widespread infection. Even this inference, however, must be accepted with a good degree of reserve.

VENEREAL DISEASE IN THE ARMY.

Only a little more than a page of the 185 pages that are to be found in the annual report of the surgeon-general of the army, recently issued, is devoted to the subject of venereal disease, but within that brief space much is set down that is well worthy of serious

thought, especially in a passage quoted from a report by the chief surgeon of the Division of the Philippines. Attention is called to the high rate of venereal morbidity among the troops in Cuba and to the very high rate among those in Puerto Rico. Whereas the admission rate for each thousand men in the army as a whole was 150.41, in those serving in the United States 149.96, and in those in the Philippines 144.24, it was 187.28 in the troops in Cuba and 309.63 in those serving in Puerto Rico. The lowest rate, it will be seen, was in the Philippines, and this held good of both syphilis and gonorrhœa, but not of chancroids; Puerto Rico held its undesirable preeminence for each of the three diseases. On the other hand, no deaths were referable to any venereal disease in Puerto Rico, while the death rate among troops stationed elsewhere ranged from 0.08 to 0.19. The report does not deal with the causes of the high morbidity rate in Puerto Rico.

The chief surgeon of the Division of the Philippines, in the report already mentioned, states that the bimonthly physical examination—of prostitutes, we presume—has limited the spread of venereal affections, and he thinks that its continuance should be enforced, but he adds that the regulation of prostitution is no longer in the hands of the army. "While," he says, "the segregation of syphilis is more necessary than the segregation of lepers, familiarity with the former disease has so much minimized the fear of it in the public mind, and in America distaste to recognize the existence of the prostitute is so great, that little will probably be effected." We infer from this that the regulation of prostitution in the Philippines has been productive of greater good than has generally been observed in other countries, if we may judge from the statements made at the recent Brussels congress, and perhaps the fact has been owing to its administration having until lately been in the hands of the army.

The question of how to deal with the syphilitic soldier from the point of view of public policy is briefly discussed by the chief surgeon of the Division of the Philippines, and he is of the opinion that it would be better to discharge him from the service, after treating the early lesions, but not returning the man from the hospital to his company, the discharge to be "for disability not in the line of duty," and transportation to the place of enlistment to be furnished. The man who has contracted syphilis, he

says, seldom "gives value received" for the money the government spends on him. "As an alternative," he remarks, "special hospitals may be established for such cases, but it is not fair to the well men of an organization to allow a syphilitic to return to them, living as they do so close together as to give countless chances for extragenital infection." Doubtless this is true, but some countervailing weight, we think, ought to be attached to what seems the still greater unfairness of sending the syphilitic back to a community of civilians ignorant of the existence of his disease and not protected against him by the disciplinary measures that are readily enforced in a military organization.

THE IMPORTANCE TO SCIENCE OF CORRECT DICTION.

It is greatly to be regretted that there are many very able practical physicians who regard as puerile and pedantic any insistence on the necessity of correctness in style, diction, and onomatology, and who treat with contemptuous impatience those that think otherwise. Quite recently, in the *Journal of the American Medical Association*, a letter was published commenting on the use of the barbarous term "appendicitis" and defending on etymological grounds the strict accuracy and appropriateness of the term "perityphlitis" for the condition in question. We do not wish here to enter into a discussion on the particular point involved, but merely to remark that two letters published in reply had for their burden "What on earth does it matter? This is hair-splitting. The thing's the thing, whatever you call it." From that point of view we beg most emphatically to dissent. Inasmuch as medicine is a progressive science in which everyone's work is interwoven with and dependent on that of all other workers, it is before all things necessary that, even in the matter of expression, the strictest attainable accuracy should be sedulously cultivated. We have recently happened across some weighty words of Dr. W. J. Marshall's, in the *Glasgow Medical Journal* for September, 1883, which we think it worth while in this connection to transcribe. In an article On the Influence of Language Upon Medical Thought and Practice, Dr. Marshall, referring to what has been aptly termed the inability "to think straight," and its consequences, says: "There is another use of language to which attention has not been sufficiently directed, and one which is

of the greatest importance in all complicated subjects like medicine. It is this, that words, which are merely signs of thoughts, become in long trains of reasoning like algebraic symbols, and are used as thoughts for the time being. We do not, that is to say, fully analyze or spread out to our view all that is contained in each of the complex terms which are made use of. This is one of the main reasons why so much nonsense is spoken and written without being challenged, and why it is so necessary to have recourse to definitions and explications of complex terms, and, in any train of argument about which we are in perplexity, to substitute these definitions for the terms in question, and then to see how that substitution affects the arguments made use of or the descriptions given. Such words as 'inflammation,' 'constitution,' 'infection,' 'contagion,' involving so many phenomena and qualities which are not always present to the mind when the terms are used have done much mischief, and are responsible for many disputes in medical literature."

There is much force in the contention expressed by Dr. Marshall. The point we wish specially to emphasize is that while there may be differences as to what is best in the matter of expression, the fact of such differences can never be, as so many seem to think, too trivial a matter for the "practical physician" to concern himself with, but that on the contrary, it behooves us all to give due attention to it, and not to rest satisfied with a mode of expression possessing less definiteness than would satisfy us as regards a course of action. One of the most common defects in many articles submitted to us, even the best of them when looked at from a scientific standpoint, is ambiguity of expression. A sentence may often be read in one of two ways. In some cases even a perfect acquaintance with the subject will not enable one to decide to which view the author intends to give expression. But even in those cases where to the author, and to others equally well acquainted with the subject, no difficulty can arise in choosing the right one of the possible grammatical or logical alternatives offered by the construction of the sentence, it is well to remember that we are not all of us in the profession equally well acquainted with particular subjects. If, therefore, to an editor who, whatever he may be in regard to practical expertness, is expected at least to be well versed in the theory and literature of medical science, such ambiguities as leave him in

a dilemma concerning a contributor's meaning constantly occur, it is only fair to assume that a large proportion of the readers of the paper will be similarly puzzled. They will, therefore, fail to derive the full benefit from the article that the author certainly intended them to receive. The author knows which of two possible meanings he meant to convey; his equally well versed *confrère* knows, from the nature of the case, which one it is certain that he must have meant to convey. But for the sake of the rest, among whom are included ourselves, we plead for a painstaking avoidance of logical or grammatical ambiguity and of all ambiguous terms in every sentence.

CONSCIENTIOUSNESS AND CHARITY.

The uselessness of relative expressions was, according to the *Lancet* for October 11th, recently exemplified at a coroner's inquest in England. The subject was brought home from his work in an apoplectic fit and died shortly afterward. The evidence of the physician who attended him in the fit and who also conducted the autopsy, showed that the liver and kidneys were diseased through drink and that the man's death was clearly accelerated by his habits. One of his fellow-workmen contended that such could not be the case as the deceased was a very moderate drinker, his usual allowance being "only eight half-pints [of ale] a day." He subsequently admitted, however, that deceased "might have as many as twenty half-pints a day, as well as a drop of gin." Whereupon one of the jurors interposed to the effect that even that was not excess, and asserted that twenty half-pints a day would not kill a man, for he himself knew a man who could take over forty half-pints a day. The jury eventually brought in a verdict of "natural death accelerated by overwork"! In vain the coroner pointed out that no evidence of overwork had been adduced, and lectured the jury on the pathology of alcoholism. The foreman, however, having questioned another medical man in court, who gave it as his opinion, from the evidence as he had heard it, that the deceased's death was undoubtedly accelerated by drink, the jury finally gave way to the extent of admitting that the death was "accelerated by drink," but refused altogether to sanction the expression "excessive." But after all, their perverse action may not have been due entirely to stupidity; it may have arisen from that kind of sympathetic loyalty embodied in the common but much neglected saw "Don't kick a man when he's down," which reaches its highest expression in *de mortuis nil nisi bonum*. The man was dead—unquestionably from apoplexy, a "natural cause of death." Why add to the sorrows of his friends and

relatives by unnecessarily putting on record the failings of the dead? It would certainly be well if the spirit that probably animated this jury were imitated by our newspapers, which seem quite frequently to appraise the value of a "story" inversely as the utility of its publication, and directly as the pain it can be made to inflict on the innocent.

THE TERROR OF CATS: INFORMATION SOUGHT.

A newspaper paragraph gives an account of a woman, aged thirty-one years, who is possessed by a morbid terror of cats, so violent that twice in one day she is said to have dislocated her jaw in screaming. Such a special phobia was known of old time, as witness the well-known remarks of Shylock (*Merchant of Venice*, Act iv. Sc. 1) as to the "harmless necessary cat," at sight of which some "cannot contain their urine." In this connection, Dr. S. Weir Mitchell writes to us that he is anxious "to collect authentic information as to persons who have this fear, and who are able to tell the presence of a cat in a room, even when not seen." We hope that any of our readers who may be able to throw light on this subject will communicate with us or with Dr. Mitchell.

UNEXPLAINED COMA.

The recent occurrence in one of the hospitals of New York of the death of a young woman after prolonged coma unaccounted for by any gross lesions detected post mortem has created considerable public interest. It is to be hoped that the minute examination, which at the time of our going to press has not been concluded, will throw some definite light upon this rare and obscure case. Fatal coma unexplained by any discoverable disease or injury is sometimes intermittent, the first attack being apparently recovered from, but in this instance it seems to have been virtually continuous from the beginning.

PARAFFIN IN CONFECTIONERY.

We warn our readers, and through them the community, that there is at present on the New York market a confection purporting to be "butter Scotch," but consisting of glucose and a paraffin of high melting point. The fraud may be detected by attempting to dissolve the mass in warm water, when the paraffin, amounting to about twenty per cent. of the whole, will slowly rise and form a layer on the surface of the water or else collect on the spoon at the level of that surface. We think this is not an entirely new form of sophistication, but it is one the danger of which, intestinal obstruction by the accumulation of paraffin in the digestive canal, ought to be pointed out.

News Items.

Society Meetings for the Coming Week:

MONDAY, November 17th.—New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford (Conn.) Medical Society; Chicago Medical Society.

TUESDAY, November 18th.—New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburg (N. Y.) Medical Association; Syracuse (N. Y.) Academy of Medicine; Medical Society of the County of Kings, N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, November 19th.—Medico-Legal Society, N. Y.; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

THURSDAY, November 20th.—New York Academy of Medicine; Brooklyn Surgical Society; New Bedford (Mass.) Society for Medical Improvement (private); Medical Society of City Hospital Alumni, St. Louis; Atlanta (Ga.) Society of Medicine.

FRIDAY, November 21st.—New York Academy of Medicine (Section in Orthopedic Surgery); Clinical Society of the New York Post-Graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynecological Society.

SATURDAY, November 22nd.—New York Medical and Surgical Society (private).

Change of Address.—Dr. C. A. Wilson-Prevost, to No. 111 Madison Avenue, New York.

Eight Additional Vaccinators have been engaged by the health department of the city of New York.

St. John's Hospital.—Dr. Peter Hughes has been elected consulting surgeon to St. John's Hospital, Long Island City, to succeed the late Dr. John Byrne.

The Richmond (Va.) Academy of Medicine and Surgery.—At the regular meeting held on Tuesday, November 11th, a discussion took place on The Present Mortality of Pneumonia. Dr. A. G. Brown opened the discussion.

The Cost of a Medical Education.—At a conference on the pecuniary gains of the medical profession, it was stated (London *Lancet*) in regard to one of the leading physicians in Paris that, when 28 years of age, he had cost his family for his education about \$10,400. In his first year of practice he earned about \$135, in his seventh year about \$1,065.

The Muetter Lecture on Surgical Pathology, of the College of Physicians of Philadelphia, for 1902, will be delivered in the Hall of the College of Physicians, northeast corner of Thirteenth and Locust Streets, on Tuesday, December 2nd, at 8 p. m., by Louis A. LaGarde, major and surgeon, U. S. Army, on Poisoned Wounds by the Implements of Warfare. Physicians are cordially invited to be present.

The Second Latin-American Medical Congress will be held in April, 1904. The State Department at Washington has received from the Legation of the Argentine Republic notice of the International Exposition of Hygiene to be held at Buenos Ayres in connection with the congress. An invitation to

participate is extended to public and private institutions interested in the subject. Reduced rates for the transportation of the exhibits have already been obtained from several steamship companies.

The Pan-American Sanitary Congress will meet in Washington on December 2nd. The object of the conference will be to definitely discuss some practicable universal plan for the prevention and suppression of yellow fever and other plagues in Pan-American ports. Surgeon-General Wyman, of the United States Public Health and Marine Hospital Service, was a prime mover in the inauguration of the congress and will take part in its proceedings as a delegate from the United States.

The Death Rate of Chicago.—Statement of mortality for the week ending November 1, 1902, compared with the preceding week; and with the corresponding week of 1901. Death rates computed on estimated population of 1,820,000 for 1902, of 1,758,000 for 1901:

	Nov. 1 1902	Oct. 25 1902	Nov. 2 1901
Total deaths: all causes	439	483	408
Death rate per annum, in 1,000..	12.36	13.83	12.08
By sexes:			
Males	241	277	217
Females	198	206	191
By ages:			
Under 1 year	77	77	72
Between 1 and 5 years	47	43	37
Over 60 years	79	106	88
Principal causes of death:			
Acute intestinal diseases	19	28	17
Apoplexy	7	12	11
Bright's disease	31	31	27
Bronchitis	16	12	12
Consumption	48	47	48
Cancer	23	22	17
Convulsions	11	15	14
Diphtheria	21	20	9
Heart diseases	34	43	31
Nervous diseases	17	36	22
Pneumonia	44	37	47
Typhoid fever	13	14	23
Scarlet fever	5	15	2
Suicide	4	15	4
Violence (other than suicide) ..	29	28	23
Whooping-cough	2	2	2
Measles	2	..	3

The Washington Post-Graduate Medical School has been incorporated in the office of the Recorder of Deeds for the District of Columbia. The incorporators are Dr. George M. Sternberg, Dr. Walter Wyman, Dr. P. M. Rixey, Dr. R. M. O'Reilly, Dr. A. B. Richardson, Dr. S. S. Adams, Dr. E. A. Balloch, Dr. S. M. Burnett, Dr. E. A. de Schweinitz, Dr. Joseph Taber Johnson, Dr. H. L. L. Johnson, Dr. George M. Kober, Dr. Sterling Ruffin, Dr. J. Ford Thompson, and Dr. William C. Woodward. There will be 104 professorships established in connection with conduct of the institution. They will be as follows: Six of preventive medicine, two of medical zoology, one of protective inoculations and serum therapy and biochemistry, two of sanitary chemistry, eight of bacteriology, seven of pathology, fourteen of internal medicine and therapeutics, one of surgical anatomy, fourteen of surgery, six of military medicine and surgery, two of orthopaedic surgery, nine of gynecology, six of obstetrics, two of mental and nervous diseases and electrotherapeutics, three of tropical diseases, four of diseases of children, two of diseases of the stomach, eight of diseases of the eye, eight of diseases of the nose, throat and ear, four of special diseases, and four of diseases of the skin.

The American Röntgen Ray Society will hold its third annual meeting in Chicago, on December 10th and 11th. The sessions of the society, as well

as the exhibits, will be held in the Sherman House at Randolph and Clark Streets. Owing to the fact that papers which are to be read at this meeting have to be submitted to the Executive Committee for endorsement before being placed on the programme, it has been found impossible this year to issue a preliminary programme, though about twenty excellent papers have been secured. It is earnestly urged that those who recognize the importance of the x ray, for both diagnostic and therapeutic purposes, will contribute to the success of the meeting by their presence. A one and one-third rate fare has already been granted by the Central Passenger Association, the Eastern Passenger Association, the Western Association, and the Southern Passenger Association, provided that one hundred persons buy tickets on the certificate plan. Many more than this number are expected. Additional information may be obtained from Dr. James B. Bullitt, secretary, 205 West Broadway, Louisville, Ky., or Dr. Ralph R. Canabell, chairman of the Committee of Arrangements, 414 Marquet Building, Chicago.

The Naval Medical School was formally opened in the building formerly occupied by the Naval Observatory at Washington on November 2nd, with an address by Medical Director R. A. Marmion, U. S. N., president of the faculty. Remarks were made to the class, by two former surgeon-generals, Dr. Gunnell and Dr. Van Reypen, and also by Dr. S. S. Adams, president of the Medical Society of the District of Columbia, which he concluded by an offer, in behalf of that society, of the privileges of their meetings. This school is essentially post-graduate in its nature and begins its instruction with the assumption that its students have received a thorough training in the general principles of the chief medical branches. While elaborating certain parts of the medical training already received, new matter is added in the shape of details of life and duty in the service not obtainable from other sources. As its name implies, its work is confined entirely to persons already belonging to the navy, and it begins its work with a class of twelve assistant surgeons recently appointed. Its course of instruction will cover a period of five months. The following is the list of subjects to be lectured upon, and of the names of the faculty: Hygiene (of ship, camp and hospital) and Quarantine, will be lectured upon by Medical Director R. A. Marmion; Duties of Medical Officers, by Medical Inspector John C. Boyd; Military Diseases and Tropical Medicine, by Surgeon John W. Ross; Military Surgery, by Surgeon A. C. H. Russell (in this course the hospital corps drill is included); Bacteriology and Chemistry, by Surgeon E. R. Stitt; Ophthalmology, by Passed Assistant Surgeon T. D. Myers; Instructions in Signals, Manual of the Sword and Extracts from Tactics, by an officer not yet designated; Naval Law, by Mr. E. P. Hanna, solicitor of the Navy Department.

Virchow's Last Illness.—An authoritative report of Professor Virchow's fatal illness appears in a recent issue of the *Berliner klinische Wochenschrift*, from which it appears that on January 1st of this year he fell, in dismounting from a trolley car, sustaining an intertrochanteric fracture of the neck of the femur. He made a good recovery so far as the fracture itself was concerned, but the shock seemed

to have seriously impaired his vitality. From time to time he failed to recognize those around him and he slept poorly. He spent six weeks at Tiplitz and showed signs of improvement and went to Harzburg. On July 6th signs of cardiac failure developed. He had been under treatment for cystitis and deposits of pus now appeared in the urine. He was removed to Berlin on August 30th, and died on September 5th from cardiac failure. The fatal termination, eight months after his accident, is attributed to myocarditis, probably with atheroma of the coronary arteries, and it is suggested that a spreading of the inflammatory process from the bladder to the kidneys may have been a contributory cause.

Popular Medical Lectures at the College of Physicians and Surgeons.—On Wednesday, November 5 there was given at the College of Physicians and Surgeons the first of a series of medical lectures for the public, which will be given at 5 o'clock every Wednesday afternoon until April 1. The subjects will include anthropology, chemistry, zoology and psychology, and the following lecturers will appear: Professor Franz Boas, of the department of anthropology; Professor Edward L. Thorndike, of the department of psychology; Professor Bashford Dean, of the department of zoology; Professor Edmund B. Wilson, of the department of botany; Professor L. M. Underwood, of the department of botany; Professor Livingston Farrand, of the department of psychology; Dr. J. L. R. Morgan, Dr. E. H. Miller, Dr. Marston Taylor Bogert, Professor James McKeen Cattell, Professor James Furman Kemp, Dr. R. E. Dodge, Dr. H. Fairfield Osborn, Professor William Hallock, Professor Franklin H. Giddings, of the department of sociology; Dr. H. E. Cramp-ton, Dr. A. W. Grabau, Dr. G. N. Calkins, Dr. F. L. Tufts and Dr. A. P. Anderson.

The Annual Report of the New York Board of Health, for the year 1901, has just been made public. Usually the statistics of the board are not complete for publication until some two years after the close of the official year. In this case only ten months have elapsed. The estimated population upon which these statistics are based is placed at 3,536,517. The death rate during the year was 20 per thousand as against 20.57 for the previous year. The total number of deaths during 1901 was 70,720; during 1900, 70,872. The highest death rate was in the Bronx, 21.60, and the lowest in Queens, 17.20. Tuberculosis caused 9,389 deaths, pneumonia 9,168, diarrhoeal diseases 5,796, heart disease 5,006, and Bright's disease 4,813. The percentage of infant mortality was the lowest of any year during the past decade. During the year 72,568 specimens of milk were examined; 10,418,674 pounds of milk, fruit, meat, fish and other food were condemned and seized; 31,324 bacteriological examinations were made, 132,475 cubic centimetres of diphtheria antitoxine and 20,235 of vaccine virus were produced; 10,448 children were excluded from school by the medical school inspectors; 5,288 persons were treated in the department hospitals; 70,720 deaths, 80,735 births, 33,447 marriages and 5,750 still births were recorded, indexed and tabulated and 23,296 transcripts of them issued. The marriage rate for

the entire city is 9.46 per thousand, Manhattan leading with 12.22, Brooklyn 6.87, Bronx 4.80, and Queens 4.72.

The Approaching Unification of the State Medical Societies of New York.—At the annual meeting of the New York State Medical Association, on October 20th, the following resolutions were adopted by the Council and Fellows:

Resolved: That the report of the committee appointed to confer with a committee representing the Medical Society of the State of New York for the purpose of devising a plan for the union of The New York State Medical Association and the Medical Society of the State of New York is hereby approved.

Resolved: That the plan presented at the joint session of the two committees by the committee representing this association, whereby, "The New York State Medical Association and the Medical Society of the State of New York be reconstituted by an act of the legislature into a State medical body, to be known as the Medical Society of the State of New York, of which all members in good standing in both bodies shall be charter members, and the reconstituted State medical body shall be the representative in this State of the American Medical Association by virtue of its acceptance of the constitution and by-laws of the American Medical Association," is hereby accepted by The New York State Medical Association as an expression of our sincere desire for a union of the medical profession in this State.

Resolved: That the committee is hereby continued for the purpose of cooperating with any committee from the Medical Society of the State of New York to secure a charter from the legislature at its next session, in 1903, which charter shall reconstitute the two State organizations into one State body, as set forth in the preceding resolution, but if the Medical Society of the State of New York shall fail to approve of such plan of union by a charter to be secured at the approaching session of the legislature in 1903, then this committee shall be considered as discharged, and the proposition of this association withdrawn.

Resolved: In case this committee should find occasion to apply to the legislature at its next session for the purpose of securing the said charter, it shall cooperate with the standing Committee on Legislation of this association.

In Memory of Dr. M. J. Asch.—At a stated meeting of the Medical Association of the Greater City of New York held on November 10th the following memorial report was adopted:

Morris Joseph Asch, M. D., died at Irvington-on-Hudson, October 5, 1902, in his seventieth year. He was a native of Philadelphia, where he took his degree in arts at the University of Pennsylvania, in 1852, and in medicine at Jefferson Medical College, in 1855. Through the civil war he served with distinction on the staff of Gen. Sheridan. For upwards of thirty years, and until his retirement, less than two years ago, he was engaged in active practice in New York, where he gained a large following and many friends. In 1872 he became a surgeon, and afterwards a consultant, at the New York Eye and Ear Infirmary, and he served in similar positions in the throat department of the Manhattan Eye and Ear Hospital, from the year 1879. For several years he held a professorship of laryngology at the New York Polyclinic. He was one of the original Fellows of the American Laryngological Association, and in 1892 received the well-deserved honor of election as its president. His contributions to literature were frequent and valuable, consisting for the most part of clinical reports gathered from his unusually wide experience.

He was a member of many social and scientific bodies, in all of which he won the friendship and esteem of a large circle.

By those most intimately associated with him in hospital and clinical work, he will be remembered for his devotion to duty, his keenness in diagnosis, and his manipulative skill.

His chief title to fame with the profession at large rests upon his careful elaboration of an operation for the correction of deflections of the nasal septum, with which his

name will always be connected. Whatever may be the general opinion of the Asch operation, whatever improvements and modifications it may hereafter undergo, the fact remains that he succeeded in grasping the principles which underlie the successful management of this obstinate deformity, and in proposing certain technical details of marked value.

His charm of manner, his ample disposition, and his kindness of heart combined to endear him to everyone with whom he came in contact, whether patient, friend or colleague. Those nearest to him will always recall his attractive personality. To the world, his career and character will stand as models worthy of emulation.

(Signed) { CHARLES H. KNIGHT,
H. HOLBROOK CURTIS,
HENRY FREEMAN WALKER,
Committee.

The Late Dr. A. M. Phelps.—At a recent meeting of the Medical Association of the Greater City of New York the following minute was presented and adopted:

Dr. Abel Mix Phelps, whose death occurred on October 6, 1902, was born at Alburgh Springs, Vermont, January 21, 1851, and obtained his medical degree in 1873 from the University of Michigan. After practising a number of years at Chateaugay, New York, he spent some time abroad, devoting himself especially to orthopaedic surgery. In 1885, shortly after his return to this country, he was called to the chair of orthopaedic surgery in the University of Vermont. Later he occupied for a number of years the same chair in the University of New York. As a further recognition of his labors in this branch of surgery, he was, in 1894, elected President of the American Orthopaedic Association. In 1901 he became President of the Medical Society of the State of New York. At the time of his death he was visiting surgeon to the City Hospital, Blackwell's Island, and was professor of orthopaedics in the New York Post-Graduate School.

Dr. Phelps was a man of enthusiasm and force, great originality, and firm convictions. Lucid in thought and expression, a bold and skillful operator, he was also a successful teacher and leader in his chosen field—operative orthopaedics. Early recognized as a pioneer, his manner will be held in honorably esteem wherever orthopaedics is practiced.

Those who were associated with him more intimately knew the tender side of his nature. In a wider circle he will be best remembered as an honest and true friend.

(Signed) { THOMAS E. SATTERTHWAITE, Chairman.
ROBERT T. MORRIS,
REGINALD H. SAYRE, Committee.

The International Conference on Tuberculosis.—As a result of the several international congresses on tuberculosis which have been held in Paris, Berlin, Naples, and London, there was formed a Central International Bureau for the Prevention of Tuberculosis, with the permanent general secretary located at Berlin. The first general conference of this organization was held at Berlin from October 22nd to 26th. The bureau consists of ordinary members who are delegated as members by the Society for the Suppression of Tuberculosis established in the various nations participating in the movement and of honorary and corresponding members. On the evening of October 22nd the delegates and members were invited to a reception in the great hall of the Prussian Diet where they were received by a distinguished committee of ladies including the officers of the German Red Cross Society. The Imperial German Government was represented by Count von Posadowsky-Wehner, Secretary of State, and the Prussian government by Dr. Studt, the Minister of Education. Prof. Von Leyden delivered an address of welcome which was responded to by Prof. Brouardel, of Paris. Most of the delegates present were

representatives of continental European countries. Great Britain had four representatives, and the United States two, Dr. William H. Welch, of Baltimore, and Dr. Denison, of Denver. The first formal meeting of the association was held on October 23rd, Count von Posadowsky-Wehner delivering the inaugural address. Addresses were also delivered by Baron von dem Knespeck, chamberlain to the Empress, and by the mayor of Berlin. The latter speaker called attention to the fact that while the first sanatorium for tuberculosis for Berlin was erected only ten years ago the city is now surrounded by an almost complete circle of such sanatoriums in its suburbs. Representatives of the various foreign countries responded to these addresses. The first paper presented was by Prof. Fraenkel, of Berlin, and dealt with the history of the struggle against tuberculosis. The late Prof. Virchow was, he said, the first to define the disease and Prof. Villeman ascertained that it could be conveyed by inoculation, but it was not until the discovery of the bacillus by Prof. Koch that the disease was definitely proved to be infectious. The method in which this infection was conveyed made the treatment of the disease largely a question of social economics. The author stated that it had been shown in England and in Germany that tuberculosis might be cured by fresh air, adequate food, and hygienic measures and that this course of treatment could only be carried out successfully in a sanatorium. The first of these establishments were available for the wealthy only, but they had been popularized and had now been opened in almost every civilized country of the globe. The author thought that the special efforts of the central bureau and of the constituent national societies should now be directed to the education of the public as to the proper preventive measures and the importance of carrying them out. Reports were then presented from the various delegates showing the conditions existing in the several countries represented. France has twenty-eight sanatoriums of which only two are for paying patients, and has also rural colonies accommodating more than three thousand school children; while 15,000 children have been treated by residence in mountainous altitudes. In Sweden there are three sanatoriums having a total number of beds of about five hundred. In Switzerland there are seven sanatoriums, with four hundred and sixteen beds, and one in course of construction which will be opened next year. In addition to these public sanatoriums, there are twelve private institutions of this character. In Denmark a great deal of work has been done by means of circulars towards interesting the public in the prevention of tuberculosis. In England a national organization with branches has been formed to aid in popularizing the movement, and there are about one thousand beds in sanatoriums and hospitals available for poor persons suffering from consumption and about as many more are available in paving institutions. M. Landouzy, of Paris, presented a paper on the instruction of children in the prevention of tuberculosis by means of pictorial representations showing prophylactic measures. Prof. Baumgarten, of Tübingen, read a paper on The Bacteriological Aspect of the Conflict with Tuberculosis. The question of notification was discussed by the president of the bureau, Prof. Schrotter, Dr. Anvord, of Christiania, and Dr. Kirchner, of the medical department of the Prussian

government, and Dr. Dewez, who stated that he believed the decrease of thirty per cent. in the deaths from consumption in New York City was due to the compulsory notification and prophylaxis. Dr. Calmette spoke of the dispensaries for consumptives as an important factor in the combat with the disease. These dispensaries which were maintained in France by private societies with the aid of municipal funds were more than mere out-patient departments. The medical officer of each dispensary not only supplied each patient medicine but also gave each patient special instructions, the dispensary also furnished food when it was required. Dr. Freund, president of the Berlin office for social insurance, recommended that the rules for prophylaxis be enforced by the police authorities. Dr. Savoie, of Paris, recommended compulsory inspection of workshops by medical officers. Dr. Obertüschen, of Wiesbaden, closed the first day's proceedings with an address on the influence and co-operation of schools in the prevention of tuberculosis. The second day of the conference, October 24th, was devoted to the inspection of various sanatoriums. On the third day Dr. Andvord, of Christiania, presented a paper on Tuberculosis in Children and the afternoon was devoted to a discussion of the theory that bovine tuberculosis is not transmissible to the human subject. Much opposition to the acceptance of this view manifested itself. Prof. Koch, however, vigorously defended his position and emphatically adhered to the views enunciated by him at the congress held in London last year to the effect that bovine tuberculosis is not transmissible to the human subject. The following committee was appointed to carry out measures for the prevention of tuberculosis: Herr Althoff, Minister of Public Health, Berlin; Prof. Fraenkel, of Berlin; Prof. Calmette, of Lille; Dr. Nathan Raw, of Liverpool; Dr. Rørdam, of Copenhagen; and Dr. Chyzer, of Budapest.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending November 8, 1902:

DISEASES.	Week end'g Nov. 1		Week end'g Nov. 8	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	126	31	145	27
Scarlet fever.....	129	7	93	9
Cerebro-spinal meningitis ..	6	7	0	1
Measles.....	60	1	51	1
Diphtheria and Croup.....	326	26	218	46
Small-pox.....	1	1	4	1
Tuberculosis.....	229	136	198	132

Public Health and Marine-Hospital Service:

Official List of Changes of Station and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service for the Seven Days ending November 6, 1902:

ALEXANDER E., Acting Assistant Surgeon. Granted two days' extension of leave of absence.

BOGGESE, J. S., Assistant Surgeon. Granted seven days' extension of leave of absence from November 16.

COFER, L. E., Passed Assistant Surgeon. Relieved from temporary duty at the Immigration Depot, New York, N. Y.

MAGRUDER, G. M., Surgeon. Granted leave of absence for twelve days from November 17.

O'GORMAN, T. V., Senior Pharmacist. Relieved from duty at Louisville, Ky., and directed to proceed to New Orleans, La., and report to the medical officer in command for duty and assignment to quarters.

WALKER, AGNES, Medical Inspector. Granted leave of absence for thirty days from November 1.

WHITE, J. H., Assistant Surgeon-General. Granted leave of absence for fifteen days from November 8.

Board Convened.

Board convened to meet at Port Townsend, Washington, November 4, 1902, for the physical examination of such officers of the Revenue Cutter Service as may present themselves. Detail for the Board: Passed Assistant Surgeon C. H. GARDNER, chairman; Assistant Surgeon M. H. FOSTER, recorder.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending November 8, 1902:

Smallpox—United States.

California.....	San Francisco.....	Oct. 18-26.....	1 case.	
Colorado.....	Denver.....	Oct. 18-25.....	1 case.	
Illinois.....	Chicago.....	Oct. 23-Nov. 1.....	1 case.	
Indiana.....	Indianapolis.....	Oct. 25-Nov. 1.....	2 cases.	
Iowa.....	Ottumwa.....	Sept. 27-Nov. 1.....	2 cases.	
Kansas.....	Wichita.....	Oct. 24-Nov. 1.....	1 case.	
Kentucky.....	Covington.....	Oct. 18-Nov. 1.....	22 cases.	
.....	Lexington.....	Oct. 25-Nov. 1.....	12 cases.	
Maine.....	Biddeford.....	Oct. 25-Nov. 1.....	1 case.	
Massachusetts.....	Boston.....	Oct. 25-Nov. 1.....	18 cases.	4 deaths.
.....	Cambridge.....	Oct. 25-Nov. 1.....	1 case.	
.....	Everett.....	Oct. 25-Nov. 1.....	1 case.	
Michigan.....	Detroit.....	Oct. 25-Nov. 1.....	13 cases.	
.....	Grand Rapids.....	Oct. 25-Nov. 1.....	8 cases.	
N. Hampshire.....	Nashua.....	Oct. 25-Nov. 1.....	23 cases.	
New York.....	Binghamton.....	Oct. 25-Nov. 1.....	1 case.	
.....	New York.....	Oct. 25-Nov. 1.....	1 case.	1 death.
Ohio.....	Cincinnati.....	Oct. 24-31.....	3 cases.	
.....	Cleveland.....	Oct. 25-Nov. 1.....	11 cases.	8 deaths.
.....	Dayton.....	Oct. 25-Nov. 1.....	1 case.	
.....	Youngstown.....	Oct. 18-Nov. 1.....	1 case.	1 death.
Pennsylvania.....	Altoona.....	Oct. 25-Nov. 1.....	4 cases.	
.....	Erie.....	Oct. 15-Nov. 1.....	3 cases.	
.....	Johnstown.....	Oct. 25-Nov. 1.....	6 cases.	
.....	McKeesport.....	Oct. 25-Nov. 1.....	3 cases.	1 death.
.....	Pittsburg.....	Oct. 25-Nov. 1.....	18 cases.	6 deaths, 2 imported.
S. Carolina.....	Charleston.....	Oct. 18-25.....	2 cases.	
Wisconsin.....	Milwaukee.....	Oct. 25-Nov. 1.....	10 cases.	1 death.

Smallpox—Foreign.

Austria.....	Vienna.....	Oct. 4-11.....	8 cases.	
Belgium.....	Antwerp.....	Oct. 11-18.....	1 case.	
.....	Ghent.....	Oct. 11-18.....	2 deaths.	
Canada.....	Amherstburg.....	Oct. 18-Nov. 1.....	3 cases.	
.....	Quebec.....	Oct. 25-Nov. 1.....	1 case.	
Ecuador.....	Guayaquil.....	Oct. 12-19.....	3 deaths.	
France.....	Paris.....	Oct. 11-18.....	1 death.	
.....	Rheims.....	Oct. 12-19.....	1 death.	
Gt. Britain.....	Liverpool.....	Oct. 11-18.....	21 cases.	
.....	London.....	Oct. 11-18.....	4 cases.	
India.....	Bombay.....	Sept. 30-Oct. 7.....	1 death.	
Russia.....	Moscow.....	Oct. 4-11.....	3 cases.	1 death.
.....	Odessa.....	Oct. 11-18.....	1 case.	
.....	St. Petersburg.....	Oct. 4-11.....	8 cases.	5 deaths.
Straits.....	Settlements, Singapore.....	Sept. 6-20.....	5 deaths.	
Turkey.....	Constantinople.....	Oct. 12-19.....	1 death.	

Yellow Fever.

Colombia.....	Panama.....	Oct. 13-27.....	12 cases.	1 death.
Ecuador.....	Guayaquil.....	Oct. 12-19.....	1 case.	

Cholera.

China.....	Hongkong.....	Sept. 20-Oct. 4.....	5 cases.	4 deaths.
Egypt.....	Alexandria.....	Oct. 4-11.....	72 cases.	71 deaths.
India.....	Bombay.....	Sept. 30-Oct. 7.....	2 deaths.	
.....	Madras.....	Sept. 30-Oct. 1.....	3 cases.	3 deaths.
Japan.....	.....	To Sept. 30.....	11,228 c's.	6,302 d'ths.
Korea.....	Seoul.....	Sept. 27.....	Between 50 and 250	deaths daily.
Straits.....	Settlements, Singapore.....	Sept. 6-20.....	15 deaths.	

Plague.

India.....	Bombay.....	Sept. 30-Oct. 7.....	112 deaths.	
.....	Karachi.....	Sept. 28-Oct. 5.....	27 cases.	22 deaths.
Japan.....	Yokohama.....	Sept. 27-Oct. 4.....	1 death.	

Army Intelligence:

Official List of Changes in the Station and Duties of Officers serving in the Medical Department of the United States Army for the week ending November 8, 1902:

Medical Officers ordered to report at the Army Medical Museum, Washington, D. C., to Colonel Calvin De Witt, Assistant Surgeon General U. S. Army, president of the faculty of the Army Medical School for the course of instruction prescribed by paragraphs 542 and 543, *Army Regulations*, 1901, viz.:

BARROW, NOEL I., First Lieutenant and Assistant Surgeon.
CLARK, JOHN A., First Lieutenant and Assistant Surgeon.
CARSWELL, ROBERT L., First Lieutenant and Assistant Surgeon.
DE WITT, WALLACE, First Lieutenant and Assistant Surgeon.
DE WITT, WALLACE, First Lieutenant and Assistant Surgeon.
DUNCAN, LOUIS C., First Lieutenant and Assistant Surgeon.
FIFE, JAMES D., First Lieutenant and Assistant Surgeon.
HARRIS, JESSE R., First Lieutenant and Assistant Surgeon.
HATHAWAY, PHILIP W., First Lieutenant and Assistant Surgeon.
HATHAWAY, LEVY M., First Lieutenant and Assistant Surgeon.
HUNNER, JOHN W., First Lieutenant and Assistant Surgeon.
KILBOURNE, EDWIN D., First Lieutenant and Assistant Surgeon.
LAMBERT, SAMUEL E., First Lieutenant and Assistant Surgeon.
LE WALD, LEON T., First Lieutenant and Assistant Surgeon.
MORRIS, SAMUEL J., First Lieutenant and Assistant Surgeon.
MURRAY, ALEXANDER, First Lieutenant and Assistant Surgeon.
POWELL, WILLIAM A., First Lieutenant and Assistant Surgeon.
SCOTT, GEORGE H., First Lieutenant and Assistant Surgeon.
TALBOT, EDWARD M., First Lieutenant and Assistant Surgeon.
JOHNSON, R. W., Major and Surgeon. Granted leave of absence for fifteen days.
PURVIANCE, WILLIAM E., Captain and Assistant Surgeon. Relieved from duty at U. S. General Hospital, San Francisco, California, and ordered to proceed to Chicago, Illinois, and assume the duties of Attending Surgeon and Examiner of Recruits.
REED, WALTER, Major and Surgeon. Ordered to proceed to Fort H. G. Wright, N. Y., for the purpose of investigating and reporting upon the epidemic of typhoid fever among the troops quartered at that post during the recent manoeuvres in that vicinity, and upon completion of this duty to return to his proper station in this city.
USHER, F. M. C., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month.

Births, Marriages, and Deaths.**Born.**

MUNDORFF.—In New York, on Tuesday, November 4, 1902, to Dr. and Mrs. George Theodore Mundorff, a daughter.

Moved.

BARNEY—KASPARCK.—In Prairie du Chien, Wisconsin, on Thursday, October 30th, Dr. Fred Barney, of Soldiers Grove, and Miss Alvina Kasparck.

BREWSTER—HODGE.—In Washington, D. C., on Wednesday, November 12th, Dr. George W. Brewster, of Boston, and Miss Ellen MacKenzie Hodge.

BROWN—GIBBONS.—In Washington, D. C., on Wednesday, October 29th, Dr. Walter H. Brown, of Youngwood, Pennsylvania, and Miss M. Irene Gibbons.

DAVIS—SINCELL.—In Frederick, Maryland, on Wednesday, November 20th, Dr. Mark O. Davis, of Washington, and Miss Anna M. Sincell.

EBERHARD—BOWER.—In Philadelphia, Pa., on Wednesday, November 5th, Dr. Harry Martin Eberhard and Miss Anna Hance Bower.

HENDERSON—BRIGGS.—In Philadelphia, Pa., on Monday, November 10th, Dr. Thomas D. Henderson and Miss Sarah E. Briggs.

KAUCHER—LUBURG.—In Philadelphia, Pa., on Thursday, November 6th, Dr. Howard Lewis Kaucher and Miss Carrie Swahn Luburg.

LEWIS—KELLY.—In Baltimore, Maryland, on Saturday, November 8th, Dr. C. Howard Lewis and Mrs. Georgianna Kelly.

LOEB—MASSMAN.—In Philadelphia, Pa., on Wednesday, November 5th, Dr. Victor A. Loeb and Miss Caroline A. Massman.

MCGNAUGHTON—ROSSITER.—In Brooklyn, N. Y., on Wednesday, November 5th, Dr. Peter Duncan McGnaughton, of Calumet, Michigan, and Miss Ethel Mayo Rossiter.

MARTIN—REYNOLDS.—In Kansas City, Missouri, on Wednesday, October 29th, Dr. J. C. Martin and Miss Daisy Reynolds.

NIETERT—ZEIGENHEIM.—In St. Louis, Missouri, on Wednesday, October 29th, Dr. H. L. Nietert and Miss Katherine Ziegenhein.

PATTERSON—HACKETT.—In Philadelphia, Pa., on Monday, November 3d, Dr. Walter S. Patterson and Dr. Ella H. Hackett.

PEARCE—MUSSER.—In Philadelphia, Pa., on Thursday, November 6th, Dr. Richard Mills Pearce and Miss May Harper Musser.

SCUDDER—AULD.—In Baltimore, Maryland, on Wednesday, October 29th, Dr. Chauncey T. Scudder and Miss Annie R. Auld.

SPALDING—POLHEMUS.—In San Francisco, California, on Wednesday, October 29th, Dr. Albert Baker Spalding and Miss May Polhemus.

WILLIAMS—WOOD.—In Philadelphia, Pa., on Saturday, November 8th, Dr. J. J. Gurney Williams and Miss May Alexander Wood.

Died.

ALLEN.—In Chicago, Illinois, on Tuesday, November 4th, Dr. W. C. Allen, in the thirty-fifth year of his age.

BELL.—In Chicago, Illinois, on Tuesday, November 4th, Dr. James Johnston Bell, in the forty-first year of his age.

COOK.—In New York City, on Monday, November 3d, Dr. G. L. Cook, in the seventy-eighth year of his age.

COX.—In Washington, New Jersey, on Friday, November 7th, Dr. Henry M. Cox, in the sixty-fifth year of his age.

CRESHAW.—In Louisville, Kentucky, on Tuesday, November 4th, Dr. William Creshaw, of Hanson, in the seventy-second year of his age.

FOLLENIUS.—In Kansas City, Missouri, on Tuesday, October 28th, Dr. William Follenius, in the seventy-third year of his age.

FROELICH.—In Cleveland, Ohio, on Tuesday, October 28th, Dr. J. Froelich, of Independence, in the fifty-sixth year of his age.

GRIFFIN.—In Cavite, Philippine Islands, on Thursday, October 28th, Dr. Walter E. Griffin, assistant surgeon and first lieutenant in the U. S. Navy.

HARRIS.—In Minco, Indian Territory, on Monday, October 27th, Dr. T. E. Harris, in the twenty-ninth year of his age.

KIMBERLIN.—In Kansas City, Missouri, on Tuesday, November 11th, Dr. W. H. Kimberlin, in the fifty-eighth year of his age.

NEWCOMB.—In New York City, on Monday, November 10th, Dr. Obadiah Newcomb, in the eighty-second year of his age.

TOOKER.—In Chicago, Illinois, on Sunday, November 9th, Dr. Robert Newton Tooker, in the sixty-first year of his age.

WILSON.—In Baltimore, Maryland, on Monday, November 4th, Dr. Pierce Butler Wilson, Sr., in the sixty-seventh year of his age.

WOOD.—In Kansas City, Missouri, on Friday, October 31st, Dr. Robert Liston Wood, in the sixty-second year of his age.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Is Sleeping Sickness of the Negroes an Intoxication or an Infection? By Dr. H. Ziemann (*The Journal of Tropical Medicine*, October 15th).

—Sleeping sickness of the negroes occurs in West Africa from Senegal down to Angola, and is characterized by sleepiness, which gradually deepens into complete stupor, and which after months or years, leads to a fatal termination through coma from inanition. The disease only appears in certain districts, being entirely absent in regions nearby. No undoubted case of sleeping sickness has ever been observed among white people; children under three years of age are very seldom attacked. The author reports a typical case of the disease occurring in a Wey-negro, aged twenty-five years. The patient seemed stupefied, always seeking for a support when standing. The gait without support was reeling and staggering. When left alone he promptly sank into a sound dreamless sleep. There was no evidence of any muscular paralysis or atrophy, nor of tremor or tonic convulsions. The patellar and other tendon reflexes were abolished, and Romberg's sign was marked. Sensation was diminished over the entire body. The pupils reacted to light and accommodation. The stools contained ova of *Ascaris lumbricoides*. No malarial organisms were present in the blood, but there was a well-marked eosinophilic leucocytosis, and embryos of *Filaria perstans* were constantly found. Bacteriological examination of the blood remitted negatively, and no development of the filaria embryos was ever noted. The patient was finally taken away by his fellow countrymen to die. The following have been suggested as causes of the disease: (1) *Filaria perstans*, the embryos being localized in the cerebral vessels (Manson). (2) *Ankylostomum duodenale*. (3) *Diplococcus pneumoniae* (Fränkel). (4) Cagigal and Lepierre's bacillus. The author negatives all of these, and holds that the disease is an intoxication similar to pellagra, which latter is due to the eating of rotten maize. In localities where sleeping sickness prevails, there are two articles of diet which are universally used, viz., dried salt-water fish and manioc. The latter is known to be poisonous when raw, and it is a fact that manioc is freely partaken of raw in countries where sleeping sickness is prevalent. Cooking renders manioc innocuous, but such cooking must be thorough—a condition which rarely obtains. The author therefore concludes that raw or uncooked manioc is the cause of sleeping sickness, and holds that preventive measures based upon this fact would soon bring about the disappearance of the disease.

Hirschsprung's Disease and Idiopathic Enlargement of the Colon. By Dr. Giulio Tarozzi (*Riforma medica*, August 13th and 14th, 1902).—Not long ago, the name of congenital megacolon, or Hirschsprung's disease, was applied to a special morbid condition of the intestine in which the principal symptom is an obstinate constipation which begins during the first days of life, and is accompanied by a more or less marked enlargement of the abdomen. Anatomically these cases present an abnormal dilata-

tion of the entire colon, or of a part of the large gut, due to a congenital anomaly, but there is an absence of any constrictions or occlusions. The coats of the intestine have been found variously altered in these cases, including ulceration, infiltration, thickening, etc., together with more or less marked atrophy of the muscle fibres, all these being due to interference with the function of the gut.

A study of the literature of the subject and of a case in which the disease above described was present in a man aged fifty years, convinced the author that the few cases of megacolon thus far observed in adults were completely distinct from Hirschsprung's disease. Megacolon in adults pursues a course that varies according to the circumstances in which it originates. Hirschsprung's disease is a disease of infancy and begins at birth, having its origin in a congenital anomaly of development of the colon, without stenosis. On the other hand, megacolon, which may be styled with more propriety "idiopathic dilatation of the colon," has been observed until now in mature age, and has not been shown thus far to have a congenital origin. Megacolon depends upon various causes which are not always perfectly defined in each case. In the case reported the hypertrophy and dilatation of the colon was probably produced by a slow functional modification of neuropathic origin.

Dysenteric Appendicular Inflammation.—M. Albert Vandenbossche (*Gazette hebdomadaire de médecine et de chirurgie*, October 9th) reports the case of a soldier who had what appeared to be a typical attack of appendicular inflammation with pain at McBurney's point especially well marked. An operation showed a foetid, retrocaecal, encysted abscess. The wound was drained. Five days later the man died with all the symptoms of general peritonitis. An autopsy disclosed a rupture of the cæcum, which contained a dysenteric ulcer. The author says that there can be no question as to the dysenteric origin of the appendicular affection. He regards the course of the condition as follows: First stage: Localization of the dysenteric process in the large intestine, especially in the cæcum, with infectious invasion of the appendix. The symptoms were those of a dysentery accompanied by pain on pressure over the head of the cæcum; on the internal surface of the cæcum a hard round cord could be felt, rolling under the finger and equally sensitive to pressure. Second stage: The dysenteric process continued to ulcerate the mucosa of the large intestine and cæcum, and the appendicular inflammation went on to suppuration. Third stage: The dysentery remained stationary, while the appendix became gangrenous and sloughed away. Fourth stage: The dysenteric process became fulminant and perforated the cæcum, aided perhaps by the exogenous action of the pus of the appendicular abscess.

The author says that, nosologically, this constitutes a new variety of appendicular inflammation. Pathologically it demonstrates the correctness of the theory that appendicular inflammation may arise by propagation from another lesion. Therapeutically, it demonstrates that in cases of propagated appendicular inflammation, treatment by appendectomy is not sufficient but must comprise the treatment of the cæcal condition also.

The Epidemic of Cerebrospinal Meningitis at Lisbon. By Dr. H. W. Seager (*Lancet*, November 1st).—Cerebrospinal meningitis is a disease confined almost entirely to the lower classes, dirt and overcrowding being conducive to its prevalence. It appears to have no connection with the water supply or sewage. The earliest symptoms are rigors, headache, pains in the joints, and painful opisthotonos. The temperature is at first normal, but after hours or days rises to 104° F. A remarkable symptom of the disease is the abolition of all reflex action in the early stages. Herpes labialis is common and is looked on as a favorable sign; ptylectulæ are rare. Delirium commonly occurs on the first day and lasts three or four days. Hæmorrhagic nephritis is also very common. Gastric hæmorrhage is almost always present and vomiting is an early symptom. Various forms of paralysis complicate the disease and sometimes prove incurable. Other complications and sequelæ are corneal ulcers, atrophy of the optic nerve, suppurative otitis, bronchopneumonia, and congestion of the lungs with hæmorrhage. The duration of the disease varies. Some patients die three or four hours after the onset, but the usual time is about the fourth day. Relapses are very frequent, and last three or four days. In microscopical examination the one pathognomonic sign is the presence of meningococci in the spinal fluid. They are invariably found, but may not appear until the eighteenth or twentieth day. The treatment adopted in Lisbon is as follows: When the temperature rises, a lumbar puncture is made, and about 50 c. c. of flocculent fluid containing pus are drawn off. Artificial serum is then injected, followed by from 9 to 12 c. c. of a solution of lysol of the strength of 1 to 100. The temperature falls immediately, but rises again after from one to three days, when the puncture and injection are repeated. This goes on until the fluid withdrawn becomes quite clear and limpid. Of 31 cases treated in this manner, 13 patients died: Five from dilatation of the cerebral ventricles, two from pulmonary tuberculosis, one each from œdema of the glottis and purulent pneumonia; and four from the disease without complications. Under the treatment formerly used 60 per cent. of the patients died.

SURGERY AND ANATOMY.

A Gunshot Wound of the Spine and the Lumbar Enlargement of the Cord. Instantaneous Paraplegia Enucleation of the Bullet. Complete Recovery.—Dr. A. Viridia (*Riforma medica*, August 25th, 26th, 27th, and 28th) reports the case of a man who had been shot in the back with a revolver, the bullet penetrating to the right side, between the inferior angle of the scapula and the spine. There were immediate paralysis, retention of urine and fæces, and abolition of the tendon reflexes. There was but little pain in the region of the wound, but a considerable amount in the abdomen, sacral, and lumbar regions, which was not relieved by narcotics or by hypnotics in large doses. The paralysis showed no signs of improvement and the urine became purulent during the next five days. On probing, the wound was found to proceed downward and inward, into the spine at the level of the seventh or eighth dorsal vertebra, and to terminate at the tenth dorsal. The symptoms showed that the spinal cord had been injured, though the bullet could not be traced into the

spinal canal with a probe. As the tract had begun to suppurate, and as no improvement could be expected without surgical treatment, an operation was decided upon, and seven days after the injury the patient was placed under anaesthesia (morphine and ethyl chloride locally). A long probe was introduced into the wound down to the bottom, and on this as a guide an incision was made and the track of the wound laid open. The surface was irrigated with bichloride solution, and on close examination a second track was found at right angles, leading from the first toward the vertebral column, and allowing of the introduction of a finer probe. A bony foramen was disclosed partly filled with clots, which was enlarged by means of the chisel and mallet, using light taps. Finally, the bullet was reached, imbedded in the body of the tenth vertebra. The bullet was removed with some difficulty by means of a curved chisel and the site irrigated with bichloride. The dura mater was found unruptured but deeply contused at the site of the bullet, and the cord was compressed and displaced to the left by the bullet and the clots. A strip of gauze was introduced into the bony canal for drainage, the wound disinfected and closed excepting the part allowing the drain to emerge. The patient made a good recovery and regained the normal functions of his lower extremities, bladder, and rectum.

Drainage of the Internal Iliac Fossa through the Greater Sciatic Foramen.—M. O. Laurent (*Gazette hebdomadaire de médecine et de chirurgie*, September 25th) describes this method, which he has followed twice in children. (1) Horizontal incision of five centimetres upon the crest of the ilium, starting at the vertebral column. All the tissues are incised to the internal border of the crest until the index finger can be introduced. (2) Find the gluteal artery with the patient on his side. It is found just beneath an oblique line uniting the posterior superior iliac spine with the great trochanter. The bistoury is carried two fingers' breadth below the spine and an incision from three to four centimetres long is made toward the great trochanter. The fibres of the glutei muscles must be avoided. The depressible greater foramen and the osseous arch which limits it above are searched for with the finger. The arteries and veins, as well as a plexus of nerves, are found here and can be distinguished by the pulp of the finger. (3) A drain is introduced outside of the plexus of nerves, the introduction taking place with a forceps guided by the finger. The external wound is sutured.

Wound of the Liver, Tampon, Cure.—The details of successful treatment of an incised wound of the liver are given by E. Fortun (*Revista de Medicina y Cirugía de la Habana*, September 10th) as follows: The liver was first anchored to the abdominal wall by silk sutures passed through the margin, to the depth of the wound and brought up through the integument. A gauze tampon was then inserted in the liver wound, and the lips of the wound partly closed by sutures. Two hæmorrhages, at intervals of forty-eight hours, necessitated the removal of the packing; a third tampon, saturated with a five-per-cent. solution of gelatin effected complete hæmorrhage. Improvement was uninterrupted from this time on, and thirty days after the injury was received, the patient was entirely restored to health.

Two Cases of Abscess Treated Conservatively.

—The report by Celio Rodríguez Lendian (*Revista de Medicina y Cirugía de la Habana*, October 10th) of two cases of psoas abscess complicating tuberculous disease of the spine and hip, embodies a plea for the conservative treatment of such affections and, in the cases described, the favorable effect of prolonged rest in bed, combined with extension, traction, systematic treatment, and nourishing diet, seems to lend support to the idea that resorption of pus may occur in such cases if nature is given the needful assistance.

Double Craniectomy for Wound of the Brain.—

Dr. Annibale Ghedini (*Riforma medica*, August 29th) reports the case of a boy of fifteen who fell from a height of five metres, striking a sharp steel point with the right parietal bone, at a point corresponding to the site of the Rolandic zone, the point penetrating the brain and emerging on the left side of the head at a point corresponding to the posterior portion of the left inferior parietal convolution. He was carried to his bed in a state of collapse, and, when seen a few hours later, had begun to mutter and cry out in delirium. There were in addition right hemiplegia, right crural monoplegia, epileptic form convulsions, clonic contractions of the right upper extremity, and insufficiency of the rectum and bladder. On the following day double craniotomy was performed. The right Rolandic zone was found covered with a large subdural hæmatoma. The left parietal convolution was found lacerated at one point and compressed by a fragment of bone and by clots. The hæmatoma was removed, the fragments of bone around the cranial wound were taken away, and the opening enlarged, and a gauze drain was introduced on each side. The operation lasted thirty minutes. The postoperative period was characterized by rapid and steady improvement. Toward the evening of the day of operation the left hemiplegia disappeared almost completely. The drains were removed on the second day, and the dura mater was sutured, the flaps of skin were closed, and the head dressed. In a few days the normal functions of the paralyzed limbs completely returned, and in seven days the wounds healed by primary union.

The Field of View of the Anæsthetist.—

Dr. Rickard W. Lloyd (*West London Medical Journal*, October), in an extended article, develops these points: (1) Heart muscle is very sensitive to the poisonous effects of chloroform. (2) Chloroform raises the excitability of the vagus mechanism, particularly in the early part of the administration. (3) The central medullary vasomotor system is stimulated, at any rate for a time, by chloroform. (4) Failure of respiration in inhalation experiments is mainly due to fall in blood pressure. With a good blood pressure, failure of respiration by inhalation of chloroform is practically impossible. In experimental work chloroform appears to be the anæsthetic usually selected. Ether is generally more favored than chloroform by those clinical anæsthetists who do not limit themselves to one anæsthetic. In administering ether to some patients it is impossible to obtain a deep enough anæsthesia to cause muscular relaxation without danger, which is shown by labored and embarrassed respiration, with increasing and extreme cyanosis while the administration

of ether is continued. The administration of a little chloroform to a patient who is recovering from such a condition brought about by ether, rapidly induces a state of muscular relaxation and surgical anæsthesia without undue cyanosis and gives little or no anxiety. It is not always possible to recognize with certainty the patient who will present those symptoms, and under such circumstances, after the preliminary administration of ether, a very little chloroform is sufficient to establish surgical anæsthesia.

Acute Pancreatitis Associated with Cholelithiasis and Glycosuria; Cholecystotomy; Recovery.

By W. G. Nash, F. R. C. S. (*Lancet*, November 1st).—The author reports the case of a man, aged sixty-years, and fat, who had had attacks of epigastric pain extending over a period of seven years. The onset of the last attack was sudden, and the pain was in the epigastrium. There were nausea, vomiting, hiccough, and collapse. The temperature at first was subnormal, but in the course of two days it rose two or three degrees above normal. The pulse was very rapid (160). The whole abdomen became enormously swollen and suggested intestinal obstruction. This was relieved by enemata and aperients, but quickly reappeared. Later, as the abdominal swelling subsided, there was increased resistance over the pancreas suggesting an effusion into the lesser peritoneal cavity. An exploratory operation was performed, and a large gall stone found and removed. Numerous small areas of fat necrosis were seen in the neighborhood of the pancreas, which was enlarged, but there was no effusion. The wound healed well and the patient gradually recovered. The urine, previously to the operation, contained eight grains of sugar per ounce. The sugar gradually lessened in amount and finally disappeared entirely. It was probably of pancreatic origin. The author thinks that the stone in the gall bladder was accompanied by inflammation of the bile passages, and some infection spread along the ducts of the pancreas to the gland itself.

OBSTETRICS AND DISEASES OF WOMEN.

Rapid Dilatation of the Cervix with Bossi's Dilator, Particularly in Cases of Eclampsia. By Dr. G. Leopold (*Gazzetta degli ospedali e delle cliniche*, September 7th).—The author saw Bossi apply his dilator, which has four blades, in a case of labor, in Genoa, in 1901, and since then he has used it in fourteen cases in his own clinic, in Dresden. Most of these cases were complicated by eclampsia, and the author obtained the best possible results. Seven of these patients had eclampsia, 2 deformed pelvis, 1 tuberculosis in advanced stage, 1 with tetany of the uterus, and 7 were pregnant women with high fever. In all these cases Bossi's dilator enabled him to dilate the cervix without any laceration, and within from twenty to thirty minutes, from almost complete closure scarcely admitting one finger, to complete dilatation. The child was then at once delivered in all cases, for the most part by using forceps. In a later series of five cases of eclampsia, the dilator was used with marked success, aiding in the delivery of the fœtus, and all the five women recovered completely. The author gives the full histories of these five cases, and draws the following conclusions: By

means of Bossi's dilator, he was able within from twenty to thirty minutes completely to dilate cervix that were almost closed. In no case was the cervix lacerated in the least, if the instrument was used in the manner indicated by Bossi. The application of the dilator was in every case followed by efficient uterine contractions. The advantages of Bossi's method are the rapidity, the ease of execution, the absence of hæmorrhage which accompanies the incision of the cervix, and the fact that subsequently no trachelorrhaphy is needed.

A Case of Interstitial Fibrous Tumor of the Uterus and Unilateral Encysted Purulent Salpingitis.—A most unpromising case presenting these features, and successfully treated by preliminary curetting, followed by enucleation of the fibroma and ablation of the diseased tube and ovary, is made the basis of an argument by E. Nuñez (*Revista de Medicina y Cirugía de la Habana*, September 25th) in favor of conservative surgical treatment in disease of the uterus and annexa. The author holds early enucleation to be a preventive measure in fibroma of the uterus that spares the patient the removal of the large hypertrophied uterus which later develops if the operation be postponed.

False Pregnancy.—An interesting case which illustrates the influence of self suggestion is reported by R. Palacio (*Revista Médica Cubana*, September 15th). The patient, a woman aged twenty-eight years, had lost her first child, and greatly desired to give birth to another. Interrupted menstruation induced the belief that pregnancy had occurred, and typical symptoms of that condition ensued. Morning nausea, enlargement of the breasts, increase in the size of the abdomen, apparent foetal movements, and finally, onset of violent pain when the patient was supposed to be at term, seemed to leave no room for doubt as to the pregnant state. Examination, however, revealed a uterus of normal size and position; the size of the abdomen being attributable to tympanites, and other symptoms accounted for by self-suggestion.

DISEASES OF CHILDREN.

A New Method of Resuscitation in Asphyxia of the Newly Born. By Dr. G. K. Mankevitch (*Roussky Vrach*, October 5th).—The most energetic method of resuscitating asphyxiated newly-born infants is that of Schultze, which is described in all the text books. At the same time, his method, though very popular, is one which in inexperienced hands may become quite dangerous, and in any case it is a rough, brutal procedure. In the beginning, when the author employed it he was often afraid that the slimy, slippery body of the infant would slip through his fingers, and that he would injure some of the child's internal organs by the manipulation of throwing it up feet foremost. Cases are on record in which this method was followed by hæmorrhage into the cavity of the stomach and into other organs, and even by rupture of the pleura. For the past two years, therefore, the author has used another method which avoids the dangers of Schultze's. The principle of greatest possible compression followed by dilatation of the child's thorax is the same in this method as in that of Schultze,

with the exception that the body of the infant is given a firm point of support. In asphyxia neonatorum the author first cleanses the child's mouth, holding it with the head downward, suspended by the feet. The cord is then tied and cut, and the infant is immediately seated upon its buttocks on a table or bed, with its legs spread and extended, the back being turned towards the operator. The body is grasped from behind with both hands in the axillæ, the fingers on the thorax, the thumbs on the scapulae, and then the whole body is bent forward, with the head foremost, and downward toward the feet, the hands at the same time compressing the body. The body is then raised from its bent position and brought into the horizontal plane, the chest thus being expanded, by the fingers in front letting their grip relax and the thumbs pressing from behind slightly raising the trunk. A small roll of blanket may be placed under the child's back for convenience. The method thus outlined has many advantages. It is easy of execution, enables one to watch the child's condition, and does not involve any injury. There is no need of special speed in performing the motions of this method. Respirations begin to show themselves even after a few movements such as have been described. The method is simple enough to be taught to nurses and to be applied by them in case of emergency.

NERVOUS AND MENTAL DISEASES.

A Curious Case of Aphasia.—J. de Velasco (*Revista Médica Cubana*, October 1st) reports the case of a man, who, as a result of cerebral hæmorrhage, was affected with right hemiplegia, paralysis of the left side of the face, and aphasia. A curious feature of the last-named affection was the patient's inability to speak or understand his own tongue (Spanish), while comprehending and speaking with a fair amount of facility the English language, which he had acquired during a residence in the United States. Visual aphasia was also present to some extent; objects being recognized, not by name, but by the purpose for which they were used; for example, when shown a glass, the patient would pronounce the word water. The author believes that the explanation of the patient's aphasia in respect to his native language, is found in the hypothesis that, in the case of a person familiar with several languages, the visual and auditory impressions of each one are grouped within a common cortical centre; partial destruction of the centre accounting for aphasia corresponding to the special group injured.

The Action of Calcium in Epilepsy.—Dr. Audenino and Dr. Bonelli, of Lombroso's Clinic, Turin (*Riforma medica*, September 5th), having found that there is a deficiency in the absorption, and therefore in the elimination of calcium in epileptics have tried this remedy in the treatment of epilepsy. They used various preparations of calcium, by mouth and hypodermatically, chiefly calcium bromide. In the same cases they always used during a similar period other remedies, including potassium bromide, and found that the calcium salt was far superior in efficiency to the other methods and preparations. The authors believe that the efficiency of Richet and Toulouse's milk diet treatment of epilepsy lies in the quantities of calcium thus brought into the system.

The marked beneficial influence of calcium upon the nerve centres has recently been proved by Sabbatani. Calcium salts produce, in all cases, a marked diminution in the number of epileptic attacks.

Acroparæsthesia After Injury.—Dr. M. Sommer *Berliner klinische Wochenschrift*, October 6th) describes a case in which the prominent feature is the presence of disagreeable sensations in the hands, appearing intermittently and becoming worse in the morning and in the evening. The paræsthesia is not confined to the distribution of any peripheral nerve, and there is no sensitiveness to pressure over the nerve trunks. The sensations appeared three or four months after the injury to the hand. Objectively the examination was negative and the presence of no general neurosis could be established.

HYGIENE AND SANITARY SCIENCE.

Some Clinical Aspects of Revaccination. By A. Maude, M. R. C. S. (*Lancet*, November 1st).—In this article the author calls attention to the points of distinction between revaccination in its clinical history and primary vaccination. In revaccination the period of development of the vesicle is almost invariably shorter than in primary vaccination; general absorption begins on the second or third day. In a few cases maturity of the vesicle may be greatly deferred. Recrudescence of good vesicles which have apparently died away is common after revaccination, especially in young adults. This may occur as late as a month after vaccination: the vesicles are usually abortive. Only one instance of the "raspberry excrescence" was noted. It is an evidence of a poor lymph. In most cases of revaccination the vesicle is imperfect, acuminate, and irregular in form, and the resulting scab is small and imperfect, is shed early, and leaves only a small scar. The areola in revaccination is more common and larger, due to the fact that the adult's skin is less clean than that of an infant, and hence is more easily infected. The constitutional symptoms are more severe than in babies; it is common to see in revaccination a temperature rising to 103° F. for forty-eight hours, accompanied by intense headache, general aching, nausea, and malaise. Great leucocytosis occurs at times which may produce well-marked anæmia.

"Absolute vaccination" is not necessary to insure immunity against smallpox. The author revaccinated one pregnant woman: it took well, but the baby's vaccination some months later, also took excellently. Revaccination may be followed by recurrent attacks of boils in persons not previously subject to them. Rashes are commoner in revaccination than in primary infantile vaccinations. Urticaria, erythema multiforme, wandering erythema, and a generalized roseola, all occurring in the first three to five days before the development of the vesicles, are very common in adult females. These results are comparable to the rashes produced by diphtheria antitoxine, and are unavoidable. No form of eczema has ever been seen to follow revaccination.

Remarks Upon Malaria in Middle Italy.—Dr. F. Martirano, of Rome (*Riforma medica*, August 21st) gives some interesting data concerning the types of malaria prevailing in middle Italy. He devotes himself especially to the refutation of the statements

made by Montoro de Francesco (*Semaine médicale*, May 14th), who attempted to disprove the accepted etiology of malaria, as regards its transmission by the mosquito. Montoro stated that in three different districts of middle Italy (Belmonte Calabro, Cotrone, and Cetraro) in which malaria prevailed very generally, he was unable to find any mosquitoes, or at least very few, which on microscopical examination were not found infected. The present author says that he has explored the region mentioned by Montoro, and has found in Belmonte Calabro and the surrounding country great numbers of *Anopheles claviger*, both male and female, although the region in question is by no means a typical malarial district. In Cotrone he has also found a very large number of mosquitoes, especially about the ponds. If Montoro did not find any malarial parasites in the mosquitoes which he examined, it must be remembered that the parasites spend only a small part of their cycle of life in the body of the mosquito, and that this part is far less well known than that spent by the organism in the human body. The small number of mosquitoes observed in Cetraro is accounted for by the fact that the fevers of Cetraro observed in 1901 were for the most part acute manifestations of old and latent cases, and in but few instances the result of mosquito bite.

LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

A Contribution to the Study of Latent Tuberculosis of the Tonsils, and Adenoid Vegetations.

—Dr. C. Tarchetti and Dr. A. Zanconi (*Gazzetta degli ospedali e delle cliniche*, September 7th) inoculated into rabbits and guinea pigs portions of tonsils and adenoid vegetations removed from young subjects without any signs of tuberculosis, in order to find the relation of latent tuberculosis to the hypertrophied condition of these parts. Dieulafoy, in 1895, found on inoculating 61 guinea pigs with fragments of palatine tonsils, and 31 with fragments of adenoid growths, that eight of the animals became infected with tuberculosis. The author conducted his experiments as follows: The tonsils and adenoids were removed from patients who showed no signs of tuberculosis, and were placed in sterilized tubes immediately after removal and taken to the laboratory. There, one portion of each specimen was fixed in alcohol, and another was washed thoroughly in salt solution, so as to remove any mucus adhering to it, and consequently any bacteria contained therein. This latter portion, and if possible its central part, served as material for inoculation. The skin on the internal surface of the animal's thigh was shaved and thoroughly disinfected. The skin was picked up with a forceps, and a small incision was made in it. It was then separated with a probe, making a tunnel under the skin about one centimetre in length. The fragment of tonsil was then inserted into this tunnel and the wound was closed with a little collodion. The pieces fixed in alcohol were imbedded in paraffin, stained and sectioned in the usual way, for tubercle bacilli.

Of the seventeen guinea pigs inoculated, seven died after a few days of infection due to other germs introduced with the fragment. Five died in from nineteen to fifty days, without presenting any traces of tuberculosis, and the other five were killed at in-

tervals varying from one to several months from the time of inoculation. These were found healthy. The author concludes that in none of the cases which he studied had he been able to demonstrate the presence of latent tuberculosis in tonsils or adenoid vegetations.

Beer-Yeast in Otology.—L. Suñé y Molist (*Revista de Ciencias Médicas de Barcelona*, Year xxviii, Number 7) reports favorable results in the treatment of otitis media, mastoiditis and otitis externa furunculosa with beer-yeast. In one case of mastoiditis the pain is said to have been lessened the day after commencing treatment. By the following day there was noticeable decrease in the tumefaction, and upon the fourth day there remained no trace of the disease, neither was there any tenderness upon pressure over the mastoid process. Recovery was complete and without after-effect in the middle ear. It is believed that, in this case, pus had not formed, and that the yeast aborted the formation of the abscess which had seemed imminent. Equally successful was the treatment of a child convalescing from nasopharyngeal diphtheria, in whom acute otitis with suppuration, perforation of the tympanum, and involvement of the mastoid cells had developed. Topical treatment with antiseptics failing of effect after three days' trial, beer-yeast was resorted to with immediate relief; a complete cure ensuing within less than a week, and mastoid abscess being aborted.

Ozone in Chronic Middle-Ear Deafness. By G. Stoker, M. R. C. P. (*Lancet*, November 1st).—The form of deafness to which this article refers is chronic dry catarrh of the middle ear. It is due to stenosis of the Eustachian tube, arising from interference with nasal respiration due to congenital malformation or to hypertrophy of the mucous membrane of the nose. The symptoms are progressive deafness and tinnitus. The stenosis of the Eustachian tube affects the mucous membrane of the middle ear (1) by preventing the free ingress or egress of air; and (2) by confining the secretions that exude from the lining of the cavity. From a consideration of the above-mentioned facts the author was led to the use, first of oxygen, then of ozone in these cases. The ozone was generated by means of an electric current acting on a Ruhmkorff's coil, to which an ozonizing tube was attached. The ozone so generated was pumped into the middle ear through a Eustachian catheter for about three minutes, three or four times a week. He cites four cases treated as described, in all of which the hearing was considerably improved. The tinnitus disappears after a few applications.

Digestive Disturbances in Diseases of the Nose and Rhino-Pharynx.—M. Landolt (*Gazette hebdomadaire de médecine et de chirurgie*, October 9th) says that diseases of the nose and pharynx constitute a source of danger to the entire organism and may be accompanied by disturbances of the digestive apparatus due to the deglutition of pathological secretions. The swallowing of mucus, pus, or crusts emanating from the nasal fossae may produce two distinct orders of disturbance in the stomach: (a) *dyspepsias*, by neutralizing the hydrochloric acid of the gastric juice, interfering with the digestion, and leav-

ing the field free to the action of the various ferments, lactic, butyric, etc.; (b) *septic gastritides*, due to the identical microorganisms which have provoked the primary nasal or pharyngeal disease. Patients presenting simultaneously gastric and nasal or pharyngeal disease, will often be speedily cured of their digestive disturbance by suitable treatment of the respiratory disease.

CUTANEOUS MEDICINE AND SURGERY.

Lupus Erythematosus from the Clinical Point of View. By Dr. J. H. Sequeira and Dr. H. Balean (*British Medical Journal*, October 25th).—The observations contained in this paper were based on seventy-one cases of lupus erythematosus. The conclusions arrived at are: (1) That lupus erythematosus is due to a circulating poison or toxine. (2) That in its acute disseminated form it is associated with tuberculosis in the majority of cases, but that in the discoid form this association is much less apparent. (3) That the occurrence of albuminuria is part of the toxic effects in acute cases. (4) That the toxine acts through the vasomotor system, as the areas are so constant. (5) That local irritation and a poor peripheral circulation sometimes determine the site of lesions.

OPHTHALMOLOGY.

Scott's Operation in Pannus. By Dr. A. I. Schaad (*Roussky Vrach*, October 5th).—Pannus, as is well known, is one of the most dreaded complications of trachoma in which there is a vascularization and opacity in the cornea remaining after the acute symptoms have subsided. Formerly the operative resources for this condition consisted of the operation known as peritomy. Kenneth Scott, of the Medical School of Cairo, Egypt, has devised a simple operation for the treatment of this condition, which consists in splitting the newly formed vessels of the cornea with a Graefe knife under cocaine. Schmidt Rimpler, who saw Scott himself operate, modified the method, using a fine lancet instead of the Graefe knife, and split the vessels not only longitudinally, but cut them also transversely, at the limbus. The results of these operations have been very satisfactory, and the author reports three cases in which he performed similar operations for the relief of pannus. In these three cases, including five diseased eyes, he obtained very good results with Scott's operation combined with partial peritomy. The persistent new vessels in the cornea disappeared, the opacity faded away, and the acuity of vision was markedly improved. In two cases there remained considerable impairment of vision, due to the presence of deep scars in the cornea. In severe cases Scott's operation should be combined with a section of the vessels around the limbus corneæ, or, as the author did, with a division of the bulbar conjunctiva.

PHYSIOLOGY AND PATHOLOGY.

The Blister Test. By Dr. A. Germani (*Gazzetta degli ospedali e delle cliniche*, September 7th).—Roger and Josue (*Presse Medicale*, 1901, No. 37) have shown that the liquid contained in the vesicles produced by blistering agents contains in suspension a certain number of white blood cells of uninuclear and multinuclear type. In a normal individual a

large proportion of these cells are multinuclear eosinophile cells, while, in the presence of infectious conditions, these cells are either wanting, or present only in small numbers. This scarcity of multinuclear eosinophiles is due, according to Roger and Josue, to the effect of infections upon the blood forming organs, particularly the bone marrow. Under the influence of the toxins of infection, the bone marrow becomes incapable of producing multinuclear eosinophiles but produces neutrophile multinuclears. This is also in accordance with the theories of Ehrlich. According to the French authors named, therefore, the examination of the blister fluid is an index to the intensity of the toxic process going on in the system. In addition, they found in the vesicles certain peculiar cells with oval or round nuclei and ill defined contours, which they styled "vesicle cells" for want of a more precise name. The present author studied fifteen cases in Maragliano's clinic with a view to determining the value of the "blister test" (*la prova del vesicatorio*).

They applied a blister, about four or five cms. square, in the usual manner, and from twelve to fourteen hours afterward withdrew some of the fluid with a hypodermic syringe, placed it in a test tube, and centrifugated it. The sediment was spread on a slide and dried in the air. The smear was fixed in absolute alcohol or in alcohol and ether, and stained with Bizzozero's hæmatoxylin, then washed in water, and finally counterstained in eosin for from twelve to twenty-four hours. Then it was quickly washed in water, dried, and mounted in balsam. In some cases he found that the serous liquid coagulated quickly, and so centrifugation was impossible. To obviate this, he tried to add ten-per-cent. oxalic acid solution, but this interfered with the staining. In such cases the serum should be rapidly spread on a slide before it has time to coagulate.

A study of the smears made in this manner showed that most of the cells alleged by the French authors to have been derived from the bone marrow were modified epidermal elements. The Italian authors are astonished to find that Roger and Josue did not think of this possibility, but derived their cells from the distant bone marrow instead of the neighboring skin, which was directly acted upon by the vesicant. As to the value of the test itself, it is uncertain, so far as present data go. The blister test is not so much illogical as it is inexact, and, in the opinion of the present authors, a count of the eosinophiles in the blood is more satisfactory.

Abstract of Certain Experiments on Tuberculosis. By Dr. G. Dean and Dr. C. Todd (*Lancet*, November 1st).—The author's experiments were undertaken for the purpose of ascertaining whether the tubercle bacillus of human origin underwent any marked change in virulence for the bovine species by passage through certain other animals. Their results show that the human tubercle bacillus is not markedly exalted in its virulence for the calf by a single passage through the pig, the cat, the rabbit, or the rat. At the same time animals directly inoculated with sputum contract extensive glandular tuberculosis; in their case the infection is due to the presence in the sputum of other associated organisms, which play an important rôle in aiding the attack of the tubercle bacillus. It is conclusively

proved that pigs are capable of contracting a rapidly fatal general tuberculosis as a result of inoculation with the tubercle bacillus of human origin.

Primary Tuberculosis of the Spleen.—Dr. Th. I. Romanoff (*Roussky Vrach*, October 5th) reminds us that tuberculosis of the spleen occurs not infrequently as a secondary condition, but is very rare indeed as a primary disease. He reports one case of primary tuberculosis of the spleen in a farmer aged eighty years. The patient entered the hospital in an extremely emaciated condition, with cyanosis on his face. A tumor was noted in his abdomen resembling in site and shape an enlarged spleen. The patient's condition rapidly grew worse and he died two days after admission. The autopsy showed no tuberculous lesions anywhere except in the spleen. This organ was found enlarged, weighing 2,085 grammes, and showed numerous milary tuberculous foci on section. There were two supplementary spleens in addition to the main organ, and these were altered in exactly the same manner as the former. The liver also showed numerous greyish or yellowish milary tubercles. Tubercle bacilli were found in smears made from the cheesy masses. Microscopical examination proved conclusively that in this case the tuberculosis was primary in the spleen and secondary in the liver. Collet and Gallavardin, who recently studied the subject of primary splenic tuberculosis, divide the disease into two types, the pure splenic and the splenohepatic, and the present case belongs to the second of the divisions. It is remarkable on account of the advanced age of the patient and the presence of the two additional spleens equally affected with the main organ. Of the nine cases studied by the French authors named above, six were in men and three in women. The age in four cases was from twenty to thirty years; in one, the age was not stated, but the patient was an adult; in the others, the ages were twenty-two months, thirty-eight, forty-nine, and sixty years respectively. In one case the course of the disease was very rapid, in the others it was chronic, except in one in which it was subacute. In the acute and subacute cases there was observed fever and a rapid decline of the organism, and in the chronic types the only or chief symptom for a long time remained the enlargement of the spleen. The suspicion of leucæmia arose more than once in these cases. The splenic enlargement was either painless, or it was accompanied by pains which might be at times severe. In the later stages of the disease there might be added to this the signs of gastric and intestinal disturbances. In some instances there was an increase in the number of red blood cells, up to six or even eight millions to the cubic millimetre.

Plagiocephalia.—Dr. Vincenzo Nistico, of Naples (*Riforma medica*, August 22nd and 23d) has studied a large number of skulls (434) in order to determine the frequency and the significance of plagiocephalia, or unsymmetrical development of the cranium. Of the 434 craniums examined only 78 could be called perfectly symmetrical. In the others there was plagiocephalia, either anteriorly or posteriorly, or at both poles. Of the 356 unsymmetrical skulls, 118 were asymmetrical at one pole, and 238 were plagiocephalic at both poles. Of the latter, 171 were crossed, or compensated asymmetries, and 67

hemicranial asymmetries. The author concludes in the first place that plagiocephalia is a much more frequent phenomenon than is generally supposed. These asymmetries are not necessarily anomalies but simply accentuations of what is found in normal heads, for in nature nothing is symmetrical. Most of the plagiocephalias observed were of a slight degree. A few were of moderate degree and very few were marked. In normal skulls, more than three-quarters of the plagiocephalias are slight, and one-fifth only are marked. In judging the value of asymmetric skulls which are markedly distorted, in otherwise normal craniums, one must remember that a single feature does not constitute a sure symptom of degeneration, however marked it may be; and also that some individuals, who have asymmetrical skulls, and who have lived normally until the time of observation, or all their lives, may have, or would have committed crimes, if the determining causes had been present. Crossed-plagiocephalia is the most frequent of the varieties of asymmetric skulls. These craniums are not attractive in exterior, but in them the brain is less markedly altered than in the other varieties. Next in order of frequency come the unipolar asymmetric craniums, and finally those in which the asymmetry is on one side. Plagiocephalia is more frequent on the left side in front and on the right side behind.

Chronic Myocardial Degenerations in Relation to Arrhythmia. By Dr. Francesco Benigni (*Riforma medica*, September 1st, 2nd, 3rd, and 4th).—The results of the author's study of the effects of myocardial changes upon irregularity in the pulse rate were as follows: When a diffuse fibrous degeneration of the ventricular muscles exists, there is always an irregular pulse. In the cases in which the auricles present slight changes, with or without marked degeneration of the ventricular walls, the activity of the heart remains regular and rhythmical. In one case localized myocardial changes were found insufficient to produce arrhythmia. The results obtained by the author therefore confirm the findings of Radosewsky, who says: "In chronic myocarditis the marked irregularities in the heart's action are chiefly caused by changes in the auricles, and the alteration of the ventricular muscles is not necessary. Possibly some day these facts may be applied in therapeutics."

Notes upon the Bodies Seen in Yellow Fever and in Normal Blood.—Following upon the official announcement by Agramonte, on behalf of the American Commission to Vera Cruz, of the etiological relation to yellow fever of the newly-discovered bodies in the blood, J. Guitéras (*Revista de Medicina Tropical*, October), in collaboration with M. Lebrede and J. R. Taylor, undertook a series of investigations upon the subject; and found free in the plasma of yellow-fever patients the same round, hyaline bodies described by Agramonte, containing from two to four rapidly moving granules measuring from 2.5 to 4 micromillimetres. These bodies were sometimes isolated in the plasma, but most frequently were found in the midst of a group of granular masses of blood plaques. After from twelve to twenty-four hours, movement was found to cease within the globules; some assuming an angular form and others becoming disintegrated. In some instances, the bodies retained

their globular form and became more transparent. In dry specimens, colored by Jenner's modification of Romanowski's method, they took on a pale blue hue with from one to two spaces like vacuoles, which remained colorless. A more intense color was obtained by first treating the specimen with a solution of borax followed by carbol-fuchsin. The author maintains that these bodies correspond in appearance to the blood plaques, with the exception of the moving points visible within them. Moreover, these same bodies were seen by Guitéras in normal blood, and subsequently by Agramonte upon his return to Havana. As a provisional conclusion, Guitéras is inclined to believe that these hyaline bodies represent a form of blood-plaque which is more resistant than the ordinary variety, as they retain their disc shape for a greater length of time; and that in this form, mobile elements exist, which have not hitherto been described.

The Value of Cytodiagnosis.—Dr. C. Tarchetti and Dr. A. Rossi (*Gazzetta degli ospedali e delle cliniche*, September 7th) draw the following conclusions regarding the value of cytodiagnosis: A study of forty-three cases of pleuritic exudates shows that the predominating cell in the transudates is the epithelial cell from the lining of the cavity. At the same time there are a number of cells which differ from the lymphocytes by certain characteristics, and which may be regarded as modified epithelial cells. In exudates found in pleuritis following or accompanying pneumonias the predominating cells are the multinuclear white cells. In primary pleuritis, so called, due to cold, etc., the majority of the cells found are usually, but not always, lymphocytes—sometimes there are many multinuclear cells and sometimes many epithelial cells. The lymphocytes found in these primary pleuritis are not regression types of epithelium, but true lymphocytes—small uninuclear leucocytes. There are exudates with predominating lymphocytes, in which neither clinically nor bacteriologically can the diagnosis of tuberculosis be made. On the other hand, there are plainly tuberculous cases in which either the lymphocytes or the multinuclears predominate. The value of cytodiagnosis in the examination of pleuritic exudates is, therefore, much more limited than was formerly supposed, and if one relied upon it alone, grave errors in the determination of the cause of a pleurisy would probably be made.

A Case of Scurvy with Unusual Poverty of the Blood.—Dr. James Ely Talley reports such a case (*Journal of the American Medical Association*, November 1st). He believes that: (1) There is no condition of the blood characteristic of scurvy. (2) Gingivitis is not a constant symptom of scurvy. (3) In certain scurvy cases there is a condition of the blood similar to that existing in pernicious anemia, though any definite connection between the two diseases is not demonstrated. (4) The most important element in the causation of scurvy appears to be a diet lacking in vegetables or their ingredients. Painted food may produce it, and an exclusive diet of perfectly fresh meat and blood may prevent it. (5) The infection theory is gaining a strong foothold among the authorities, although no definite microorganism is acknowledged.

Book Notices.

A Manual of Toxicology. A Concise Presentation of the Principal Facts relating to Poisons, with Detailed Directions for the Treatment of Poisoning; also a Table of Doses of the Principal and many New Remedies. By ALBERT H. BRUNDAGE, A. M., M. D., Phar. D., Professor of Toxicology, Physiology, and Hygiene in the Brooklyn College of Pharmacy, etc. Brooklyn: The Henry Harrison Company, 1901. Pp. viii-9 to 354.

The author of this manual has evidently attempted to produce a book capable of being used both as a text book and as a work of reference, and if this has been his object, he has perhaps succeeded as well as could be expected in the circumstances. The works of Kobert and Blyth have been freely drawn upon, and while a large portion of the book is devoted to treatment, the pharmacy and chemistry of poisons receive most attention. The typographical features of the book are remarkable from the free use of capitals, bold face type, and other similar aids to emphasis. Much of the matter contained in the manual is addressed to pharmacists, and the author admits that the book is intended to replace a smaller work which was originally prepared for the use of his students in the Brooklyn College of Pharmacy. The descriptions of poisons, directions as to treatment, etc., are, on the whole, admirably set forth, but the book is marred to some extent by the vagaries of the printer, who has carried his ideas of type accentuation to an extraordinary length. The book is bound in flexible covers and is of a neat and convenient size for either the pocket or the physician's bag.

A Physician's Practical Gynecology. By W. O. HENRY, M. D., Professor of Gynecology in the Creighton Medical College, Omaha, Nebraska. With Five Full-page Illustrations and Sixty-one Illustrations in the Text. Lincoln, Nebraska: The Review Press, 1902. Pp. 9 to 229.

In this modest little hand book of gynecology there is much that the student and the practitioner might learn were he so inclined, and thus the purpose of the author would be accomplished. It is clear that in covering but something over 200 pages, neither anything that is new nor anything that is complete can be included by any writer on the diseases of women, however great may be his powers of condensation. And this is the only fault we would find with this little manual, that it has no special *raison d'être*.

The author's statement that he is willing to make a diagnosis of extrauterine pregnancy from the dark color of the discharge when there is an additional history of temporary amenorrhœa and pain in one ovarian region is not the most conservative kind of advice for students; nor can we approve of his recommendation of the removal of the blood which has been poured out in this condition by vaginal section. For if the bleeding has ceased, it is better surgery to leave the hæmatocele untouched; and if it has not, an operator is only likely to involve himself in difficulties by this method. Nor can we endorse the Apostoli method of treating fibroids, as approved by Dr. Henry. But these and other details are, even

at the present day, questions of individual preference and we point them out merely as indicating the mode of the author's procedures.

We think real good might be done the student and the general practitioner if someone who could speak with authority would present these subjects of so much solicitude on the part of the specialist, in a book on gynecology which would teach them some pathology and give them some lucid insight into the causation of pelvic disease. Of clinical books, pure and simple, we have enough and to spare.

Dr. Henry's book is well got up, and the illustrations are well chosen.

The Theory and Practice of Infant Feeding, with Notes on Development. By HENRY DWIGHT CHAPIN, A. M., M. D., Professor of Diseases of Children at the New York Post-Graduate Medical School and Hospital, etc. With numerous illustrations. New York: William Wood & Company, 1902. Pp. ix-326. (Price, \$2.25.)

Notwithstanding the continual appearance of new books on this subject, Dr. Chapin's has several new features. The title fails to give an adequate notion of the contents, for in his discussion of principles of nutrition there have been brought together many fundamental facts of chemistry, biology, and comparative physiology illustrating the differences between the digestion of cow's milk and that of human milk, and the different requirements for growth. The other chapter headings of the book are Raw Materials, Practical Feeding, and Growth and Development.

Under raw materials are discussed at length the production and handling of milk, the requirements for certified milk and the composition of proprietary foods. Dr. Conn, of Wesleyan University, has written an excellent chapter on the bacteria of milk. The chapters on practical feeding are the best in the book. Milk modification by the simple method of diluting top milk is recommended, so that there are no complex formulæ to discourage the reader. The aim has been not so much to give formulæ as to deduce principles that may be applied in making up the food for any particular patient. The dietetic treatment of constipation and of summer diarrhœa is also considered.

The book contains much that is elementary, but nothing that can be dispensed with by one who orders diets for infants. To those wishing to become conversant with the latest ideas on infant feeding the book will be of great service.

Mother and Child. By EDWARD P. DAVIS, A. M., M. D., Professor of Obstetrics in the Jefferson Medical College, Philadelphia, etc. Philadelphia: J. B. Lippincott Company, 1902. Pp. 3 to 264. (Price, \$1.50.)

This is, in reality, a second edition of a similar work written some years ago by Dr. Davis and Dr. Keating. In its present form, however, it is virtually a new work. The first part deals with the care and hygiene of the pregnant woman, her labor, and its attendant necessities, and carries her through the puerperium. In the second part the child is given attention, its hygiene and its care from birth until its mixed feeding is established.

In the first part we find nothing new, but it contains many suggestions which are more of practical use, we think, to a nurse than to the physician, although, we doubt not, there are many doctors, too, who could gain valuable information from its perusal, since it is notorious that the average pregnant woman receives too little attention from her physician. Too much is taken for granted, as a rule, everything is supposed to be "all right" until an eclamptic seizure surprises the doctor or a malpresentation, which might have been corrected, confronts him. For the elevation of obstetric practice, books of this character—of which we have had not a few within the year—will always accomplish more than scores of text books, which are also not rare.

The second part of this little work is exceedingly practical, and, although in general we deprecate the reading of medical books by the laity, we should like to see it in the hands of all young mothers. The numerous suggestions as to the minute care of the newly born infant, its feeding, its bathing, its general care and hygiene, are excellently set forth. For physicians, for nurses, we are almost tempted to add for the laity, this second part will answer many troublesome questions.

There is no doubt that Dr. Davis's book is one of the very best of its class. Its clear text and its many excellent illustrations will unquestionably make it popular.

Studies from the Institute for Medical Research, Federated Malay States. The Malarial Fevers of British Malaya. By HAMILTON WRIGHT, M. D. (McGill), Director of the Institute for Medical Research, Federated Malay States. Singapore: Kelly & Walsh, No. 1, Volume I, August, 1901.

This is the first report of medical work in the country north of Singapore, and it is creditable to its authors. Maps, clinical records, temperature charts, and deductions from the conditions observed compose the work. Wright, the principal contributor, gives the percentage affected by each of the various fevers and points out the enormous difficulties of prophylaxis in a country distinguished for its abundant rainfall, its immense areas of virgin forest, its filthy and unintelligent population, and its enormous numbers of infected persons. He recommends wire mosquito netting (the native uses ordinary netting for a loin cloth), the compulsory use of quinine, and drainage as the most practical treatment.

The Neuroses of the Genitourinary System in the Male with Sterility and Impotence. By Dr. R. ULTMANN, Professor of Genitourinary Diseases in the University of Vienna. Second Edition, Revised, with Notes and a Supplementary Article on Nervous Impotence by the Translator, GARDNER W. ALLEN, M. D., Surgeon in the Genitourinary Department of the Boston Dispensary, etc. Philadelphia: F. A. Davis Company, 1902. Pp. 3 to 198. (Price, \$1.)

Though it is admitted by the translator that comparatively little has been added since Ultmann's original contributions, yet in the desire to further facilitate the understanding of this subject, he has added a chapter entitled Nervous Impotence, in

which, after perusal, we fail to recognize anything new, and we can merely regard the emendation as an epitomized transcription of the rest of the book. This chapter and the supplementary notes which cover some advances in therapeutics comprise the revision presented in the second edition of this classical monograph.

Die Malaria der afrikanischen Negerbevölkerung, besonders mit Bezug auf die Immunitätsfrage. Von Dr. ALBERT PLEHN, Kaiserl. Regierungssarzt in Kamerun. Mit 1 lithogr. Tafel. Jena: Gustav Fischer, 1902. Pp. 51.

Plehn reports observations on the natives, made in Kamerun, Africa, which show that at least eighty per cent. of the African children under ten years of age, and fifty per cent. of the native adults show the malarial plasmodium in the blood and yet that those so infected often present no clinical symptoms, rise of temperature, splenic tumor, or marked anaemia to distinguish them from the uninfected. The difficulty of rooting out the disease in that part of Africa is evidently much greater than where infection is demonstrated by illness.

Minor Surgery and Bandaging, including the Treatment of Fractures and Dislocations, the Ligation of Arteries, Amputations, Excisions and Resections, Intestinal Anastomosis, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By HENRY R. WHARTON, M. D., Professor of Clinical Surgery in the Woman's Medical College of Pennsylvania, etc. Fifth Edition, Enlarged and thoroughly Revised, with 509 Illustrations. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 3 to 621. (Price, \$3.)

That which appertains to the realm of minor surgery has always been well rendered in the successive editions of this book, and this has again been done in this fifth edition; but in the eagerness to introduce innovations it would seem that the limits of minor surgery have been greatly transgressed when operations for appendicular inflammation, gastrostomy, and pyloroplasty have been incorporated "to benefit the student." We regret that this tendency to overdo has deprived this book of much of the force of its original character.

A Manual of Otology. By GORHAM BACON, A. B., M. D., Professor of Otology in Cornell University Medical College, New York, etc. With an Introductory Chapter by CLARENCE JOHN BLAKE, M. D., Professor of Otology in Harvard University. Third Edition, Revised and Enlarged. With 120 illustrations and 7 plates. New York and Philadelphia: Lea Brothers & Company, 1902. Pp. 3 to 445. (Price, \$2.25.)

This manual has already been favorably noticed in our columns, and the opinions expressed with reference to previous editions can be re-asserted with added emphasis. Over forty pages of new matter have been added, including a considerable number of illustrations. New topics receiving mention are lumbar puncture and the significance of leucocytosis. Of the former, the author says that it is considered

by some authorities as of great value in arriving at a diagnosis of meningitis caused by suppurative otitis media. After lumbar puncture has been made, one may feel reasonably sure of a diagnosis if pus can be demonstrated in the cerebrospinal fluid by microscopical and clinical examinations. Leucocytosis has in otology only the same significance as in general surgery. We unhesitatingly commend this manual to both practitioner and student.

A Text book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By HOBART AMORY HARE, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Ninth Edition, Enlarged, thoroughly Revised, and largely Rewritten. Illustrated with 105 Engravings and 4 Colored Plates. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 7 to 857. (Price, \$4.)

The ninth edition (in twelve years) finds Hare's *Therapeutics* practically a new work. While the arrangement remains the same, the author has included many new remedial agents, such as cold water, lavage, cupping, gavage, and inhalations in the treatment of respiratory disease. Besides, he has added a great deal on the deductions from laboratory work and a great many illustrations. When a book reaches its ninth edition, it is hard to say anything new in praise of it; but this can be said in all fairness, that the present form of the work should appeal to every physician who requires any book on therapeutics, and that it is a really valuable and ready work of reference.

The American Year Book of Medicine and Surgery. A Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, drawn from Journals, Monographs, and Text Books of the Leading American and Foreign Authors and Investigators. Collected and Arranged with Critical Editorial Comments by SAMUEL W. ABBOTT, M. D.; ARCHIBALD CHURCH, M. D.; LOUIS A. DUHRING, M. D.; D. L. EDSELL, M. D.; ALFRED HAND, JR., M. D.; MILTON B. HARTZELL, M. D.; REID HUNT, M. D.; WYATT JOHNSTON, M. D.; WALTER JONES, Ph. D.; A. O. J. KELLY, M. D.; DAVID RIESMAN, M. D.; LOUIS STARR, M. D.; ALFRED STENGEL, M. D.; A. A. STEVENS, M. D.; G. N. STEWART, M. D.; REYNOLD M. WILCOX, M. D. Under the General Editorial Charge of GEORGE M. GOULD, M. D. In Two Volumes. Volume I, including General Medicine. Pp. 7 to 715. Volume II, including General Surgery. Pp. 7 to 684. Philadelphia and London: W. B. Saunders & Co., 1902. (Price, each volume, \$3.)

As usual, much labor has been spent upon the preparation of these volumes. They present an excellent *résumé* of the medical and surgical work of the year 1901. There is not only good medical literature in these books, but good general literature in the sense of good editorial work and uniformity of style and diction. It is not surprising that the *American Year Book* gains annually in popularity. The volumes are handsomely published.

Massage and the Original Swedish Movements. Their Application to Various Diseases of the Body. By KURRE W. OSTROM, Royal University of Upsala, Sweden. Fifth Edition, Revised and Enlarged, with One Hundred and Fifteen illustrations. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. viii-9 to 181. (Price, \$1.)

In this fifth edition the author has aimed to make the text still more concise and clear and the illustrations sufficient. The result is a very useful book for reference.

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-graduate Medical School. Volume VII. *Materia Medica and Therapeutics; Preventive Medicine; Climatology; Forensic Medicine.* June, 1902. Chicago: The Year Book Publishers, 1902. Pp. 7 to 270. (Price, \$1.50.)

This volume, like its companions, gives a useful summary of the best papers which have appeared during the year before publication on the various subjects included. Each general division is preceded by a brief statement by the editor of the directions in which most work has been done. There is no critical commentary on the reports of the papers.

BOOKS, ETC., RECEIVED.

Dictionary of Philosophy and Psychology. Written by many Hands and Edited by James Mark Baldwin, Ph.D. (Princeton), Hon. D.Sc. (Oxon.), LL.D. (Glasgow), Stuart Professor in Princeton University. With the Co-operation and Assistance of an International Board of Consulting Editors. In Three Volumes, with Illustrations and Extensive Bibliographies. Volume II. New York and London: The Macmillan Company, 1902. Pp. xvi-892. (Price, \$5.)

A Manual of Surgery for Students and Practitioners. By William Rose, M. B., B. S. Lond., F.R.C.S., Professor of Clinical Surgery in King's College, London, etc., and Albert Carless, M.S. Lond., F.R.C.S. Surgeon to King's College Hospital, London, etc. Fifth Edition. New York: William Wood & Company, 1902. Pp. xiv-1213. (Price, \$5.)

A Text-book of Anatomy. By American Authors. Edited by Frederic Henry Gerrish, M. D., Professor of Anatomy in the Medical School of Maine, Bowdoin College. Second Edition, Revised and Enlarged. Illustrated with 1003 Engravings in Black and Colors. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 5 to 944.

A Text-book of Pathology and Pathological Anatomy. By Dr. Hans Schmaus, Extraordinary Professor and First Assistant in the Pathological Institute, Munich. Translated from the Sixth German Edition by A. E. Thayer, M. D., Instructor in Pathology, Cornell University Medical College, New York. Edited with Additions by James Ewing, M. D., Professor of Pathology, Cornell University Medical College. Illustrated with 351 Engravings, including 35 Colored Inset Plates. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. xxii-17 to 602.

Manual of Gynecology. By Henry T. Byford, M. D., Professor of Gynecology and Clinical Gynecology in the College of Physicians and Surgeons, Chicago, etc. Third Revised Edition. Containing Three Hundred and Sixty-three Illustrations, many of which are Original. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xxiii-17 to 598. (Price, \$3.)

The Force of Mind or the Mental Factor in Medicine. By Alfred T. Schofield, M. D., M.R.C.S., Hon. Physician to Friedenheim Hospital, etc. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xiv-309. (Price, \$2.)

Death and Sudden Death. By P. Brouardel, Professor of Medical Jurisprudence, Dean of the Faculty of Medicine, Paris, etc., and F. Lucas Benham, M. D., B. S. (Lond.). M. D. (Adelaide), Member of the Royal College of Physicians of London. Second Edition. New York: William Wood & Company, 1902. Pp. xiv-336.

Clinical Methods. A Guide to the Practical Study of Medicine. By Robert Hutchison, M. D., M.R.C.P., Assistant Physician to the London Hospital, etc., and Harry Rainy, M. A., F.R.C.P. Ed., F.R.S.E., University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. With upwards of 150 Illustrations and 8 Colored Plates. Fifth Edition. Chicago: W. T. Keener & Company, 1902. Pp. xii-612. (Price, \$2.50.)

A Manual of Medical Treatment or Clinical Therapeutics. By I. Burney Yeo, M. D., F.R.C.P., Emeritus Professor of Medicine in King's College, London, etc. Tenth Edition. Volume I. Pp. xiii-696. Volume II. Pp. vii-818. Chicago: W. T. Keener & Company, 1902. (Price, \$5.)

The Practical Medicine Series of Year Books. Under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-graduate Medical School. Volume I. General Medicine. Edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M. D., Professor of Medicine, Chicago Clinical School. October, 1902. Chicago: The Year Book Publishers. Pp. 3 to 358. (Price, \$1.50.)

Genito-urinary and Venereal Diseases. A Manual for Students and Practitioners. By Louis E. Schmidt, M.Sc., M. D., Associate Professor of Genito-urinary Diseases, Chicago Polyclinic, etc. Series Edited by V. C. Pedersen, A. M., M. D., Recently Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University, etc. Illustrated with Twenty-one Engravings. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 3 to 249.

Directions for Laboratory Work in Physiological Chemistry. For the Use of Students in the University and Bellevue Hospital Medical College. By Holmes C. Jackson, Ph.D., Instructor in Physiological Chemistry. First Edition. New York: John Wiley & Sons, 1902. Pp. v-62. (Price, \$1.)

A Nurse's Guide for the Operating Room. By Nicholas Senn, M. D., Ph.D., LL.D., C. M., Professor of Surgery, Rush Medical College, Chicago, etc. Chicago: W. T. Keener & Company, 1902. Pp. 9 to 127. (Price, \$1.50.)

Transactions of the Medical Society of the State of New York for the Year, 1902.

Twenty-fifth Annual Report of the Board of Health of the State of New Jersey, and Report of the Bureau of Vital Statistics, 1901.

Transactions of the State Medical Society of Wisconsin, for the Year 1902.

Transactions of the West Virginia State Medical Association for the year 1902.

Forty-second Annual Report of the Medical Superintendent of the Matteawan State Hospital.

Twenty-fifth Anniversary of the American Chemical Society, New York City, April 12, and 13, 1901.

Klinisches Jahrbuch. Neunter Band. Zweites Heft. Professor Dr. A. Gärtner. Die Quellen in ihren Beziehungen zum Grundwasser und zum Typhus. Jena: Gustav Fischer, 1902. Pp. 335 to 498.

I Vari Methodi Anestesi e Loro Indicazioni. Dott. Giovanni Palleroni Assistente alla Clinica Chirurgica Generale della R. Università di Palermo, etc. Napoli: V. Pasquale, 1902. Pp. 7 to 272.

Miscellany.

Abstracts that are Not Abstracts.—The *Philadelphia Medical Journal* for November 1st says editorially: "The practice of publishing what amounts in fact to an entire original paper, and calling it an 'abstract,' is fast becoming a glaring abuse. For instance, an author reads a paper before a medical

society and offers it for publication to a medical journal. He assures the editor that the paper is for that journal alone, and that it has not been, and will not be, offered to any other; but he takes care, or he even may not, to say casually that an 'abstract' of the paper will appear in a few other journals. Within a week or two said 'abstract' begins to show itself, and to the astonished editorial eye is no 'abstract' at all, but the paper almost in full, or so slightly changed that the difference requires to be hunted for with a magnifying glass. Recently an author sent us his paper, with a lot of expensive illustrations. When we were about to prepare for its publication, a so called 'abstract' of the paper appeared in another journal. This 'abstract' was the identical paper minus its first paragraph, and with a few inconsequential changes at its tail end! Needless to say, that paper will not be published in this *Journal*. There is something singularly lacking both in fairness and common sense in this kind of a dodge. 'Trying to fool the editor' may go once in a while, but editors are like the rest of the American people, of whom Abraham Lincoln said: 'You may fool all of them part of the time, and part of them all the time, but not all of them all the time.' The man who resorts to this method of securing a large circulation for his writings will soon be without credit with every medical editor in the country."

We feelingly endorse the entirely proper comments of our contemporary.

The Use of Angeiotribes in Pelvic Surgery.—

At a meeting of the New York Obstetrical Society held on Tuesday, October 13th, Dr. Herman J. Boldt presented a specimen of a large myofibroma that he had removed by supravaginal hysterectomy from a patient whose almost cachectic appearance from very marked anemia suggested the probability of malignant degeneration. He presented the specimen to bring up the question of the desirability of the use of angeiotribes in performing operations of this kind. Dr. Boldt's own experience in four hysterectomies, performed exclusively with either Tuffier's instrument or with modifications, had convinced him that there was no saving of time; that Tuffier's was the best, because it exerted sufficient pressure, but it was too clumsy; that, if an instrument could be made less clumsy and exert the same pressure, with long jaws, and easily applied, it might be more desirable than ligatures, by saving time, by not requiring foreign material for closing vessels, and by closing the peritoneal folds of the broad ligament.

Dr. J. Riddle Goffe stated that he had satisfactorily used Tuffier's angeiotribes as a routine matter for four or five years in both abdominal and vaginal work. Their clumsiness had been overcome by a modification of Dr. Child's. He considered angeiotribes as especially valuable in performing a complicated vaginal hysterectomy.

Dr. Child described the essential features of his instrument as its lightness and the parallel arrangement of the blades, so that the tissues were not squeezed out beyond the ends of the blades. The amount of pressure exerted—1,600 pounds compared with 3,000 by Tuffier's—he believed to be sufficient to control the uterine, ovarian, and even larger vessels.

Dr. Joseph E. Janvrin stated that he also had found Tuffier's angeiotribe of great advantage, par-

ticularly in performing vaginal hysterectomies. He never cut up to the points of the blades, and therefore had not had the trouble mentioned by Dr. Child.

A Few Disputed Points in the Treatment of Pyosalpinx.—At the same meeting I r. Ralph Waldo, in a paper thus entitled, offered the following suggestions based upon his own experience: He would first decide in acute pelvic inflammation as to the exact pathological condition, and then whether operative interference was indicated. If retained secundines were present, they should be removed. If there were puerperal endometritis and salpingitis with beginning infection of the peritonæum in the pouch of Douglas, he would freely incise through the vagina and drain with gauze, by which the duration of the disease would be shortened and often irreparable disease of the tubes be prevented. He would not operate in acute pyosalpinx from other causes, unless there was a virulent and rapidly extending peritonitis.

After the subsidence of the acute process he would open the abdomen and remove only such structures as were distinctly diseased, leaving at times one or both ovaries and the uterus. If a tube containing pus was removed without rupture, and if there were no bleeding points, he would close the abdominal wound. If rupture of the pus sac did occur, the pus should be rapidly sponged out and, with the general cavity protected by pads, peroxide of hydrogen thoroughly applied and wiped out. The field of operation was next irrigated with normal salt solution and wiped dry. A Mikulicz drain was then inserted through the abdominal wound into the pouch of Douglas. The upper portion of the wound was closed and a wet bichloride dressing applied. A portion of the central gauze was removed upon the third day, and the outer portion upon the seventh or eighth day, and a small strip of gauze was inserted. Primary union almost invariably occurred above the drain. Pus rarely appeared from the drained portion.

The reader of the paper believed also that by waiting until the end of a week before withdrawing the gauze a rise of temperature from bleeding surfaces less often occurred, and a better scar in the wound resulted with less liability to hernia.

Dr. Boldt suggested that the methods of drainage just described were such as were in vogue some years ago. He himself rarely drained now, except when there were raw and oozing surfaces, and then only through the vaginal vault. The pus in tubes due to gonorrhœa he thought was generally sterile at the time of operation. He could hardly conceive how hernia was less apt to follow such drainage procedures as the reader recommended.

Dr. E. H. Grandin also thought the reader's method of drainage was rather antiquated. He always drained through the vagina, but thought that he possibly should not drain at all except where there were raw and oozing surfaces, inasmuch as considerable of the discharge was the result of the irritation of the gauze acting like a foreign body, and within four hours the gauze, wherever placed, would not drain the general peritoneal cavity.

Dr. A. F. Currier thought it was often difficult to decide about drainage if there was oozing from raw surfaces. He reported upon some successful experi-

ences with Cargile membrane, by the application of which to raw surfaces adhesions were prevented.

Dr. H. N. Vineberg thought the most important point for present discussion was relative to the advisability of delaying operative procedures until the pus became sterile. He would open in acute cases from below, allowing the pus to escape, and then complete the operation if necessary from above. He related a recent experience in which he waited a few days because of the patient's poor condition, but finally decided to evacuate the pus through the vagina, as she was growing worse. At the conclusion of the operation a profuse hæmorrhage occurred, so that he had to open the abdomen and enucleate the sac, in spite of which the patient recovered.

Dr. C. A. von Ramdohr decided as to the time of operation according to whether the case was gonorrhœal or puerperal. He would operate immediately in the latter case, and related an instance in which delay had been fatal.

Dr. W. Gill Wylie during the past fifteen years had operated as soon as the diagnosis of pus was made. The puerperal cases he considered more dangerous than the others.

Dr. H. L. Collyer believed that the pus in cases of pyosalpinx varied in its virulence, and that the question of drainage must be determined in each case, but he thought most cases required drainage.

Dr. A. P. Dudley supposed that the only treatment for pyosalpinx was hysterectomy, and that fatal results rarely followed gonorrhœal cases. He believed in vaginal drainage and late removal of the gauze.

Dr. G. T. Harrison considered that the word drainage was often used in a wrong sense. He would only drain to prevent hæmorrhage or intestinal adhesions, and would use the Mikulicz drain through the abdominal wound.

Dr. G. W. Jarman drained in all septic or possibly septic cases *per vaginam*, removing a little of the gauze each day and raising the head of the bed from twelve to sixteen inches, according to the suggestion of Dr. Fowler. He felt that he had saved some patients by this postural method whom he formerly would have lost.

Dr. Goffe would operate in and drain all cases of the kind described by the reader of the paper *per vaginam*. He would add to the technique described by Dr. Jarman the use of boric acid douches to keep the gauze moist.

Dr. Waldo said that the preservation of normal structures was of more interest to him than the question of drainage. He agreed with Dr. Goffe as to the technique in drainage, except that he did it through the abdominal wound. He was perplexed to know whence came the stained dressings if gauze did not drain. He did not refer to pelvic abscesses in his considerations as to the time of operation. He had rarely found the pus to be sterile, and he thought pyosalpinx was rarely the result of gonorrhœa.

Eddyism in the Sixteenth Century.—"Until it is learned that generation rests on no sexual basis, let marriage continue" (*Science and Health, with Key to the Scriptures*, one hundredth edition, 1896, p. 274). If Mrs. Eddy had lived in the sixteenth century would she have endorsed the following decree of the Parliament of Grenoble, February 13,

1537, or would she, like most of us, have "winked the other eye"?

"Considering the evidence showing that it is more than four years since the said Lord of Aiguemère has carnally known the said Lady of Auvermont; considering the defense of the said lady, declaring that, although she has not carnally known her husband, yet having imagined in a dream the person and contact of the said Lord of Aiguemère, she experienced the same sensations of conception and pregnancy that she might have received in his presence, and affirming that, since the absence of her husband, for four years, she has never had intercourse with any man, and that she has nevertheless conceived and borne the said Emmanuel, which she believes to have come about by the force of her imagination; considering the deposition of the Ladies of Albriche, of Pontinell, of Orgeval, etc., affirming that such an accident may happen to women; that such things have happened to themselves and that they have conceived children of which they have been happily delivered, which resulted from certain imaginary intercourse with their absent husbands, and not from copulation; considering the attestation of the midwives and of the physicians; the court decrees that the said Emmanuel is and shall be declared the legitimate and true heir of the aforesaid Lord of Aiguemère, and charges the appellant to hold the said Lady of Auvermont as his wife in estate and honor. (*Gazette de gynécologie*, September 15th, citing the *Gazette hebdomadaire des Sciences médicales de Bordeaux*.)

Strophanthus.—The *Journal de médecine interne* for October 15th draws the following conclusions from a review of the literature of strophanthus: (1) Strophanthus is a cardiac remedy of the first rank. (2) Its action on the pulse is evidenced by the following facts: the pulse becomes stronger, diminished in frequency, and more regular. (3) Diuresis is one of its most marked and constant therapeutical effects. (4) Its action in facilitating respiration is more pronounced than its diuretic power. (5) Strophanthus has not a cumulative action and is not nauseant. (6) Diarrhoea is not a phenomenon of intolerance, but an inconstant effect and one, moreover, of favorable import.

A Case of Pregnancy after Removal of the Ovaries.—Alban Doran (*Journal of Obstetrics and Gynecology of the British Empire*, Vol. ii, No. 1; *Montreal Medical Journal*, September, 1902) removed a cystic tumor of the right ovary fourteen years after a similar growth on the left side had been removed. The patient not only menstruated regularly after the second ovariectomy, but bore a child to term two years after the second operation. The operator at the second operation found the stump of the ovary, removed fourteen years before, reduced to a small tubercle. He concludes that he must have failed to include the tube in his ligature at the base of the tumor of the second operation, and that some ovarian tissue must have been left behind.

He has collected nine other cases where pregnancy is reported to have followed double ovariectomy. In his analysis of the reports of these cases he shows the possibility that in all the cases portions of ovarian tissue may have been left behind. He also makes a study of cases of pregnancy following ligature, and even section of the Fallopian tubes, and concludes

that in these cases the ligature either loosens or ulcerates through the tube, which heals behind it without complete stricture of its canal.

The Couvade in Mediæval Verse.—In our issue for July 8, 1899, p. 72, and again in that for December 23, 1899, p. 943, we referred to that curious custom once prevalent in Corsica, the Indies, both Americas, Spain, and southern France, in which, as Diodorus Siculus says, the husband takes to his bed after the wife's accouchement, while she gets up and about. The *Lancet* for October 18th cites a passage from the twelfth century French romance, Aucassin and Nicolette, quoting Andrew Lang's translation, as follows: "When Aucassin, eloping with Nicolette, after a tempestuous voyage landed in the marvellous realm of Torelore, he asked for the king and was told that he was in childbed, while the queen was away with the army. So—

'Aucassin, the courteous knight,
To the chamber went forthright;
To the bed with linen dight,
Even where the king was laid.
There he stood by him and said,
"Fool, what mak'st thou here abed?"
Quoth the king, "I am brought to bed
Of a fair son; and anon
When my month is over and gone,
And my healing fairly done,
To the Minister will I fare
And will do my churching there,
As my father did repair."

The Use of Anæsthetics in Surgery.—The *British Medical Journal* for October 25th, in an article on the Discovery of Anæsthesia concludes as follows:

"Long was one of the pioneers of the use of anæsthetics in surgery, but there were many others. The chief among them are accurately classified in a little pamphlet privately printed for Professor Stirling, of Manchester, 'in honor of the Victoria Dental Hospital, September 30th, 1902, and in memory of September 30th and October 16th, 1846, Boston, U. S. A.' Professor Stirling sums up the history of the discovery of anæsthesia in the following table:

NITROUS OXIDE.	
Joseph Priestley	1776
Humphry Davy	1800
Horace Wells [Collyer, Colton, Riggs, Evans, Best]..	1844
SULPHUR ETHER.	
M. Faraday (?)	1818
W. T. G. Morton [On Himself and on Eben H. Frost]	1846
"Before Whom, in all time, Surgery was Agony, Since Whom Science has control of Pain."	
J. C. Warren [On Gilbert Abbott, 20, painter, single]	1846
[Wilhite, Long, Jackson, Hayward, Bigelow, Boot, Robinson, Liston, Buchanan, Louget, John Snow, Simpson, Bernard, Clover.]	
CHLOROFORM.	
James Young Simpson	1847
"I'll imitate the pities of old Surgeons To this lost limb—who 'ere they show their art, Cast me asleep, then cut the disease'd part."	
[Middleton, "Women Beware Women" iv, l. 1657. [Guthrie, Souberian, Liebig (1831), Dumas (1834), Walde, Flour- ens, G. Keith, M. Duncan, Snow, Nunneley, James Arnott.]	

"After judicial weighing of the evidence and careful allotment to each pioneer of his due, the scientific world must, we think, agree with Oliver Wendell Holmes that 'this priceless gift to humanity went forth from the operating theatre of the Massachusetts General Hospital, and the man to whom the world owes it is Dr. William Thomas Green Morton.'"

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TEN INSTRUCTIVE CASES FOR THE GENERAL PRACTITIONER IN MEDICINE, WITH REMARKS UPON THE DETECTION AND RELIEF OF EYE STRAIN.

By AMBROSE L. RANNEY, A. M., M. D.,
NEW YORK.

An incensed but witty Irishman, when criticised for kicking a dead dog in the street, remarked that he proposed to teach that particular animal that there was punishment after death. Those who have long had to fight professional prejudice and bigotry, in their efforts to firmly establish new medical facts and scientific theories (when strongly antagonistic to routine practice) sometimes begin to doubt if even death will bring to them relief from unjust criticism, misconstruction, and abuse.

When, from 1880 to 1883, I made my early combats for the "*eye treatment*" of headache before the New York Academy of Medicine and the Neurological Society; when I told before those audiences a simple tale of my personal restoration to perfect health (from an apparently hopeless state of physical collapse) because of the use of glasses alone; when I made the statement that three of the leading oculists of America had utterly failed to detect with an ophthalmoscope even a fraction of the marked refractive error in my own eyes, that the use of atropine subsequently revealed; when I narrated in detail the magical relief that I had experienced through the use of glasses—not only of pain, but also of periodical attacks of vomiting that had persisted for over twenty years; when I stated that I believed from subsequent tests on others that *at least ninety per cent. of all typical cases of sick headache, if unassociated with organic disease, owed their attacks to some eye defect*; I encountered among other replies a satirical and somewhat vituperative attack from the leading neurologist of that period. The same neurologist, however, wrote (within a year from that date) an article on the eye factor in headache, which was even more rabid (from the standpoint of his former confrères) than was my original debate. He, too, had then acquired the temerity to state that headaches were, in his opinion, chiefly due to ocular causes; and to-day almost every text book on nervous diseases gives more or less prominent support to this view in spite of the

fact that it was deemed heretical two decades ago.

This period of transition has been an interesting one. The medical profession has learned, for one thing, that the oculist should also be a neurologist (not an aurist, as in the past); and that the treatment of the ear should come (as it now does) within the province of the throat expert. He can treat it more intelligently than an eye expert, because the ear is in no way related physiologically to the eye.

"Eye strain" and "eye reflexes" have become generally recognized to-day by neurologists as well as oculists of note, as very important factors in some puzzling cases that may closely simulate organic nervous diseases without being so; and the view is gaining ground that such cases can be often cured by a properly directed eye treatment alone, without recourse to drugs, galvanism, massage, hydrotherapy, or other recognized lines of treatment for nervous maladies.

It no longer causes me surprise to see certain modern instruments (*designed to investigate and record anomalies of the eye muscles*) standing in the testing rooms of eye hospitals alongside of a trial set of lenses.

I can well remember the time, however, when the use of such instruments (either in a hospital itself or in the private offices of the staff) would have put the owners in danger of dismissal—because the chiefs of the various clinics would not even tolerate or countenance their use. I can recall the time when an assistant surgeon of an eye hospital in New York consulted me about his eyes and was advised to have a graduated tenotomy performed upon an eye muscle as a step toward the cure of a nervous malady. He refused—simply because he feared a dismissal if it became known; and he asked of me a prescription for prismatic glasses (which were then seldom ordered) because, as he said, "They would never be recognized by his colleagues."

I recall the time when the best opticians would send a messenger hurriedly to my office *whenever I ordered a vertical prism*, to see if the prescription had not been improperly written by me.

When graduated tenotomies upon the eye muscles were first performed, by means of very delicate scissors through a pinhole opening in the conjunctiva (in order to avoid the extreme wound and the scar on the eyeball that were sure to follow a free dissection so commonly practised at that time), an oculist of international reputation openly charged "fraud" because

of the absence of the customary scar. He stated publicly that "simply scratching the conjunctiva did not constitute an operative procedure"; and, in many other ways he and others endeavored to create distrust in the truthfulness of certain published records that demonstrated the beneficial effects of such operations.

My apology for reviving here recollections of these unpleasant incidents is that many of the medical profession do not to-day appreciate the groundless opposition, misconception, and prejudice that had first to be overcome among the leaders of professional thought before any progress was made in introducing new theories and new methods of procedure in the treatment of functional neuroses.

In 1888 I published the first general text book that dealt with this special factor in nervous maladies. It was entitled *Lectures on Nervous Diseases*¹. In it many pages were devoted to the subject of "eye strain"; and a large number of illustrative cases were published in detail (some with photographs).

Later, in 1897, I compiled from my case records for professional perusal a special volume entitled *Eye Strain in Health and Disease*². In this volume I published some complete tabulated statistics relating to a series of consecutive cases of headache, chorea, and epilepsy that were subjected to eye treatment alone while under my care.

I know of no tables of that kind having been prepared for publication elsewhere; nor have the facts stated in them ever been disproved or their clinical value lessened. The labor involved in tabulating such a series of cases is much greater than might appear to a casual reader; yet the deductions which can justly be drawn from them are certainly startling. So long as the records remain undisproved, the conclusions are incapable of controversy.

I showed, for example, that in twenty-six cases of chronic epilepsy better results were obtained by eye treatment alone than have ever been reported, to my knowledge, by any other method of treatment. I demonstrated that the results in these cases were as follows: Absolute cure in seven cases; practical cure in three cases; marked amelioration in nine cases; and no improvement in but three cases. Four cases did not enter into this computation of results, for reasons fully stated.

In these twenty-six cases of chronic epilepsy, every possible safeguard had been taken to anticipate invidious criticism regarding either the character and classification of the convulsive attacks, the accuracy of the records, or the source from which the case was referred to me for treatment³.

How the general medical practitioner can continue

in the face of such evidence to drug epileptics or to condemn them to colonies or sanitariums, without first investigating carefully the eye factors of such cases with modern instruments and by modern methods, I cannot understand.

In this article, I have selected for publication the records of ten cases that are worthy, I think, of a careful perusal by every general practitioner of medicine. They are startling cases! They cover various types of nervous maladies in their most aggravated form. Some of these sufferers had been examined by men of great distinction; had been pronounced by them to be incurable and to have organic disease; and had practically ceased to expect either improvement or recovery.

One of these patients had reached a point where he could not intelligently dress himself, would not swallow until told to do so, and required an attendant (as a child would) to lead him around. Another had partial paralysis of one arm and leg and had been pronounced by a distinguished neurologist as a victim to an organic brain lesion—probably a brain tumor. A third had been taken by her physician from one medical society to another for exhibition and diagnosis, without results. A fourth had carried a pillow night and day between her head and the right shoulder to support the head. A fifth had spent sixteen years in the house, unable to even endure the excitement of the companionship of her immediate family for any length of time. A sixth had suffered from terrific neuralgic seizures that baffled all efforts for relief until her eyes were put on the same orbital plane. A seventh was cured of diabetes and symptoms of organic disease of the spinal cord.

The *three epileptic cases* reported as cured by eye treatment are particularly interesting from different standpoints. One had no refractive error; hence the anomaly of the eye muscles could not be due to refraction (as some oculists assert that every muscular error must be). The second has had his fits totally arrested for years by glasses alone—without any operative procedure. The third is of interest now chiefly because, after the fits had persisted for twenty-four years, a total arrest of convulsive seizures by eye treatment followed and has persisted (for over sixteen years) since the first graduated tenotomy was performed upon an eye muscle.

I offer these ten cases for professional instruction. They certainly prove something. They show the wide range of symptoms possible from the same exciting cause, viz., "eye strain." They show that diagnosticians of great repute can occasionally be mistaken; that some cases which look like organic, hopeless, and incurable ones may prove to be only functional cases and capable of complete recovery; that, if "eye strain" exists, drugs are certainly con-

¹ F. A. Davis Co., Philadelphia.

² F. A. Davis Co., Philadelphia.

³ See my reply to Dr. Frederick Peterson, in the *New York Medical Journal*, December, 1896, and January, 1897.

traindicated until the eyes are treated; and that sanitariums or colonies are not of necessity the last resort for epileptics that drugs fail to benefit. If these ten cases do not prove anything, then scientific records are of no value. I leave it for my readers to judge.

The following table will enable the reader to follow intelligently the published records of these ten cases, and to interpret the terms employed to designate certain eye conditions recorded:

Terms related to the focus of the eye (refractive terms).	HYPERMETROPIA (<i>far-sightedness</i>). A <i>shallow eye</i> (from the front to the back), causing an imperfect focus of objects.
	MYOPIA (<i>near-sightedness</i>). An <i>elongated eye</i> (from the front to the back), causing an imperfect focus of objects.
	ASTIGMATISM. An <i>irregularly curved cornea or lens</i> , causing distortion of images on the retina.
	EMMETROPIA. A <i>perfectly constructed eye</i> .
Terms related to the muscles which move the eyes (muscular terms).	ESOPHORIA. A tendency of one or both eyes to deviate toward the nose.
	EXOPHORIA. A tendency of one or both eyes to deviate toward the temple.
	HYPERPHORIA. A tendency of one eye to rise above the level of its fellow.
	ANAPHORIA. A tendency of both eyes to assume too high a plane.
	KATAPHORIA. A tendency of both eyes to assume too low a plane.
	HETEROPHORIA. Any abnormal adjustment of the eye muscles.
	ORTHOPHORIA. Normal adjustment of the eye muscles.
	ADDITION. The power of the internal muscles of the eyeballs. <i>It varies in health between 25° and 60°.</i>
	ABDUCTION. The power of the external muscles of the eyeballs. <i>It should be 8° in health.</i>
	SURSUMDUCTION. The power of the vertical muscles of the eyeballs. <i>The right and left should be alike.</i>

Various forms of glasses employed by oculists.

SPHERICAL. Ground upon a *convex or concave sphere*. Used to correct hypermetropia and myopia.

CYLINDRICAL. Ground upon a *convex or concave cylinder*. Used to correct astigmatism.

PRISMATIC. *Two plane surfaces of glass meeting at an angle*. The thick side is termed the base of the prism. Used to relieve errors of adjustment of the eye muscles.

CASE I.—*Absolute Mental Failure. Previous Diagnosis of Cerebral Softening. Perfect Recovery after Relief of Eye Strain.* The records of this startling case were originally published by me in my work on eye strain. It is one of the most wonderful recoveries, I think, on record. It certainly teaches that we, as physicians, *can all be mistaken in making a positive diagnosis of organic disease*. This patient is seen by me almost every year, whenever he visits New York. His recovery was complete and is permanent. He now weighs over forty pounds more than when I first saw him, thirteen years ago; and he is to-day in perfect health physically and mentally.

Mr. P., aged forty-one, manufacturer, married. Sent to me for confirmation of his diagnosis of cerebral softening and for suggestions relating to treatment, by Dr. B., of Toronto, Canada, on May 30, 1889. This pitiful sufferer was led into my office (as a child would be led) one morning by his wife. From her I obtained the following history: It apparently justified fully the suspicion of advanced softening of the brain held by physicians who had been consulted.

The wife gave to me these details that bore upon the diagnosis and hopeless prognosis: There had been steady emaciation and mental failure for many months. Gradually the patient had become like a child in mind; had to be cared for like a child by his wife; had to be told, when dressing, what clothes to wear and which to put on first; had to be fanned while sleeping in short cat naps every day until about noon, because of persistent insomnia; and had not visited his place of business or even paid his bills for over six months. At the table, *he would chew food indefinitely until told to swallow*. His demeanor was extremely apathetic, except at intervals, when he would become excited, start suddenly from his chair, seize his head in both hands, and pace the floor, exclaiming about the intense pain in his head.

Prior to his mental failure, he had suffered for twenty years with neuralgic attacks in the left eye and left side of the face, and also from flowing of tears over both cheeks in cold weather. For six years he had lived on a restricted diet on account of constipation, flatulence, gastric pain, and other symptoms of indigestion. His persistent sleeplessness added greatly to the care of this patient. He could not stand the excitement of a public hotel; hence he was forced to lodge with friends in an ex-

tremely quiet neighborhood of Brooklyn and to come to my office daily in a carriage while I was endeavoring to get any satisfactory eye tests. It took nearly a week to get these, because the patient became too excited and uncertain in his answers to make the tests positive at first.

The case looked most unpromising to me. I could not divest myself of the firm conviction that organic brain disease existed, and that the case was probably incurable.

Eye Tests.—The use of atropine to dilate his pupils quieted this patient to such a degree that I obtained at last positive evidences of a marked hyperphoria (left eye tending to assume a much higher plane than its fellow in the orbit). He also showed errors of refraction, as follows:

O. D. V $20/20$ given by $+0.75^{\circ}$ C $+0.75^{\circ}$ ax. 90°
 O. S. V $20/20$ " $+1.25^{\circ}$ C $+1.00^{\circ}$ ax. 90°

For the relief of this refractive error, he was eventually induced to wear glasses, after his mental condition had been improved.

Treatment and Results.—I advised the wife to seriously consider the advisability of a graduated tenotomy upon the left superior rectus muscle as a step toward the correction of the 4° of "manifest hyperphoria" that the patient disclosed. I distinctly impressed upon the wife the fact that I did not think this step would prove curative; yet I could not but feel that the hyperphoria was a strain that ought to be at once removed—especially from so weak an invalid. I assured her that there was little ground for hope of recovery, but that the patient would probably have less pain and sleep better after the correction of the hyperphoria.

I mention this because the complete recovery of this patient was as much of a surprise to me as to others. The rapidity of recovery was almost beyond belief. In my professional life I have never seen anything that caused me so much astonishment in the line of prompt result from an operative procedure.

With the consent and expressed desire of his wife, I performed a graduated tenotomy upon the left superior rectus muscle. Immediately after the operation, the patient showed no hyperphoria; esophoria 0° to 3° ; adduction 25° ; abduction 8° ; right sursumduction 4° ; left sursumduction 4° . He was placed in a carriage and taken to Brooklyn.

Now comes the remarkable changes to which I have previously referred as startling. The entire night following the operation, he *slept without awakening*—a thing unknown for years. He arose the following morning, and (after dressing himself without aid) drank three goblets of milk before the rest of the family were up. He then sat down and ate a good breakfast, finishing as quickly as any of the family. Within a week he demanded his money from his wife, saying that he would not have her pay bills for him. In a very short time he came daily from Brooklyn to my office without any one to accompany him. Two weeks after the operation, he wrote a letter (the first in over four months). He began to read the daily papers, continued to sleep and eat well, and within a month almost entirely regained his mental faculties. A full correction of his refractive errors was then ordered; with instructions to wear his glasses constantly.

Some weeks later, I decided to perform a second

graduated tenotomy upon the right internal rectus muscle for the relief of a latent esophoria that had disclosed itself. Soon after this operative step, the patient returned to his home in Canada.

He has been seen by me only at infrequent intervals since that time. He soon resumed control of a large business; gained over forty pounds in weight within a year; has taken no drugs; and is absolutely well to-day. There has never been a relapse of his former condition since the first operative step was taken on the left superior rectus muscle of the orbit.

CASE II.—Grand Mal Attacks of Epilepsy. Complete Recovery after Relief of Eye Strain without Operative Procedures or Drugs.

Mr. H., aged thirty-two, married, merchant, visited my office first on April 13, 1898.

Family History.—Father living and well at seventy years of age. Mother had sick headaches when young, but is now well at sixty-six years of age. Only sister is living and well. Several cases of phthisis in both paternal and maternal ancestry.

Eye Defects.—The refraction (under homatropine) was: Right eye— 1.00° C -1.50° axis 90° ; left eye— 1.00° C -1.50° axis 75° . His muscle tests were: Left hyperphoria $1/4^{\circ}$; exophoria $1/2^{\circ}$; adduction 27° ; abduction 6° ; sursumduction, R. 2° , L. $2 1/2^{\circ}$. The tropometer gave the following rotations: Upward, R. 21, L. 21; downward, R. 50, L. 50; nasal, R. 42, L. 42; temporal, R. 40, L. 40.

History of the Case.—This patient was perfectly well up to twelve years of age, when he had his first attack of "dizziness" or "confusion in his head" while skating. This confusion has never entirely passed away. He had his first epileptic seizure when fifteen years old. Since then his attacks have varied in frequency from nine weeks to four years apart; but he has been during all these seventeen years and is now under heavy doses of the mixed bromides. His attacks are of the grand mal type. They have all been nocturnal, except four. He has severe convulsions, biting of the tongue, complete unconsciousness followed by stupor; but no cry or aura. For the past six months he has had a flushing of the head and dizziness several times every day.

Treatment and Results.—When he came to me, he was wearing a full correction for his refraction and no change was made in this until three years later, when a slight change in his cylinders increased his vision to $20/15$ in each eye. All bromide was at once stopped and prisms were tried for hyperphoria, but were soon taken off and a prism of 4° , base up, was added to the refractive glass over each eye, for the weak upward rotation shown by the tropometer. Within two weeks after stopping his bromides he had two slight seizures and was confined to his bed with intense pain in the head, inability to walk alone, nausea, and almost complete nervous collapse. He was then allowed $22 1/2$ grains of bromide a day for three months, then it was cut down to 15 grains a day for a month, then to $7 1/2$ grains a day for a month, and finally stopped altogether.

I have seen this patient once a month ever since January, 1899, and he has had no attack of epilepsy of any kind since April, 1898, a period of four years and a half. He has taken no medicine since January 1, 1899. He has worn his compound myopic cylinders with the 4° prism, base up, over each eye continuously and has had no other treatment. He has

gained forty pounds in weight, has no headache or dizziness, and is attending closely to his business daily.

CASE III.—*Grand Mal Attacks of Epilepsy. Complete Recovery by Treatment of Eye Muscles Alone.*

Mr. B., aged thirty, married, contractor. First seen by me April 16, 1896.

Family History—not known.

Eye Defects.—Under homatropine, this patient had $\frac{20}{10}$ vision in each eye with $+0.75^s$. He had a high degree of esophoria (about 20°); most of which was "latent."

History of the Case.—This patient was a young man of good physique and of good habits. He had used neither alcohol nor tobacco. A few months previous to his first visit to my office, he had three or four attacks of grand mal; and, as some of his family were under my care, he was brought at once to me before any resort was had to medication. As his business made it necessary for him to be continually in unfinished buildings, his family were very much alarmed lest he should have an attack in some dangerous place.

Treatment and Results.—Within two months of his first visit to me, I performed a graduated tenotomy upon both internal recti. On July 24th, three months after his first visit to me and four months since his last seizure, he had another grand mal attack.

Prisms were again given for some esophoria (that still remained in spite of the double tenotomy), and they were gradually increased up to 3° , base out, over each eye. No correction was given for the slight retractive error.

He has worn these prisms ever since, and when I last saw him, in May, 1902, had not had a single epileptic seizure since July 24, 1896, a period of nearly six years. He had taken no other treatment whatever.

CASE IV.—*Chorea, followed by Paralysis. Previous Diagnosis of Brain Tumor. Perfect Recovery after Relief of Eye Strain.*

The history of this case should be peculiarly instructive to the medical profession. The recovery of the patient was complete and permanent; yet it appeared to be a hopeless case of organic brain disease before the eye strain was corrected by graduated tenotomies.

Within the past month a photograph of this patient was forwarded to me by her parents. It was taken on the eve of her graduation from a college. She is now a superb musician, expects to become a teacher, and is a perfect specimen of womanhood.

Miss S., aged ten, a large child for her age. Referred to me on June 15, 1891.

Family History.—One cousin on maternal side was an epileptic. One maternal aunt has nervous prostration. Paternal grandmother suffered from nervous prostration for years. Many relatives on paternal side had phthisis.

History of the Case.—Eight months before her visit to my office, this child began to exhibit peculiar movements of the arms and hands; could not seem to keep still, and was constantly knocking things over. These movements steadily grew worse. Six weeks before this visit, she suddenly lost all use of the right hand. For months her ankles had been growing weak. They would turn over and cause her

to fall. Of late, she cannot walk alone with safety. Her speech had also become badly affected of late; and her words now ran together so as to be almost unintelligible. A leading neurologist of New York had made a diagnosis of brain tumor and had pronounced it incurable. Before her choreic symptoms began, this child had complained of her eyes. Whenever she attempts to read, the letters blur badly and her eyes become inflamed.

Eye Defects.—Latent hypermetropic $+1.00$; esophoria 8° ; adduction 38° ; abduction 2° ; sursumduction 2° , right and left. A very high degree of latent esophoria was subsequently disclosed by this patient.

Treatment and Results.—This child was treated at first with prismatic glasses (bases out) and later by graduated tenotomies upon both internal recti.

The wearing of prismatic glasses relieved the choreic symptoms at once. She began, within a week, to try to dress herself. Her mother reported that the right hand rested more quietly in her own whenever she held it, whereas it was formerly almost impossible to hold it on account of twitching of the fingers. Within two weeks, the child began to use her right hand (for the first time in my office) to denote the position of test objects while her eyes were being tested.

After the two graduated tenotomies were performed, the improvement was even more rapid. Within four months from her first visit to my office, this child could write and sew with the right hand, could walk alone without turning of the ankles, and had no remaining trace of chorea. Within a year, the right arm had fully regained its power and the restoration of health was complete.

For the past ten years, no symptom of relapse has ever occurred. The child of ten years ago is to-day a finely formed woman, strong, robust, and in perfect health.

CASE V.—*Progressive and Extreme Deformity of the Head, Arms, and Hands. Choreic Distortions of Features under Excitement and Alarming "Choking Spells." Previous Diagnosis of Organic Spinal Disease. Perfect Recovery after Relief of Eye Strain.*

This pitiful sufferer had been exhibited by her physician for many months before different medical societies in his State for the purpose of obtaining a diagnosis and suggestions regarding treatment. The case had repeatedly been pronounced by neurologists to be one of organic disease of the spinal cord. No hope of recovery had ever been given, nor had drugs caused any improvement.

Miss C., aged twenty-six, referred to me for diagnosis on February 27, 1888, by Dr. J. J. O'Connor, of Holyoke, Mass.

Family History.—This could not be satisfactorily ascertained.

Eye Defects.—Hypermetropia $+0.75$; esophoria (mostly latent) 20° ; left hyperphoria 3° ; adduction 22° ; abduction 5° ; right sursumduction 2° ; left sursumduction 5° .

History of Case.—The remarkable and progressive deformity which had developed in this patient before I saw her had made her quite famous in the State where she lived.

As this girl's condition has been published by me of late (in a letter to the editor of the *New York Medical Journal*, relating to the treatment of wry

neck), I take the liberty of quoting her clinical records as given there. I say:

Dr. O'Connor, of Holyoke, had never been able to get a satisfactory diagnosis of her case. Her symptoms had lasted for sixteen years and had been steadily progressive. Her neck, arms and hands had become markedly stiff and distorted. She had suffered untold agonies and was no longer capable of self-support.

Several photographs of her were taken by me (during the few months that I had her under my personal observation) to show the remarkable and progressive restoration to health under eye treatment alone. When I first saw her, the deformity of her head was very remarkable. The chin was pushed forward and downward, so that it was held fixedly in close proximity to her chest (about the level of the fourth button of her waist). She could not raise the chin or move the head. Both arms were also horribly distorted. The elbows, wrists and fingers were semiflexed; and any attempts to use them caused excessive trembling. She had not been able to work for some four years. As she entered my office for the first time, she looked like a horribly deformed person in a crouching attitude, with trembling hands and limbs, with eyes looking from under her eyebrows, and with head almost at a right angle to the spine.

Whenever she attempted to speak, or in any way became excited, she would be seized with what she called "choking spells." These would shut off her breath to an alarming degree; and her face would at once become distorted with horrible grimaces, chiefly about the mouth.

There had been for years a severe and almost constant pain in the neck; but no painful points to pressure existed. No impairment of sensation either of touch, pain, or temperature existed. Motility was perfect. There was no incoordination or impairment of the muscular sense. No evidences of an organic spinal lesion could be discovered.

Treatment and Results.—In this girl, three graduated tenotomies were performed by me upon her eye muscles. Over twenty degrees of *esophoria* (a tendency of the eyes to deviate toward the nose) and about three degrees of left hyperphoria (a tendency of the left eye to assume a higher plane in the orbit than its fellow) were satisfactorily relieved by these operations. She had only a very slight refractive error; hence no glasses were ordered.

The result was a steady cessation of her symptoms and a practical cure. She was able to hold her head perfectly erect within a few months; was cured of all pain almost as rapidly; regained the use of her arms and fingers within a year; and became self-supporting again as a factory girl within a year.

A report of this case was sent me a few years ago. The patient had slight choreic movements of the face under excitement but was practically cured. I presume that some further work upon her eye muscles may still be required to establish a perfect equilibrium; but she had never been able to bear the expense of a trip to New York, up to the date of the last report. I still have the photographs that tell their own story more forcibly than words.

A letter from the patient has fortunately reached me within the past week. She reports that she has had the sole care of her mother for the past year, after the development of insanity; that the headaches have

been quite frequent of late; and some facial twitching has developed during the last twelve months. This confirms my opinion that she probably needs a change of glasses.

She closes her letter as follows: "Your treatment has kept me alive all these years. It was the only thing that gave me relief. You have my praise constantly for all you have done for me."

CASE VI.—*Permanent Arrest by the Relief of Eye Strain of Progressive Loss of Power and Severe Pain in the Right Arm, and also of Diabetes of Years' Standing.*

This case has special interest because some symptoms that pointed strongly toward the existence of organic disease of the spinal cord had been steadily progressive for months. The patient had also been a victim to marked diabetes for some years, and had been under medical care for that condition for a long time. His physician was more than astonished when he noted an immediate and complete disappearance of sugar in the urine within a few days following the first graduated tenotomy which I performed upon this patient. He watched for months for its return. This never happened, as far as my records show. The patient made so complete a recovery while under my care that he performed the labor of at least two ordinary men for many years in his enormous business, and died some twelve years later of some acute pulmonary disease.

Mr. F., sixty-three years old, merchant, married, very temperate in alcohol and tobacco.

Family History.—Not taken in detail, but free from marked heredity of any kind.

History of Case.—This patient was brought to me by Dr. Ralph Waldo, of New York, according to my best recollection, for diagnosis and treatment. He had been a terrific worker in his business for many years. One of his most arduous duties was to sign all the checks for one of the largest firms in America, of which he was a member.

He began to notice, about two years prior to his visit to my office, that his right arm was becoming weak, and that writing with it was getting more difficult and uncertain each week. He therefore began the training of his left hand to write, and when I first saw him he was using the left hand almost entirely for signing checks and personal correspondence. He thought that there was an apparent progressive muscular atrophy about the right thumb, and its development as a sequel to his diabetes caused him great alarm. Several physicians had made a diagnosis of organic disease of the spinal cord, and had advised him to give up at once all business cares and the confinement connected with office work.

He came to my office chiefly for a diagnosis and for treatment by static electricity, if I deemed it advisable. His right hand certainly seemed to me, at a glance, to be very much atrophied about the region of the thumb; but, as both hands were extremely bony and thin, and as he was very nervous and also excessively disturbed over his condition, I decided to first test his eyes before I discussed with him the possibility of some organic spinal disease.

Eye Defects.—To my surprise, I found that this patient had a high degree of hypermetropia uncorrected:

O. D. V = $20 \frac{1}{20}$ with + 3.25.
O. S. V = $20 \frac{1}{20}$ " + 3.00 S. C. + 0.25 S. A. 150.

He also disclosed quite a high degree of right hyperphoria.

He was given glasses for a full correction of his refraction for constant use (combined with a 2° vertical prism, base down, over the right eye), also a much stronger glass for all close work (a + 2.00° being added to the glasses used for distance).

On the following morning (with the distance glasses on that were ordered the previous day) he disclosed the following muscular tests: Right hyperphoria 3°; esophoria 2°; adduction 25°; abduction 8°; sursumduction, right 10°, left 4°.

Treatment and Results.—This patient was instructed to wear the glasses ordered during the summer months, and then to report any material changes in his condition. At the end of two months he made a report, which I quote verbatim from my records: "I feel that, in spite of very hard work, my right arm is already greatly improved in strength. Strange as it may seem I *have had no glycosuria*, and the physician who has been examining my urine constantly cannot understand its complete disappearance. I have done my work better than ever before during the past eighteen months."

The patient stated that during this period of improvement he had been able to use his right hand again about as well as his left in signing checks, and that the shooting pains which had affected the right arm and occasionally the left almost constantly for the past eighteen months had almost entirely disappeared.

The patient continued to disclose from this date more latent hyperphoria than the prism corrected, and graduated tenotomies were performed upon the right superior and left inferior recti (the prisms being removed from his distance and reading glasses).

Reports concerning the condition of his urine were received by me from his physician at regular intervals. They showed no return of glycosuria, in spite of quite free indulgence in starches and some sweets. All pain in the hands and arms gradually ceased. The patient was soon able to do his arduous work with as much comfort as in his earlier years.

For a period of many years this patient was kept under my observation at irregular intervals. No return of his diabetes was reported. He continued to be in as perfect health as a man of his years could possibly hope to be. He was hard at work at his desk up to within a few weeks of his death, and for years was constantly active in communicating with all personal and business friends who had any symptoms similar to those of which he had been relieved.

It may be well in this connection for me to explain to my readers *how eye strain can be related to diabetes*. This is not the only case in which I have observed an arrest of diabetes by operations upon the eye muscles which were done by me for the relief of other nervous disturbances. Such recoveries were very startling to me when I first observed them, and their physiological explanation is probably as follows:

1. We know that the "diabetic centre" in the medulla produces diabetes *only when irritated*—not when destroyed.

2. We know that the centres which control the movement of the eyes are also situated in the medulla in close anatomical relationship with the diabetic centre.

3. We have reason to believe that eye strain in any aggravated form (when due to anomalies of adjustment of the ocular muscles) may in time create a hyperæmia of the medullary centres that are called into excessive action to adjust for such anomalies.

4. It is not irrational, therefore, to suppose that contiguous medullary centres may likewise become involved to a greater or less degree in consequence, and be also stimulated (as a result) to abnormal action.

For example, any occupant of an apartment (with thin walls) might become in time greatly disturbed and upset by constant drumming upon a piano in an adjacent apartment, especially if the pianist was a beginner who played discords constantly and who practised day and night to acquire the proficiency, which he sadly lacked. So it may be with the diabetic centre in the medulla, when the centres that control the movements of the eyeballs are overtaxed from some congenital defect in the eye muscles and are constantly kept in a state of abnormal tension.

I expect, at no distant date, to publish the clinical records of all cases that I have personally observed where the relief of eye strain by graduated tenotomies has been followed by a very marked amelioration or total cure of saccharine diabetes of long standing.

Such cases (when published with full details) may possibly shed some light upon a condition that is quite common in adults over fifty years of age, but, fortunately, not so unfavorable in prognosis as when developed earlier in life.

CASE VII.—Intense Orbital Neuralgia of Years' Standing, Unrelieved by Correction of Refraction and Attributed by Several Physicians to a Previous Accident. Complete Cure by Graduated Tenotomies.

Mrs. L., aged forty-five, married, referred to me on October 9, 1901, by an old patient who had been greatly benefited by eye treatment.

Family History.—This was not recorded in detail. There were no marked hereditary tendencies that seemed to bear upon her case.

History of Case.—This patient was a strong and vigorous woman, and apparently in perfect health, except that she had been for years a sufferer from attacks of extremely violent neuralgia in the right orbit. These attacks had gradually grown more frequent. The neuralgia is now practically constant. Some time before these neuralgic paroxysms first developed, she had been injured by being thrown from a carriage. To this accident her neuralgic paroxysms had been attributed by several of the many physicians whom she had consulted. She had from time to time had her eyes examined by oculists of note in various cities, none of whom had given her any relief from her attacks of pain.

Before she came to my office for the first time she had worn constantly for a long period some glasses that had been prescribed for her by an oculist in Washington, D. C. These glasses were found by me to be a full correction for her refractive error under homatropine. She is wearing the same glasses to-day.

Eye Defects.—The refraction under homatropine (which was fully corrected by her glasses) was: O. D. V. $\frac{20}{15}$ with -1.25° axis 135° ; O. S. V. $\frac{20}{15}$ with $+0.25^\circ$ $\odot -2.50^\circ$ axis 75° . The muscular tests, with the above-mentioned correction on, were: Right hyperphoria $\frac{1}{2}^\circ$; exophoria $1\frac{1}{2}^\circ$; adduction 30° ; abduction 8° ; sursumduction, $1\frac{1}{2}^\circ$; right 3° , left 3° . Prisms were added to her refractive correction for hyperphoria and gradually increased as latent hyperphoria disclosed itself in excess of the prism she was wearing, until she was wearing $2\frac{1}{2}^\circ$ right hyperphoria prism (base down over the right eye). Her tests with this prism on were: R. hyperphoria $2\frac{3}{4}^\circ$; exophoria $1\frac{1}{2}^\circ$; adduction 37° ; abduction 9° ; sursumduction, right $4\frac{1}{2}^\circ$, left $1\frac{1}{2}^\circ$.

A tenotomy was then performed upon the right superior rectus. No hyperphoria remained after the operation. As some exophoria still persisted prisms were given (base in) and increased as the tests warranted it, until she was wearing 5° prism base in (over her refractive glasses). With this prism on her tests were: No hyperphoria; exophoria $5\frac{1}{2}^\circ$; adduction 39° ; abduction 13° . A graduated tenotomy was then performed upon the left external rectus.

The last tests, made two weeks after the last tenotomy, were: No heterophoria; adduction 40° ; abduction 8° ; sursumduction, right 2° , left 2° .

The vision was $\frac{20}{15}$ in each eye with the full correction for her refraction, and she used $+1.50^\circ$ over her distance glasses for reading.

Treatment and Results.—As soon as a hyperphoria prism was given to this patient she reported that the pain in her eye was less, and after wearing the prism three days she stated that all pain in eyes and head had entirely disappeared. Three days after the tenotomy for hyperphoria, the patient stated that she had not been so free from pain in her head for twenty-six years, since she was thrown from a phaeton.

The absolute freedom from pain continued. Ten days after the second tenotomy she reported that for years she "had not been able to eat after 2 p. m. without headache until now, and that she had never been as free from any eye symptoms and pain."

Two weeks after her return home she writes: "They are all delighted over my improvement. As for myself I fear I shall wake up some day to find I've been dreaming—it seems too good to be true."

Some months later, she had a slight return of headache. An oculist in the South increased slightly her presbyopic glasses, with instant relief of her headache.

During the past month a report from her oculist in the South says that "she is perfectly well. There is no change in her refraction and no return of any heterophoria."

CASE VIII.—*Complete Nervous Prostration of Sixteen Years' Duration. Associated with Alarming Attacks of Suffocation and Gastralgia. Complete*

Cure through the Relief of Unsuspected Eye Strain.

This case is not only a most remarkable one from the standpoint of absolute recovery, but equally so because it was in no way expected by me that more than alleviation of the symptoms might be gained by eye treatment.

The patient had, moreover, suffered in no way with her eyes, had read most of the time for many years without asthenopia, and, to use her own words, had always considered her eyes as the only healthy part of her.

The graduated tenotomies performed by me upon her internal recti were performed after a full understanding with both the patient and family that I was to correct the existing eye strain simply to arrest a marked "leakage of nerve force"—with the hope that, by so doing, Nature could in part reestablish in the patient a better nervous control.

Mrs. G., aged forty-two, married, referred to me on November 10, 1886.

Family History.—The father and a brother had died of phthisis, as well as several blood relatives.

History of Case.—This patient was brought to me by her husband because of the benefit that his daughter had derived from the application of static electricity to her in my office. He had become thoroughly discouraged from the failure of all attempts to restore his wife to health by drugs, massage, diet, etc. She gave the following history:

She had been a chronic invalid for over sixteen years, unable to bear the least excitement, and at times even the companionship of her immediate family for an evening was too great a tax on her nervous system.

She had at times alarming seizures of neuralgia of the stomach, accompanied by or independent of periods of shortness of breath and suffocation. These have nearly proved fatal on several occasions. (One of these attacks occurred later in my office, and the severity of the symptoms gave me just cause for great alarm.)

In addition to these symptoms, this patient had suffered for many years from an uncontrollable trembling of the face and limbs when at all startled or excited. For years she had been unable to bear the least exertion or to attend places of amusement. She seldom left her room, even at home.

For some weeks I gave this patient applications of static electricity daily without much apparent benefit. I then asked permission to test her eyes.

Eye Defects.—To my surprise, I found no refractive error, even after atropine had been instilled. This patient was absolutely emmetropic. She showed, however, a "manifest" esophoria of 3° , with an abduction of only 5° at her first test. Subsequently, under the influence of prisms, a very large amount of "latent" esophoria disclosed itself.

Prior to the first graduated tenotomy, her eye tests were as follows: No hyperphoria; esophoria 10° ; adduction 40° ; abduction 0° ; homonymous diplopia without prisms.

Treatment and Results.—This case was one of my early cases of heterophoria; and I knew less of esophoria and its possible results than I do to-day. When, therefore, the patient assured me that she had never had an eye symptom, that she had regarded her eyes as about the only normal organs in her body, and that she had read almost constantly for

years as a solace to her loneliness, I naturally felt that I could not promise her any positive or immediate results from a graduated tenotomy, although I felt that it was strongly indicated by the eye tests. I stated my position very frankly to the patient. She consented to the operation, because her confidence in my judgment, coupled with the hope that she might be in time nervously stronger because of the arrest of a "leakage of nerve force."

Within the space of one month, two graduated tenotomies (one upon each internal rectus) were performed. The effect was magical. The patient regained her strength so rapidly that within two months she was able to do things that for sixteen years she had never even attempted. She went about like ordinary women, shopped all day, and went to the theatre the same evening, attended balls, receptions, etc., and seemingly forgot that she ever had been an invalid.

An old friend of the family alluded to this case in my presence as one "not of cure, but of resurrection."—and her husband in joke told me some months later that he would have to get her esophoria put back in order to be able to escape theatres, balls, and parties.

There has not been the slightest return of the gastric neuralgia, suffocating spells, or trembling for the past fifteen years, nor have drugs been required to control or alleviate any physical ailment, as far as my records show.

The last eye tests that I obtained in connection with this case were as follows: Adduction 33° ; abduction, 8° ; no esophoria; no hyperphoria. The results of surgical readjustment of the eye muscles have therefore remained permanent for many years.

This case is a most positive refutation of an absurd statement that is quite commonly made in print by oculists, viz., that all muscular anomalies in the orbit are dependent upon errors of refraction. Such statements ought to be construed to-day as evidence either of inexperience or of prejudice.

CASE IX.—Chronic Epilepsy, Uncontrolled for Twenty-four Years by Drugs and Instantly Cured by the Relief of Eye Strain. No Recurrence of Fits for Sixteen Years.

This case of epilepsy is reported here because epileptic convulsions had persisted twenty-four years before the eye treatment was suggested, because they had been attributed to masturbation in early life and to excessive venery in later years, and because the relief of eye strain has totally arrested convulsive seizures for sixteen years and enabled the patient to use his eyes continuously during that period without any discomfort.

This patient was a personal friend of mine for many years prior to my familiarity with the eye treatment of nervous diseases. He placed himself under my professional care and guidance as early as 1871, and during long absences from New York he had kept me in touch with various forms of treatment that he had unsuccessfully tried for the relief of his epilepsy.

Mr. H., aged forty-three years, merchant, married. First examined by me for eye defects in 1886.

Family History.—His father died of paralysis.

One brother was a confirmed drunkard. One sister is a terrible sufferer from sick headaches. There is no hereditary tendency to phthisis.

History of Case.—When seventeen years of age this patient began to have severe epileptic fits. As a boy he had been addicted to masturbation, and quite early in life he had formed an association with a woman that led to excessive venery. To these excesses many physicians whom he had consulted had attributed his convulsive seizures.

I saw him first as a patient in 1871. His epilepsy had then existed about eleven years. He was extremely bright mentally in spite of drugs, and had been very successful financially. His epileptic seizures averaged about four a year; and up to that date were usually nocturnal in type. He had, however, been seized in the daytime on several occasions where his fits exposed him to great personal mortification and comment among his friends. One of these attacks had occurred in a theatre, prior to his first visit to my office. It was a prolonged and very severe grand mal seizure, preceded by an aura of faintness and accompanied by biting of his tongue. All of his past attacks had been, as far as he knew, of the same general character. He had spent a small fortune in undergoing various forms of treatment (dietetic, electrical, and medicinal) without any beneficial effect upon his epileptic seizures.

I pushed bromides in 1871 upon this patient to the extreme point for many months. They prolonged the interval between attacks somewhat; covered his face with bromide rash, upset his digestion, made his mental faculties somewhat more sluggish in his opinion, and gave him practically no benefit. The severity of his attacks seemed rather to increase than diminish under bromides.

This patient then went south, and I did not see him for several years. On his return he reported that his epilepsy was unchanged. I suggested that he allow me to try the eye treatment, which was then comparatively a new one.

Eye Defects.—In January, 1886, his eyes were first examined by me. He showed, under atropine, hypermetropia (totally latent) of 2.50 D. in each eye; no astigmatism; a "manifest esophoria" of 4° ; adduction 30° ; abduction 4° . Subsequently a much higher degree of "latent" esophoria was disclosed by this patient.

Treatment and Results.—Graduated tenotomies were performed upon both interni, and glasses were ordered to be worn constantly for a full correction of his refractive error, $+2.50^{\circ}$.

From the first operation, in January, 1886, up to the present date (a period of nearly seventeen years) he has never had a convulsion. The last tests made on his eyes (some three years ago) showed: No esophoria; no hyperphoria; adduction 45° ; abduction 8° ; normal vision in each eye with his spherical glasses of $+2.50$ D. From time to time he has had his reading glasses increased in strength by me, as his presbyopia developed with advancing years. During this period of seventeen years he has had to use his eyes almost constantly in his business.

This case certainly demonstrates beyond the possibility of contradiction the fact that twenty-four years of epileptic seizures did not indicate any organic changes in the nerve centres. It proves also

that the results of the treatment remain permanent. It proves that eye treatment accomplished a cure when all other methods of treatment had utterly failed. It proves that the esophoria, which was corrected by graduated tenotomies, never returned (as many opponents to this treatment maintain that it will), and the power of the externi, after being carried to the normal standard of power by surgical procedures, has remained normal ever since.

If this one case of epilepsy was all that I had ever reported as confirmatory of the statement that eye strain can produce genuine epilepsy, it would be considered as indisputable proof, I think, before any jury of laymen in a court of law.

CASE X.—An Extreme Case of Wry Neck, Requiring the Use of a Pillow between the Head and Shoulder both Day and Night, and Accompanied by Most Intense Pain. Complete Cure by the Relief of Eye Strain.

This remarkably instructive case has already been published in the *New York Medical Journal* (October 25, 1902). It formed a portion of the letter written by me to the editor, as a criticism upon the mechanical treatment of wry neck. It illustrates in what curious ways reflex spasm may be excited by eye strain and become a factor in producing extreme deformity.

Miss K., aged twenty-seven, school teacher, was sent from Pennsylvania in September, 1897, to Dr. Robert T. Morris, the distinguished surgeon of New York, to be operated upon for wry neck. Her condition was so extreme and the symptoms so aggravated that Dr. Morris stated honestly to the patient that operative procedures were not usually satisfactory in that type of case. He referred her to me for examination of her eyes to see if any unsuspected eye factor existed that could possibly produce such aggravated symptoms.

History of Case.—The history obtained from this patient by me was as follows: Up to twenty years of age she was perfectly well and never had a doctor. She had the right ovary removed for a tumor at twenty years of age. After that operation she was perfectly well until eighteen months prior to her visit to my office.

In February, 1896, her head began to twitch, first to one side and then the other. It then gradually twisted toward the right side, with very great rigidity of the left sternomastoid. There was then no acute pain, but a general sense of soreness existed in the neck. She was treated for it by Dr. Doll, of Elmira, with electricity and massage, and improved sufficiently to enable her to return to her profession.

In November, 1896 (ten months prior to her visit to New York), she was suddenly seized at the dining table with severe cramps in the muscles of the left side of her neck. These paroxysms were accompanied by the most intense pain. Her chin became twisted so that it turned over her right shoulder, and the entire head was drawn toward the right shoulder. The muscles of the neck became rigid like bars of iron; and for two weeks she was kept under the influence of heavy doses of opiates.

This condition has persisted without cessation ever since that seizure (ten months previous). She has

had to give up all attempts at self-support. She has been unable to sleep without morphine in regular doses. She weighs only one hundred pounds; and can walk but very little on account of weakness and pain. She has carried constantly for many months a pillow between her head and her shoulder in order to support it. Without such support, the pain becomes almost unendurable.

The appearance of this patient on entering my office I shall never forget; an extremely delicate and emaciated girl, with a pillow packed between her occiput and right shoulder, with extreme deformity due to twisting of her head, and with a face indicative of the most acute suffering. Any attempt to straighten her head caused the most acute agony. No amount of manipulation could at first alter the position of the head sufficiently to properly adjust it for eye tests.

Eye Tests.—Strange as it may seem, she had suffered during her life with but slight asthenopic symptoms and had used her eyes constantly with average comfort. She showed (under atropine) only a moderate degree of astigmatism and hypermetropia ($+0.50^{\circ}$ O $+0.75^{\circ}$ axis 90°).

An examination of the eye muscles, however, disclosed marked "heterophoria" (maladjustment).

Treatment and Results.—The full details of treatment of this case cannot be given at this time; but it will suffice for me to state here that a full correction of the refraction by glasses and two graduated tenotomies upon both interni effected a perfect cure. The duration of treatment was about three months; during which time she gained over twenty pounds in weight and used no drugs. Her pain ceased almost immediately after the first tenotomy.

On June 27, 1902 (about five years after my treatment), this patient dropped unexpectedly into my office. She reported that the cure had remained permanent; and that she had been able to teach and be self-supporting.

The only relapse that she had experienced was during a school period when her glasses had been broken and were sent away for repair. The neck began to be somewhat painful and stiff at once. This disappeared on resuming her glasses.

In concluding this somewhat lengthy article, which has been prepared chiefly to instruct the general practitioner of medicine, regarding facts that are not yet recognized as they should be, I would say:

1. The ten cases reported here are selected cases.
2. Each case tends to illustrate some special type of manifestation of eye strain in consequence of reflex disturbances upon the nerve centres.
3. Each case was selected by me to prove to the profession that a scientific investigation and correction of eye strain can radically cure, in some instances, cases that are apparently hopeless and incapable of permanent relief by medication.
4. Out of the ten cases reported, several have apparently justified a diagnosis of organic disease of the brain or spinal cord. In Cases I, IV, and V, a most unfavorable prognosis have actually been given by medical men of repute.
5. The record of Case VI goes to show that

chronic diabetes may be excited by eye strain alone, and that the relief of eye strain may, in some instances, cause a total disappearance of sugar in the urine.

6. The existence of *periodical attacks of laryngeal spasm*, to a degree that seemed to imperil life, is illustrated in Case VIII. It also existed in Case V to a moderate degree.

7. The *relationship between eye strain and neuralgia* is shown very forcibly in Cases VII and VIII. In the former, the neuralgia was in the orbit; in the latter in the stomach. I have previously reported so many cases of the cure of neuralgia by the relief of eye strain that I think I have proved that neuralgic pain (as a reflex symptom) may affect parts of the body far removed from the existing cause.

8. The *relationship of epilepsy to eye strain* is clearly illustrated in Cases II, III, and IX. Case II is remarkable in the fact that a complete cure was effected by the aid of glasses alone. Case III shows that very marked heterophoria may coexist with an extremely slight refractive error. Case IX shows that twenty-four years of genuine epilepsy, unrelieved by drugs, does not necessarily imply incurability or the existence of organic disease.

9. The *relationship between eye strain and persistent reflex spasm of a localized group of muscles* is very forcibly illustrated in Cases V and X. Both of these women presented extreme cases of deformity, associated with as intense and constant pain in the region of the rigid muscles as it is possible to imagine. Both of these cases were cured by eye treatment.

10. These ten cases, as a group, must prove, I think, to any unprejudiced mind, that careful, long continued, and patient investigation of errors of refraction and anomalies of adjustment of the eye muscles should never be omitted whenever the possibility of a reflex cause may exist as a factor in creating abnormal conditions of the nervous mechanism, the muscular apparatus, or the viscera.

345 MADISON AVENUE.

Nugæ Medicæ Veterum.—Sir John Hill was a voluminous and indefatigable English writer of the eighteenth century. He took to quackery, and by means of various nostrums procured a comfortable income. Having been invested with a Swedish order of knighthood by the King of Sweden for presenting to him a System of Botany, he assumed the title of "Sir John." He was satirized in the following lampoon:

For physic and farces
His equal there scarce is;
His farces are physic,
His physic a farce is.

THE PREVENTION OF INTESTINAL DISEASES IN INFANTS DURING THE SUMMER.*

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NEW YORK,

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During the past five years one of us has contributed several articles on the gastrointestinal derangements of infants and young children. Private and hospital patients were not included in the reports. The most unpromising class of patients, viz., out-patients, furnished the material upon which the observations were based. On account of the large number of cases treated and the comparatively low mortality, we felt justified in laying down certain principles of management which should invariably be carried out, and to which attention has been repeatedly called in the contributions referred to.

One of the principles established was the necessity of temporarily discontinuing the milk diet in every case of vomiting or diarrhœa, regardless of the nature of the attack, whether mild or severe. It was found that breast milk, as well as cow's milk, no matter how pure or indifferent the latter might be, had to be discontinued at once, in order to get signally good results, and that the diet substituted should not be proteid in character. A carbohydrate diet (Kerley, Treatment of Summer Diarrhœa, *Archives of Pediatrics*, June, 1902) clinically and theoretically supplies the only safe substitute, and the most convenient method of administration is in the form of a plain or dextrinized gruel, with different means of flavoring used so the child will not tire of it. We have demonstrated that children can be satisfactorily fed in this way for weeks. We have also demonstrated by its use in many cases that egg albumen water is a dangerous milk substitute. Attention has been called to the necessity of using beef juices and the animal broths very sparingly, as in some cases they will keep up the diarrhœa. It has also been made clear that milk should not be resumed until the stools and temperature are normal, and then in very small amounts—from one to two drachms in the cereal gruel at each feeding—the increase in the milk strength to be governed entirely by the ability of the digestive tract to care for it, as indicated by the stools and the temperature of the patient.

* We are indebted to Dr. Henry C. Hazen for the use of the cases which occurred during his service.

It is gratifying to note that the conclusions on dietetic management and drug treatment that have been voiced from time to time have been borne out in the experience of others, as is proved by the contributions and references to summer diarrhœa which have appeared during the past year.

At the commencement of the present summer, the health department of the City of New York issued a pamphlet on *The Care of Infants During the Summer*, intended for distribution among the tenement population, in which they advise as follows:

When the baby has loose green passages it means that the baby is sick and needs medical attention. The disease is frequently mild at the beginning. There may be no fever and the child show no signs of illness other than the diarrhœa. Such a baby oftentimes in a few hours becomes dangerously, if not fatally, ill. The simplest cases of vomiting and diarrhœa during the summer must never be neglected. A baby sick in this way should be given two teaspoonfuls of castor oil. Stop the milk at once. Give barley water or rice water diet until the child can be taken to the family physician or to a dispensary.

It has been our custom for several years, in both private and out-patient work, to instruct mothers to stop milk, to give a teaspoonful of castor oil, and to put the child on a barley water diet at the first suggestion of gastrointestinal derangement, regardless of the season; for, if they follow this standing order in winter, spring, and autumn, they will certainly do it during the hot months when it is very necessary. This they are to do on their own responsibility and then to call a physician or to bring the baby to the dispensary.

It has been asserted, contrary to our experience, that out-patients are hard to manage, that directions will be forgotten or not carried out, and that no conclusions of value can be based upon observations made among this class of patients. Our experience with thousands of tenement mothers justifies us in reaffirming that the fault and absence of good results rest more with the doctor and loose dispensary methods than with the tenement mother. When printed and written directions are used and a pamphlet of instructions given to each mother (as has been done for several years at the Babies' Hospital), when she learns, as she will at the first visit, that the physician is personally interested in the welfare of her baby, she will with very few exceptions do her best, which is usually not bad.

At the commencement of the past summer (1902) the opportunity presented itself of making a series of observations on a considerable number of institution children at the New York In-

fant Asylum. Our intention was to take a step in advance; not only to treat every case of gastrointestinal disorder according to the suggestions above referred to, but to prevent the development of serious intestinal disease by the same scheme of management.

The nurses were instructed to notify the physician in charge *at once* on the first evidence of gastrointestinal disturbance in a child, no matter how trivial it might be. A slight vomiting attack or a loose stool was to be reported without delay. The patient was visited by the physician, its temperature was taken, and the breast or cow's milk diet was ordered to be replaced by barley water—one tablespoonful of barley to one pint of water, as many ounces being given as the child received of milk in health. From thirty drops to one drachm and a half of castor oil was invariably ordered in the purely intestinal cases. If there was vomiting one-tenth of a grain of calomel was given every hour until six tenths of a grain had been given.

In the vomiting cases the stomach was washed, and if there was diarrhœa the following bismuth mixture was given:

R Bismuth salicylate..... 1 grain;
Bismuth subnitrate..... 10 grains;
Aromatic syrup of rhubarb.... 3 minims;
Water, enough to make..... 1 drachm.

This constituted one dose and was given every two hours.

When the stools and temperature warranted it, the milk was gradually resumed in from one fourth to one sixth its former strength.

During the past summer—June 1st to October 4th—the mortality from intestinal diseases in children under five years of age in the borough of Manhattan was 1,892; in Greater New York it was 3,988.

It is well known that the mortality in institutions for children is greatly increased by the intestinal diseases of summer. The patients referred to in detail below were all institution children, and the observations covered the past summer months, with September included. Among two hundred and seventy-eight (278) children which were under observation at some time during the above stated months, there were ninety-two gastrointestinal attacks to which the attention of the resident physician was called, and which received the above treatment. Of this number two patients died from enterocolitis. There were deaths in the institution from congenital syphilis, tuberculosis, atelectasis, and bronchopneumonia. In but two of these—two cases of bronchopneumonia—was intestinal disease a complication. In one, the intestine be-

came involved early in the attack, in the other a few days before death. In the first case the intestinal disease was undoubtedly a factor in the death; the second case was hopeless before the diarrhoea developed.

Among the cases treated, ninety-two in number, twenty-six were breast-fed, fifty-four were bottle-fed, and twelve were on "runabout" diet, which was composed largely of cow's milk and cereals. The ages of the patients were as follows:

Under three months.....	15
3 to 6 months.....	26
6 to 9 months.....	21
9 to 12 months.....	7
12 to 18 months.....	8
18 to 24 months.....	13
2 to 3 years.....	2

Seven were strong and vigorous, twenty-four were in fair health, and sixty-one were delicate.

Prostration was slight in eighteen, moderate in forty-eight, marked in twenty-six. There were vomiting and diarrhoea in twenty-one; diarrhoea alone in seventy-one.

Maximum temperature: 98° F. in six; 99° in eighteen; 100° in seventeen; 101° in fifteen; 102° in sixteen; 103° in seventeen; 104° in six; 105° in three.

Abstinence from milk in recovery cases: Twenty-six, one day; thirty-four, two days; nineteen, three days; six, four days; one, five days; two, six days; one, seven days; one, eight days.

Fatal cases: First case, age four and a half months, bottle-fed; ill three days; vomiting and diarrhoea; maximum temperature 101.2° Fahrenheit. Second case: age three months; ill two days; vomiting and diarrhoea; maximum temperature, 103° F.

In addition to the precautions referred to, the patients were generously provided for by the management. They had the advantages of fresh bedding, proper bathing, clean wards, competent nurses, and an excellent milk supply. The milk was cared for and the food prepared by a woman trained in the institution for this purpose; all of which greatly assisted in producing a strikingly low mortality.

Early in August, a roof garden was constructed on the top of the five-story building. To this roof garden the babies were taken at 8.30 o'clock in the morning and remained there until 4.30 in the afternoon, unless the weather was unfavorable. The dimensions of this roof garden were 38 feet by 27 feet and 10 feet high. A heavy wire netting five feet high surrounded it on all sides. The roof was of canvas on a wooden frame.

Numerous "baby size" hammocks were strung from the side to the centre pillars; the floor was covered with two layers of thick blankets; the younger babies occupied the hammocks while the older ones were placed upon the floor and allowed to crawl about.

The milk received at the New York Infant Asylum is from herds belonging to the Jersey class, and, according to an official of the company furnishing it, every precaution relative to the cleanliness of the milkers, the cows, the pails, the cans, the bottles, etc., is strictly observed. The milkers cleanse their hands, and the udders are carefully washed before the milking. The milk cans before being filled are rinsed in hot water, washed, then scalded, and finally steamed; the cans are then allowed to cool. The milk as soon as drawn is cooled by means of ice, which is packed closely around the can in the utensil holding it. The milk from the time it had been cooled to the time it reached the institution was kept at a temperature of about 45° F. During the months of June, July and August the milk cans were conveyed from the depot to the hospital in separate wooden tubs containing ice; the temperature was taken every day on its arrival and was never above 46° F. The cans were placed in the refrigerator where the temperature varied from 40° to 45° F. Twice a day the required amount of milk was taken from the refrigerators to the diet kitchen, when it was placed in the feeding bottles after receiving the required modification. Prior to May 20th the milk was not sterilized, but after that date it was heated to 170° F. The milk bottles, when prepared, were taken to the respective refrigerators adjoining the wards, and were so arranged that they lay directly on, or alongside of, the ice; the temperature of the refrigerators was taken twice daily, and every effort was made to keep them at a temperature of or about 45° F. Those having access to the refrigerators were cautioned not to keep them open longer than was necessary. The result was that there was only one occasion when the milk was deemed unfit for use, and this was at the nine o'clock evening feeding.

The large mortality from summer diarrhoea is preventable and will be done away with when the infants of the poor receive what they are entitled to—clean, suitably prepared, properly cared for, and properly administered food. This means clean, fresh milk with ice to keep it, and it means that the mother must be individually instructed by a visiting physician or nurse how to keep and prepare the food, the dangers of carelessness in its preparation pointed out to her, and what to do in the beginning of illness in the baby must

be made very plain. To those who cannot afford clean, fresh milk, ice, or an ice box, it is the duty of the municipality to furnish it them. Mr. Nathan Strauss, in his most estimable charity, has demonstrated that it is practicable to supply the poor with a safe milk.

Country homes for children, floating hospitals, etc., are most praiseworthy efforts in behalf of the tenement babies, but by such means we do not get at the root of the matter. They are designed largely to care for the ill. They are necessary, but what is more necessary is that means be used to *prevent infants from becoming ill*. Our dispensary work at the Babies' Hospital, covering 762 cases of summer intestinal diseases among the infant tenement population, shows a death rate of a trifle under four per cent. This low mortality is due to proper medical and dietetic treatment of the ill, to a fairly good milk which we insist that the children have in health, and to our education of the mothers, many of whom have been bringing their babies to us for years, one after another as they appear.

The low mortality at the New York Infant Asylum was made possible by the exercise of the same care, which, of course, could be better carried out than in a tenement house.

It may be of interest to those who question the possibility of good results among this class of people to learn of some very interesting observations which were made during the past summer by Dr. William H. Park, of New York. Dr. Park has kindly consented to allow me to quote a part of a private conversation.

In June of this year, fifty tenement children ranging from three to nine months were selected by a physician for the experiment. These children were fed on the Strauss milk; they were visited two or three times a week by a physician whose duty it was to look after them; the mothers were carefully instructed as to the care of the food and feeding apparatus; with the first sign of illness the physician in charge was to be notified at once when suitable treatment was instituted. Among these fifty tenement children, all under one year of age, all bottle-fed, selected at random, there was not one death; which valuable observation bears out our contention that the deaths from summer diarrhoea among tenement children may be greatly reduced by the use of good milk given under proper supervision, supplemented by prompt competent medical care upon the first sign of illness.

Perhaps in one per cent. of the cases of summer diarrhoea a very severe direct infection is evident and the condition of the patient is very grave from the onset; in the remainder the invasion is gradual and,

if the warnings given are heeded, the illness usually will quickly terminate in recovery.

A very inexpensive booklet, soon to be issued, entitled *Plain Hints for Busy Mothers*, by Marianna Wheeler, superintendent of the Babies' Hospital, should be placed in every tenement home.

RUBBER GLOVES.

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Just at present rubber gloves seem to be at their height of popularity in surgical work in this country, although they are being discarded apparently in Europe, where they received first attention. The subject requires rather more elaboration than is usually given to it on the basis of the abstract fact that hands covered with rubber gloves are presumably more nearly aseptic than hands without such gloves. There are other very weighty considerations involved.

Is the average surgical patient actually less in danger from infection if the surgeon wears rubber gloves? First, as to the surgeon. We know that ordinary methods of hand sterilization are very satisfactory, but we also know that after one has been at work for fifteen or twenty minutes a new crop of bacteria that have been hidden beneath and in the superficial epithelium of the surgeon's fingers, are apt to be found upon the surface as the result of a softening of the epithelium in serum, and, theoretically, the hands need to be resterilized during the operation. Blood serum is, however, a very potent germicide, and this fact is overlooked by most of us.

The factor of most importance in this connection relates, however, to the degree of virulency of the bacteria which the surgeon carries into the wound upon his hands. If the surgeon is a man in good health, and if his hands are normally dry, the bacteria in the superficial epithelium are latent and proliferate tardily on account of the normal cell resistance in such an individual. If, on the other hand, the surgeon is suffering from some affection which lessens his normal cell resistance his bacteria may more readily proliferate, so that the surgeon, who would not infect a patient on Monday, might infect that same patient on Wednesday. In some men whose hands are commonly moist the bacteria exist in the moist skin in more active colonies than in the epithelium of dry hands. Then again, the cell resistance of the individual patient

is a matter that must be taken into account. One patient may have very much less normal cell resistance than another. The degree of cell resistance to bacterial invasion varies with the same patient on different days, and it seems to me that we are not to say that all surgeons should put on rubber gloves for all important operations.

Then, again, the danger from infection varies with the "size of the dose" of bacteria; a few bacteria may not overcome the germicidal effect of the serum and the normal cell resistance of the patient, but a large number may succeed in placing a few "breeders" in a nidus here and there. How do the bacteria get into the wound? In three chief ways:

1. By being carried from about the roots of the hairs on the patient's skin and from the deeper layers of epithelium when the first incision is made;

2. By introduction from the surgeon's hands;

3. And lastly, and perhaps more important than any other, from the air.

Now, the surgeon's most precious possession is his sense of touch. In certain kinds of work rubber gloves certainly dull the sense of touch, as a consequence the surgeon is inclined to work by sight. If he is to work by sight he requires longer incisions, more extensive manipulation of tissues, and longer time for completing his work, so that the patient is exposed to the dangers of infection from aerial bacteria, and this to my mind more than offsets the advantages of working quickly and expeditiously, guided by a trained sense of touch. If a surgeon has to work for an hour at an operation, perhaps it is just as well for him to wear rubber gloves anyway, but there are very few surgical operations which require more than twenty minutes for completion. Almost every patient, no matter what the operation is, is in pretty good condition and potent with resistance factors at the end of fifteen minutes of anæsthesia and of operating; and almost no patient is in good condition at the end of an hour and fifteen minutes of operating, though you are doing nothing more than cutting his hair. If the work is done in fifteen minutes the operation is executed, but if in an hour and fifteen minutes, perhaps it is the patient who is executed.

The pendulum has swung back and forth from Tait's methods steadily for many years, but I think that the pendulum is suspended over Tait after all, and that when it stops it will be pretty close to him. Tait showed us that by conserving the natural resisting forces of the patient he could almost do away with aseptic methods of work, and no matter how hard we have tried to ex-

plain away his successes they are a thorn in the side of men whose theories do not include the idea of rapid work, a short period of anæsthesia, and the least possible degree of disturbance to the tissues of the patient.

Some of the older surgeons, who were already very expert before they had taken up the use of rubber gloves, have managed to become very expert with them after some years of work, but as I see these men at work they do not do the beautiful operations that I previously witnessed at their hands.

My fear is for the technique of the younger surgeons who have come into the field within the past five years. It seems to me that the preliminary training for one of these young surgeons who wishes to wear gloves in operating, ought to consist in his being set to work at removing specimens of pediculus pubis with a pair of boxing gloves on, and after he has done this successfully he is on the way toward becoming a good surgeon.

There are certain occasions on which almost any one should use rubber gloves—for instance, in an operation upon a diabetic patient; if the work is of such a nature that it cannot be done quickly we had better wear gloves, because the sugar-bearing blood of the patient is a particularly good culture medium for streptococci that thrive in sugar solutions.

Again, the cells of a diabetic patient are actually dry because the hygroscopic action of the sugar circulating in the blood has really deprived them of their normal degree of moisture, and we assume that the normal resistance of such cells to bacterial invasion is diminished.

Virchow showed us that the organism was a free State consisting of groups of cells possessing rights, privileges, and powers; and that when an enemy like sugar in the blood had deprived individual groups of cells of some of their rights, their privileges and powers were limited..

Again, if one has just operated upon a case in which bacteria are proliferating with great rapidity, as in a case of septic peritonitis, it is better to put on rubber gloves before proceeding to operate upon the next patient, and if the next patient is consulted in the matter and a whole statement of the case is made to him, he might suggest "putting off his operation until fall anyway."

The sense of protection which is given the surgeon by having on rubber gloves sometimes leads him to be careless in preparing his hands, so that if the rubber glove becomes torn or pricked during the operation the patient is particularly prone to infection, but this is a question which relates

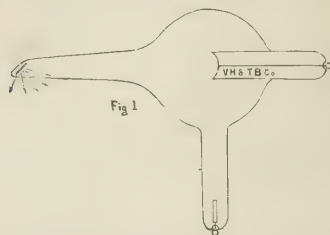
to the individual surgeon rather than to the principles, and if we are to consider the principles involved, I believe that the law of compensation works out in this way: that the longer incisions and the greater length of time required for an operation with rubber gloves allow more bacteria to fall into the wound than would be carried into the wound by the surgeon operating rapidly and neatly with bare hands, prepared by some of our very good methods, and depending upon the germicidal action of blood serum for controlling any of the bacteria which make their way from the deeper epithelium of his hands before he has completed the operation. And, finally, I believe that the normal resistance of the patient to infection can be better conserved by the surgeon who trains himself to do his work in a shorter length of time and with smaller incisions than is possible, if he places an obstacle between his sense of touch and the object toward which that touch is directed.

A SPECIAL TYPE OF CROOKES'S TUBE FOR THERAPEUTIC APPLICATIONS OF RÖNTGEN RAYS TO THE CERVIX OF THE UTERUS.

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Under the title of New Apparatus for Therapeutic Applications of the Röntgen Ray, etc., I described in the *New York Medical Journal* for July 12, 1902, some new forms of Crookes's tubes for use in the cavities of the body, and the method of grounding the anode to prevent electrical shocks, which makes the use of such tubes possible. These tubes were designed especially for the treatment of malignant growths of the larynx, and their anticathodes are so

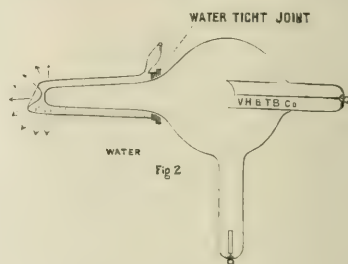


placed that the main direction of the x rays emitted is at an angle with the axis of the tube, as shown in Fig. 1.

Much interest has been shown in this type of tube by physicians who are using it in the treatment of malignant diseases of the cervix of the uterus, and

I have, therefore, developed at the Edward N. Gibbs X Ray Laboratory another tube of this sort, with modifications which adapt it especially for uterine and vaginal work. This tube is shown in diagram in Fig. 2. It will be noticed that in this tube, as in the old pear shaped tube of Crookes, the cathode stream impinges, not upon a metal target, but upon the glass wall of the bulb, which therefore becomes the source of x rays. There is also a considerable amount of heat developed at the point of impact of the cathode stream, and it is therefore necessary to cover the target end of the tube with a water jacket in order to keep it cool. At the end of the water jacket, shown in the diagram, there is a depression for the os uteri which is intended to assist in keeping the tube in proper position. For the suggestion of this improvement I am indebted to Dr. Margaret A. Cleaves.

As indicated by the arrows in Fig. 2, the rays



emanate from the end of this tube in every direction—a condition which seems desirable in the treatment of most cases of cancer of the cervix of the uterus, and which is really the only essential difference between this tube and the original type shown in Fig. 1. If it is desired to limit the delivery of x rays to any part of the area on which this tube is used, it can be done by removing the water jacket and covering the corresponding part of the end of the tube with thick metal foil. The water jacket may then be replaced and the tube is ready for use. A number of jackets of different shapes for different cases may be used upon the same tube. In conclusion, it seems proper again to call attention to the fact that in tubes of this type the source of the x ray is brought very near to the part under treatment, and the duration of exposure or the excitation of the tube must, therefore, be correspondingly decreased, in order to keep within the limits of safety.

Nugæ Medicæ Veterum.—Profit and Loss, or the Physician's Balance Sheet.

The grave my faults doth hide,
The world my cures doth see;
What Youth and Time provide
Are oft ascribed to me.

THREE CASES OF SHARK BITE.

By J. A. GUTHRIE, M. D.,
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In the summer of 1901 at the U. S. Naval Hospital, Cavite, Philippine Islands, S. McK., apprentice first class, U. S. Navy, was convalescent from an amputation of the middle third of the left thigh when I first saw his case. This amputation had been made necessary by a shark bite, in which the entire loss of the left leg and a quantity of muscular and other tissue of the thigh was involved, leaving the lower extremity of the femur exposed.

The man was, at the time of the accident, swimming with a firing party which had encamped about three miles from Iloilo; this party was in charge of Lieutenant J. F. Luby, of the U. S. S. *Annapolis*. Similar firing parties are regularly taken ashore for target practice with small arms, and at the same time the occasion is made use of to give the men drill and exercise in swimming.

In conversation with McK., his brief statement was to the effect that, while swimming near the boat, he suddenly felt himself dragged under water by some powerful force. Not realizing what it was, his first impulse was to resist and swim to the surface. He then felt a terrible crunching at his left knee, but he states that, owing no doubt, to the excitement, he did not think of pain or experience any. As unexpectedly as the onset, he felt himself released, and then he swam with all his remaining strength to the boat, some ten or fifteen yards away. He then understood that his leg was gone, but dauntlessly kept up his one and only aim, to regain the boat if possible. He was hauled aboard, and his companions by pressure on the femoral artery, temporarily controlled the hæmorrhage.

Joseph Tall, a chief master-at-arms, who was in the boat, tore off his own shirt, using it for dressings; then making a Spanish windlass with his neckerchief and a stick of wood, he applied it around the upper third of the thigh.

The patient was rowed in this condition a distance of about two miles to the ship, and soon after his arrival the surgeon amputated.

The record of this case is in the ship's log of the U. S. S. *Annapolis*; also in the *Annals* of the Bureau of Medicine and Surgery, Navy Department, Washington, D. C. When last I saw the man he was in good health and had made a complete recovery from the amputation.

The next case came under my care shortly after he was bitten, and I carried it along in the U. S. Naval Hospital, Port Isabela de Basilan, Philippine Islands.

The accident occurred in the middle of October, 1901. A Molussa Moro by the name of Dahkus was in his fish weir taking the catch with his hands,

when a shark (called by the Moros *kayton*), which had become entrapped, bit him in the right thigh, carrying away a large part of the extensor muscles of the leg.

These fish weirs of the Moros are made of thin slats of bamboo lashed closely together and driven into the bottom from the shore line out to deep water, where they curve about, forming a sort of labyrinth with a small opening that fish may easily find to enter by, but fail to discover when they attempt to retreat from the maze. The Moro fisherman will plunge right into this trap and take the fish, diving, scrambling, and swimming amongst them.

The Molussa (sea coast Moros) do not fear the denizens of the deep, and although many cases of shark or crocodile bites caused by their recklessness in going into the weirs have occurred, they persist in this method of taking fish, and will not adopt a scoop net.

This shark that bit Dahkus was caught by the other fisherman about, and the fact that Dahkus was bitten is vouched for by these eye witnesses; in addition to which there were prints of teeth that proved their statements. I mention these facts with such explicitness, as a certain gentleman has published the offer of a reward of one thousand dollars for the production of an authentic case of shark bite. The muscles on the front of the thigh were torn through quite down to the bone, leaving an ugly gap about ten inches by six inches in area.

The patient remained in the hospital from the time of the injury till late in December, when he was discharged cured, the wound having healed by granulations from the bottom.

About the time the granulations reached the surface, flush with the surrounding skin, an obstinate condition existed, making it necessary to graft skin upon the raw area. The patient refused to allow skin to be taken from his uninjured leg, and after much delay, and as a *dernier ressort*, I visited the Chief Datto of Basilan (Pedro Quevas), soliciting from him his cooperation in either ordering the patient to furnish the desired cuticle, or to provide another subject from whom I might take enough skin to cover the wound.

This unusual demand nearly created a rebellion amongst the subjects of Pedro, and finally he said that it was an impossible request, and bade me let the fellow die—or words to that effect.

But volunteers amongst the hospital corps men came to my aid, and I grafted enough pure Anglo-saxon cuticle to make a fairly good result. As soon as the patient was pronounced well he cleared out, and search as I may, I have not been able to locate him. I am quite disappointed, because I should like to see the result after thorough organization had set in; and maybe my curiosity is stimulated as to

whether he has a white patch or not over the point of injury.

The next case is very similar to the foregoing as to the method of receiving the injury, namely,

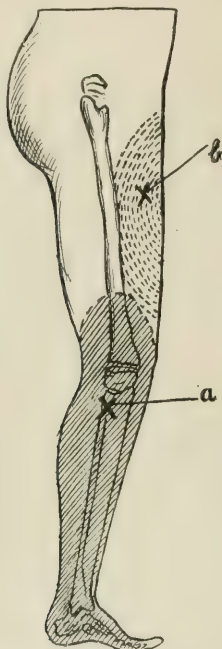


FIG. 1.—Dr. Guthrie's first and second cases of shark bite: (a) the location of the bite in McK's case; (b) in that of Dahkus.

the subject was bitten, while in a fish weir, by a shark caught therein; but in this case the man was bitten in the face, and the bystanders did not succeed in killing the shark (kayton) afterward, as it escaped over the netting.

On Sunday afternoon, June 8, 1902, while taking



FIG. 2.—Dr. Guthrie's third case.

my siesta, I was called to attend this man, a Molussa by the name of Apy.

I immediately went below into the dispensary, where he was, and discovered him squirming and

groaning to some extent, but very little, as these people are very stolid under injury. His nose was hanging by a shred, and there were prints of a shark's teeth over the entire right cheek. It had happened less than an hour before he reached me, and I immediately went to work, stitching the nose in places, and otherwise repairing the damaged countenance.

He came to me daily, and the wounds healed by first intention under iodoform dressing. I should like to add here, *apropos* of iodoform dressing, that Moros' wounds, in my experience, heal and do better generally, under iodoform than under any of the other antiseptic powders or fluids. I have used all others obtainable, and have got better results with iodoform than with any of them. Apy has now gone on his way rejoicing, back to his fishing grounds, five miles up the coast from Port Isabela. These fishing grounds are near the mouth of the river Cumalarang, famous as a hiding place for pirates in the days of sailing ships and romance upon the briny deep; and who knows but that he may be descended from some one of those royal rovers, and may yet, perchance, return with a royal fee to his benefactor.

I shall say in conclusion, however, that the Moros' gratitude is ethereal; although he is well meaning, his purse is scant, and therefore he cannot afford remuneration in material substance—not differing altogether in this respect from some of his white brethren.

Therapeutical Notes.

Formulæ for Artificial Sera.—The *Rivista critica di clinica medica* for September 27th, in view of the extensive use which is made in these days of artificial sera, in private as well as in hospital practice, brings together the following formulæ:

Latta's serum:

- R Sodium chloride..... from 3 to 5 parts;
Sodium carbonate..... 1 7/10 part;
Water..... 3,400 parts.

M.

Cantani's serum:

- R Sodium chloride..... 4 parts;
Sodium carbonate..... 2 parts;
Water..... 1,000 parts.

M.

Kronecker and Lichtenstein's formula:

- R Sodium chloride..... from 6 to 7½ parts;
Sodium carbonate..... 1/10 of a part;
Water..... 1,000 parts.

M.

Schwartz's formula:

- R Sodium chloride..... 6 grammes (90 grains);
Solution of caustic soda..... 2 drops;
Water..... 1,000 grammes (31¼ ounces).

M.

Hérard's solution:

R Sodium chlorate	½ part;
Potassium chloride	¼ part;
Sodium phosphate	1¼ part;
Sodium chloride	4½ parts;
Distilled water	1,000 parts.

M.

Hayem's formulæ:

(1)

R Sodium chloride	5 grammes (75 grains);
Sodium sulphate	10 grammes (150 grains);
Sterilized water	1 litre (1 quart).

M.

(2)

R Sodium chloride	7½ parts;
Sterilized water	1,000 parts.

M.

The most used of these two is the second, being in fact the ordinary "physiological serum."

Sydmann's serum:

R Sodium chloride	6 parts;
Sodium bicarbonate	1 part;
Water	1,000 parts.

M.

Vandervelde's serum:

R Sodium glycerophosphate	} of each 3 parts;
Sodium chloride	
Water	1,000 parts.

M.

Another formula (Vandervelde):

R Sodium chloride	} of each 3 parts;
Potassium chloride	
Sodium carbonate	2½ parts;
Sodium phosphate	3 parts;
Potassium sulphate	2 parts;
Water	to 100 parts.

M.

Renzi's serum:

R Iodine	1 part;
Potassium iodide	3 parts;
Sodium chloride	6 parts;
Water	1,000 parts.

M.

Roussel's serum:

R Sodium phosphate	50 parts;
Water	1,000 parts.

M.

Sapellier's serum:

R Sodium chloride	60 parts;
Potassium chloride	5 parts;
Sodium carbonate	31 parts;
Sodium phosphate	4½ parts;
Potassium sulphate	3½ parts;
Boiled water	1,000 parts.

M.

Schiess's serum:

R Sodium chloride	75 parts;
Sodium bicarbonate	50 parts;
Water	1,000 parts.

M.

Crocq's serum:

R Sodium phosphate	2 parts;
Distilled water	100 parts.

M.

Luton's serum:

R Crystallized sodium phosphate	4 parts;
Sodium sulphate	10 parts;
Boiled distilled water	100 parts.

M.

Mathieu's serum:

R Sodium sulphate	6 grammes (90 grains);
Sodium phosphate	4 grammes (60 grains);
Sodium chloride	1 gramme (15 grains);
Glycerin	20 grammes (300 grains);
Distilled water	to 100 cub. cent. (1,550 minims).

M.

Huchard's serum:

R Sodium phosphate	10 grammes (150 grains);
Sodium chloride	5 grammes (75 grains);
Sodium sulphate	2.50 grammes (37 grains);
Distilled water	to 100 cub. cent. (1,550 minims).

M.

Huchard's concentrated serum:

R Sodium chloride	5 grammes (75 grains);
Sodium phosphate	10 grammes (150 grains);
Sodium sulphate	2½ grammes (37 grains);
Carbolic acid	1½ grains (22 grains);
Water	100 cub. cents. (1,550 minims).

M.

Bardel's serum:

R Sodium chloride	1 gramme (15 grains);
Carbolic acid	0.50 gramme (7 grains);
Sodium phosphate	3 grammes (45 grains);
Sodium sulphate	2 grammes (30 grains);
Water	to 100 cub. cent. (1,550 minims).

M.

Leclerc's serum (very strong):

R Sodium chloride	4 grammes (60 grains);
Sodium phosphate	} of each 0.50 gramme (7 grains);
Sodium sulphate	
Boiled distilled water	100 cub. cent. (1,550 minims).

M.

Chéron's serum:

R Carbolic acid	1 part;
Sodium chloride	3 parts;
Sodium phosphate	4 parts;
Sodium sulphate	8 parts;
Boiled distilled water	100 parts.

M.

This formula may be modified by the omission of the carbolic acid.

In the concentrated sera there are formed during sterilization in the autoclave fine crystals; therefore to avoid the injection being painful, the solution must be filtered after sterilization.

For the Vomiting of Pregnancy.—Dr. O. M. Bourland (*Medical Times*, November) has found the following prescription afford marked relief:

R Cocaine hydrochloride	½ grain;
Cerium oxalate	5 grains;
Bismuth subnitrate	10 grains;
Simple elixir	1 drachm.

M. ft. linctus.

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UNIFICATION PROSPECTS IN THE STATE OF NEW YORK.

For the last year and a half or more a good deal of confidence has been felt by the medical profession of the country that harmony was soon to be restored in the State of New York—in fact, that the Medical Society of the State of New York and the New York State Medical Association were to be consolidated into a body that would be recognized by the American Medical Association without question. This confidence has been due, first, to the evident earnestness of the gentlemen who brought about the reorganization of the national body at the St. Paul meeting, and, secondly, to the subsequent appointment of conference committees by the two organizations in this State. In the superficial observer this feeling of trustfulness may have been enhanced by the State association's adoption of certain resolutions at its recent annual meeting. We published the resolutions in our issue for November 15th, on page 863. Our own reflections, coupled with what we have ascertained to be the views of some prominent members of the profession of the State, do not, however, we are sorry to have to say, warrant us in taking an optimistic view of the situation. The important resolutions, the second and third of the four adopted, read as follows:

"Resolved: That the plan presented at the joint session of the two committees by the committee representing this association, whereby 'the New York State Medical Association and the Medical Society of the State of New York be reconstituted by an act of the legislature into a State medical body, to be known as the Medical Society of the State of New York, of which all members in good standing in both bodies shall be charter members, and the reconstituted State medical body shall be the representative in this State of the American Medical Association by

virtue of its acceptance of the constitution and by-laws of the American Medical Association,' is hereby accepted by the New York State Medical Association as an expression of our sincere desire for a union of the medical profession in this State.

"Resolved: That the committee is hereby continued for the purpose of cooperating with any committee from the Medical Society of the State of New York to secure a charter from the legislature at its next session, in 1903, which charter shall reconstitute the two State organizations into one State body, as set forth in the preceding resolution, but if the Medical Society of the State of New York shall fail to approve of such plan of union by a charter to be secured at the approaching session of the legislature, in 1903, then this committee shall be considered as discharged and the proposition of this association withdrawn."

These resolutions virtually require that the society shall accept the association's plan in every particular; else the effort for consolidation fails. In other words, the association's proposition is to be regarded as an ultimatum. The leading members of the old society can see no good reason for the association's insisting upon final action being taken at the next session of the legislature, for that will require them to subscribe blindly to documents that are perhaps on the eve of substantial change, namely, the constitution and by-laws of the American Medical Association. They say "blindly," because nobody knows what change may be effected in those documents; indeed, nobody can say with certainty that there will be any change whatever. They ask why it is not fair to wait until the next meeting of the American Medical Association has been held, so that they may know to what they are required to subscribe. They, equally with the members of the association, profess to be desirous of harmony, but they declare that they are not ready to purchase harmony by submission to unknown conditions. They declare, furthermore, that the association, by absolutely insisting on its own plan of consolidation and declining further conference, takes upon itself the onus of the prospective failure of the movement for amalgamation. We fear, therefore, that unification of the medical profession of the State of New York is to be deferred, but we still cherish an abiding hope that at the next meeting of the Medical Society of the State of New York renewed and successful efforts may be put forth to bring about harmony in the profession of the State. That meeting will be held before the next session of the legislature is at an end, and there may yet be time for fresh efforts at adjustment to meet the views of both parties.

THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE NAVY.

Surgeon-General Rixey's annual report, dated October 1st, has just been issued. The report itself deals with a number of interesting topics, and the appended tables and documents are also of a nature to command wide attention. Foremost among the subjects of which the report treats is the urgent need of an increase in the number of medical officers in the navy. The following statement shows graphically the disproportion between the increase of the strength of the medical corps since the year 1897 and the growth of the amount of work that the corps has had to encounter: Increase in the medical corps, 15 per cent.; in the actual strength of the navy and the marine corps, 70 per cent.; in the number of admissions to sick list, 75 per cent.; in the total number of sick days, 95 per cent.; in the number of patients treated in naval hospitals, 137 per cent.; in the number of medical surveys held, 174 per cent.; in the number of persons examined for enlistment, 103 per cent. Under the operation of enactments now in force this disproportion will soon grow even greater unless Congress grants the relief asked for, for whereas at the close of the period covered by the report the actual strength of the navy and the marine corps was 30,356, the strength already authorized is 37,170. There are no vacancies in the medical corps; yet so inadequate is it that duties requiring well trained medical men for their performance have often to be entrusted to persons having no medical education. As an example of the straits to which the corps is reduced, we may cite Dr. Rixey's expression of regret that the bureau was unable to recommend the detachment of a naval surgeon from duty with the navy and his assignment to special duty with the army as a cholera expert in Manila, as lately requested by the War Department. This was because the surgeon absolutely could not be spared. The surgeon-general estimates that 150 more medical officers will be required to perform adequately the duties that will very soon be expected of the corps, and we trust that Congress will speedily authorize such an increase. For the honor of the profession, as well as for the good of the nation, we hope that our readers will exert their influence as physicians to move members of Congress to favor the action asked for.

Toward the close of last May the Naval Museum of Hygiene, in Washington, was expanded into a

medical school for the special instruction of newly appointed assistant surgeons, the work of the Naval Medical Examining Board and the instruction work of the New York Naval Laboratory having been moved from New York to Washington. The fact that the museum is in Washington, where also men attached to other government departments can be drawn upon for purposes of instruction, also the further fact that medical officers detailed for the examining board may now take part in the work of the new Naval Museum of Hygiene and Medical School, make the change one that, we suppose, can hardly fail to prove advantageous; but, as Dr. Rixey intimates, it would be still better if the instructors could give their undivided attention to the work of the school.

A recent bill authorizing the appointment of dentists for the navy having failed to meet with favorable action in Congress, the surgeon-general advises that his bureau be empowered to employ contract dentists at all the large home stations and at all stations outside the limits of the United States. "Many men who are now rejected for enlistment in the navy," he says, "might with safety be accepted were assurance offered for the immediate treatment and repair of dental caries." Twenty-five additional pharmacists are asked for, and the opinion is expressed that the dignity and efficiency of that class of warrant officers will be heightened by the fact that since last April their promotion to the grade from among the hospital stewards has been determined by a professional examination rather than, as before, largely on the strength of their record as certified to by medical officers under whom they had served.

In the opinion of the surgeon-general, two permanent hospital ships, one on the Atlantic and the other on the Pacific, are much needed. They should be fully equipped for hospital purposes and entitled to fly the flag of the Geneva Conference. Such ships would be instantly available for hospital service on the outbreak of a war, whereas our present helplessness as to such matters is well set forth in the following passage: "The late efforts to secure a hospital ship for the winter manoeuvres in the West Indies show conclusively how difficult it is to secure action until the time of need arrives, and how easy it is then to take everything for other purposes and leave the medical officer to combat the emergencies as they arise with what may be at hand. This is discouraging to

the medical officer, but it is more than discouraging to the sick and wounded."

The establishment of a corps of women nurses for the naval hospitals is recommended, to consist at first of a superintendent nurse, eight head nurses, sixteen nurses of the first class, and twenty-four nurses of the second class, the numbers to be increased according to the needs of the service. This recommendation is founded, not only on the universally recognized superiority of women as nurses, but also on the liberation that their employment would give to a certain number of hospital apprentices for sea duty. The surgeon-general points out that a naval hospital does not differ materially from a civil hospital, and that therefore women nurses are quite compatible with the work of such an institution. It is further recommended that the navy be provided with a sanatorium for the study and treatment of tuberculous disease; this is on the strength of the eminent usefulness of the sanatorium already administered by the army at Fort Bayard, New Mexico. These are the leading recommendations in Surgeon-General Rixey's report. They are all reasonable and necessary, and we hope that they will be carried out.

PHYSICAL EFFICIENCY IN CHILDREN.

The presidential address of Sir James Crichton-Browne, delivered before the Medical Section of the International Congress for the Welfare and Protection of Children, recently held in London, abounds in weighty considerations. Sir James very happily starts with a reference to the fact that "the Angles and Saxons, the Teutonic ancestors of us English, * * * even in primitive times, when they dwelt in Slesvig and Holstein, had two distinguishing characteristics—the strength of their domestic affections and their activity in all their pursuits. They were very careful of little children and tender towards them, and had a goddess, Hulda, or Bertha, whose mission it was to protect them and who was represented as the moon taking up the souls of those of them that died and gathering them around her as the stars."

To the two qualities mentioned it is clear that the present primacy of the Teutonic races is due, and these qualities are obviously interdependent, for physical efficiency of the adult is necessary for physical efficiency of the children, and the latter, again, is

essential to the physical superiority of the future adult.

A great change has undoubtedly taken place in the past twenty or thirty years in the care of children. The use of the scales and measuring tape and other accessories to the accurate observation of the progress of the child is now fairly common, more so, perhaps, on this side of the Atlantic than on the other; while the problems of infant feeding, the prevention of diseases specially incident to infancy, and infant hygiene and regimen receive a much wider and more intelligent attention. Sir James renews the plea which he presented in 1884, in his report on Overpressure in Elementary Schools, printed by order of the House of Commons, urging that "valuable information would be obtained were a register of the height, weight, head and chest girth of the children kept in every school." Apart from its individual value, it is clear that much comparative knowledge would be attained by such a course, for these statistics "would speedily enable us to determine the rate of growth of children in different districts of the country, of different racial origin, of different social position, and with different food supplies, and would enlighten us as to the physical proportions most favorable to good health and most suitable for various employments, as in factories and in the naval and military services, while they would also elucidate the effects of the several influences at work in modifying physical development, such as the seasons of the year, rural and urban life respectively, and diseases of hereditary or acquired origin." At the time these pleas were uttered they fell on deaf ears; public attention, even professional attention, was not then sufficiently advanced in interest in these all-important economic problems. As we have said, however, a slow but steadily progressive change for the better has been taking place under the broader economic studies forced upon us by the enormous development of intercommunication and the acuteness of industrial competition brought about thereby. Sir James passes in review the valuable material accumulated by the statistics of the recruiting service during the Transvaal war, and, while not overlooking "the deteriorating influence of foul air, bleached sunlight, dirty dwellings, intemperance, infectious diseases and chronic emotional depression," insists that the decline in physical vigor of the English urban population evidenced by them is due mainly to "the want of sufficient nourishment during the

growing period." This lack is due chiefly to the grinding poverty that obtains among the poorer laboring classes in England, and Sir James adds: "The United States of America are becoming formidable in their rivalry to us, not only because of their spirit of enterprise, fertile ingenuity, and boundless resources, but because, as recent investigations have proved, their workers are better nourished than ours." May it not also be said that possibly the former conditions are the direct result of the last named? "Poor families," continues Sir James, "in Philadelphia, Chicago, and New York have a considerably better food supply than poor families in Liverpool, Manchester, and Glasgow." That the English laboring classes are underfed is brought luridly into view by the assertion that "our poorer working men receive thirty per cent. less food than convicts in English prisons!"

One assertion of Sir James's that strikes us is the statement that "obesity is practically unknown in early life." That can scarcely be affirmed of this country, where the proportion of enormously obese children is so striking as to be a subject of remark by strangers. However, of the two evils, obesity is certainly to be preferred (at least from all except an æsthetic standpoint) to an emaciation in early youth which may indicate a permanent and irremediable enfeeblement of the organism during its evolutionary period; for the measures which tend toward reduction of the obesity are in the main such as also tend toward a general invigoration of the constitution in all respects.

One of Sir James's criticisms on the conditions obtaining in London would certainly apply with even greater force in New York. He says that "Mr. R. A. Bray informs us that 'vast tracts of ground in north and southeast London are situated so far from any park that the child has to journey more than a mile to reach it.' This practically prohibits their use, and consigns the children to the streets for such exercise as they can obtain. It is clear, therefore, that it is our bounden duty jealously to preserve every inch of urban open space that exists, and to seize with avidity on every chance of acquiring new ones." There is probably no city in the world where more care and attention to this point are imperatively demanded than in New York, ever developing, owing to its peculiar geographical limitations, almost entirely in one direction. Besides feeding and physical exer-

cise, Sir James sums up the multifarious agencies making for efficiency under the terms "mothering, homing, and schooling"; and on each of these subjects the author has many weighty words to say, which it would take altogether too much space to transcribe here.

Speaking of schooling, however, there is one point of view which we wish to reproduce. We are accustomed on this side of the water to pride ourselves on the fact that there is no limitation to the possibilities attainable by every American child. So long as we refer to limitations imposed from outside, that is a very comforting fact; but is there not too great a tendency to forget that, as with electrical cells, so with human beings, each unit has so to say a fixed electromotive force, and it is not only idle but injurious to attempt to extract the same result from one kind of cell as from another of higher potential. Sir James quotes Ruskin as saying: "To provoke a boy, whatever he is, to want to be something better, or, wherever he was born, to think it a disgrace to die, is the most entirely and directly diabolic of all the countless stupidities into which the British nation has been of late betrayed by its avarice and irreligion." Upon this Sir James makes the following wholesome comment, as it seems to us: "But this 'diabolic stupidity' is, it must be admitted, very prevalent amongst us, for while wisely opening to youthful talent the doorway to preferment, we are ever *pressing on the dull crowds behind, who can never hope to pass through that doorway*, but who are encouraged to overstrain their powers in endeavoring to approach it, and are soured by envy or disappointment in their failure to reach it." (The italics are ours.)

Wholesome ambition is a good thing, but, as we have often contended, this record-breaking spirit of the age is not an exemplification of it. The earnest desire to achieve the best that one is capable of, without reference to the achievements of others, rather than to attain a given point mainly because it is ahead of what has been attained by another, is in our eyes the best aim of ambition in the individual; and this the community will best aid collectively, not by driving or even enticing all to aim at what for the many must be unattainable, but rather by furnishing each early in life with the equipment for his exertions, and removing from his path all artificial and conventional obstacles and limitations.

THE POST OFFICE AND THE "ABSENT TREATMENT" INDUSTRY.

According to press dispatches from Washington, the Supreme Court of the United States has lately interfered with the operation of an order issued by the Post Office Department denying the further use of the mails to an "absent treatment" concern having its headquarters in Nevada, Missouri, professing to give its patrons the benefit of the attainments in that form of alleged therapeutics of a man who, as a matter of fact, lives in Manitou Springs, Colorado, the business of the concern being, however, really carried on by a manager and a corps of typewriters. Stripped of an enormous amount of verbiage, the court's opinion, as we cannot but understand it, is to the effect that trust in "absent treatment" rests on opinion and involves no matter of fact, and consequently that to exploit it for gain is not necessarily fraudulent. We may grant that such a course might not be fraudulent if the perpetrator really believed in his system and conducted it himself, but for another person than the professed "healer" to carry on the business under the alleged inspiration of the distant and secluded "healer" seems to us fraudulent on the face of it. However, the court's decision appears simply to render the case to the trial court, and we may hope that it may yet be decided in accordance with common sense.

CHRISTIAN SCIENCE HEALERS AND THE REPORTING OF INFECTIOUS DISEASE.

We have said so much of late on the subject of Christian Science, that we are not looking for opportunities to say any more. But Mrs. Eddy's recent ukase, ordaining that "until public thought becomes better acquainted with Christian Science the Christian Scientists shall decline to doctor infectious or contagious disease," is such a clear sacrifice of her essential first principles as to the absolute non-existence of disease, and therefore, necessarily, of any distinction between one class of diseases and another, that it deserves to be put on record. Practically, we do not imagine that it will make any material difference, at any rate at first, in the proceedings of the healers; because, if they treat a case of "sore throat" which turns out to be diphtheria—well—they "didn't know it was diphtheria," that's all. Indeed, we understand that a prominent representative of Eddyism has expressed the cynical view that in regard to the reporting of infectious diseases their responsibility "is that of private citizens only." Doubtless, in a certain number of light cases it will go at that by default, and much infection will continue to be spread in consequence; but if the healer relies on that prop in some case serious enough to arouse public atten-

tion, we have little doubt that he will soon be undeceived, even as the law now stands.

There has been much difficulty in framing medical laws which shall check unlicensed practice without pressing harshly on certain rights of the individual in regard to unlicensed practices, as was shown by the fate of the attempted legislation at Albany last year. But it is practically unanimously agreed that in the public interest infectious diseases must be reported; clearly, as the general public cannot be expected to be competent to diagnose infectious disease, that onus must lie on whatsoever person presumes to undertake the treatment of the sick, whether physician, herbalist, Christian Scientist, or what not. It should not, therefore, be difficult so to amend the wording of the sanitary laws relating to infectious diseases, as specifically to impose the full burden of technical professional responsibility, not merely upon "physicians," but upon "all persons who practise healing (other than by gratuitous efforts for the relief of members of their own household) by any method whatsoever." The clause in parentheses would, it seems to us, cover every possible legitimate exemption from the burden of professional liability.

THE EFFECT OF BODILY ACTIVITY AND ATTITUDE ON THE RAPIDITY OF DIGESTION.

Certain curious relations between bodily exertion and posture, on the one hand, and the motor energy of the stomach on the other, have recently been observed by von Mering (*Therapie der Gegenwart*, 1902, No. 5; *Centralblatt für innere Medizin*, October 11th). He finds that the stomach is most rapidly emptied when the individual lies on his right side or walks fast, that the process is slower when the subject stands, sits, lies on the left side, or walks slowly, and that repose on the face or on the back is accompanied by a rapidity of digestion midway between the results of the other conditions mentioned.

THE PASSING OF ANTIMONY AS A CAUSE OF ECZEMA.

Skin affections due to the dyes used upon the material out of which underclothing is made have been very common within recent years. They have largely been attributed to the employment of aniline pigments, especially in hosiery, but antimony also, used as a mordant, has been considered as giving rise to eczema in many instances. We are glad to learn that the use of such a mordant has ceased to be necessary, and that a recent investigation by Lehmann and Göbel (*Archiv für Hygiene*, xliii, 2; *Berliner klinische Wochenschrift*, September 15th) shows that the amount of it now to be found in dyed articles is insignificant.

News Items.

Society Meetings for the Coming Week:

MONDAY, November 24th.—Medical Society of the County of New York; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, November 25th.—New York Dermatological Society (private); Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Rome, N. Y., Medical Society; Boston Society of Medical Sciences (private); Richmond, Va., Academy of Medicine and Surgery.

WEDNESDAY, November 26th.—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association; Berkshire, Mass., Medical Society (Pittsfield); Philadelphia County Medical Society.

THURSDAY, November 27th.—New York Academy of Medicine (Section in Obstetrics and Gynecology); New York Orthopaedic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Mass., Society for Medical Improvement (private); Pathological Society of Philadelphia; Church Hill Medical Society, of Richmond, Va.

FRIDAY, November 28th.—New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Cholera Gaining in the Philippines.—According to press dispatches cholera is spreading and growing in virulence since the advent of the rainy season.

The Office of Post-Office Physician Abolished.—The office of advisory physician to the post-office has been abolished in all cities having 500,000 population or less. This will affect about a dozen cities.

A New Form of Death Certificate has been adopted by the New York State Board of Health which follows closely that recently prepared by the committee on demography of the American Public Health Association.

The Distribution of Samples in St. Paul Forbidden.—Dr. Ohage, health commissioner of St. Paul, Minn., has decided to discontinue the issuance of the permits which are required of any one distributing samples of medicines, on the ground that practically medicines are dangerous when distributed promiscuously.

The Investigations at the Cincinnati City Hospital has resulted in the suspension of two attendants who had been absent without leave and the issuance of a warning to the internes that they must cease the violation of the rule forbidding internes to practice outside the hospital for pay while on the hospital staff. It appears that this rule has long been disregarded.

New York State Appointments.—Among the offices to be filled by appointment by the Governor of New York are a state commissionership in lunacy, and that of health officer of the port of New York to succeed Dr. A. H. Doty, whose term expires in January,

1903. Dr. Doty was originally appointed by Governor Morton and was reappointed by Governor Roosevelt in 1899, and it is semi-officially announced that his reappointment by Governor Odell is assured.

An American Physician to Go to India for the British Government.—Dr. Frederick G. Novy, of the medical department of the University of Michigan, has been invited, it is said, by the British Government to proceed to India for the purpose of experimenting with the new intestinal antiseptic discovered by him, benzoyl-acetyl-peroxide, in the treatment of cholera and plague.

Christian Scientists Will Not Treat Contagious Diseases.—A Mrs. Eddy, the inventor of Christian Science, has issued a notice to the effect that "until the public thought becomes better acquainted with Christian Science the Scientists shall decline to doctor infectious or contagious diseases." This is "advice" which is construed as tantamount to an order.

Ellis Island to Have Increased Hospital Facilities.—Orders have been issued by the Treasury Department that plans shall be drawn up for an addition to the existing hospital for immigrants on Ellis Island, to cost \$100,000, and for a new hospital, to cost about \$250,000, to be located on a new island to be made for the purpose, between Ellis Island and Bedloe's Island.

The New Superintendent of Bellevue.—Dr. William Mabon, superintendent of the St. Lawrence State Hospital for the Insane, at Ogdensburg, N. Y., has been elected by the Board of Trustees of Bellevue and the allied hospitals, as superintendent, to take the place of Dr. George Taylor Stewart, resigned. The salary of the superintendent has been increased from \$4,000 to \$5,000 per annum.

New York Orthopaedic Dispensary and Hospital, No. 126 East Fifty-ninth Street.—The trustees announce that the annual course of clinical lectures on orthopaedic surgery will be given by the surgeon-in-chief, Dr. Russell A. Hibbs, at the institution, on Tuesday and Saturday afternoons, at 4 o'clock, from November 25th to December 27th, both inclusive. The course will be free to the medical profession and students.

The National Association for the Study of Epilepsy held its annual meeting at the New York Academy of Medicine on November 5th under the presidency of Dr. Frederick Peterson, of New York. In the course of his address Dr. Peterson said that the Craig Colony of New York can care for 1,126, with property valued at \$666,500. Eighty of the inmates attend school. The cost is \$3.15 per week. There are at least 500 more, according to the census, requiring such care. Massachusetts has expended \$85,900 on her colony for the epileptic, and of the 1,440 epileptics of that State she is caring for 440, at a cost of \$4.50 a week. Twenty-four are in school. New Jersey, with 1,500 needing care, as yet has but 75 in her colony, at a cost of \$4.50 a week. Dr. Wharton Sinkler, of Philadelphia, was elected the next president, and Dr. Sprattling, of the Craig Colony, was reelected secretary.

The Wisconsin Board of Health to Have a Bacteriological Laboratory.—In its biennial report to the Governor, the Wisconsin Board of Health asks for an appropriation for the establishment and conduct of a bacteriological laboratory, and it seems probable that the request will be granted.

The Report of the Surgeon-General of the Army.—The surgeon-general desires us to call attention to an erratum in the *Report of the Surgeon-General of the Army to the Secretary of War* for the fiscal year ending June 30, 1902. On page 45 the death rate from all causes for the year 1901 is incorrectly given as 19.94 per thousand. It should read 13.94 per thousand. The figures are correctly given in Table I, page 148.

Births Not Reported in Borough of Queens.—A marked discrepancy between the birth rate and the death rate in the Borough of Queens having attracted the attention of the health department, an investigation was instituted by means of which it was discovered that many physicians have failed to report births where they have been in attendance, though subjecting themselves to a fine of one hundred dollars by the failure to make the report.

The University Again Loses in the Laboratory Suit.—The Medical College and Laboratory, valued at \$200,000, was deeded to the New York University by the Bellevue Hospital Medical College some years ago. The faculty claimed that the trust was violated and brought suit to recover the property. The suit was decided against the university in the Supreme Court of the State of New York, and the university appealed to the Appellate Division of the Supreme Court, where the judgment has recently been confirmed.

Dr. Kimberlin Shot by a Patient.—Dr. William H. Kimberlin, of Kansas City, Mo., was killed by a policeman, whose eyes he had been treating, on November 11th, and who immediately committed suicide. The policeman, in a note to his brother, said that he proposed to kill the physician because he had destroyed his eyes. Dr. Kimberlin was fifty-eight years of age, was born in Ohio and had lived in Kansas City since 1879. He had studied in New York, and in 1878 was attached to the Northwestern Dispensary in this city. He leaves a son, Dr. Joseph Kimberlin, and a daughter, who is the wife of Dr. E. D. Yarnell, of this city.

Professor Loeb Goes to California.—Dr. Jacques Loeb, the well-known physiologist at the University of Chicago, has been chosen to fill the newly created chair of physiology in the University of California. Dr. Martin Fischer, of Rush Medical College, will become an instructor in physiology in the same institution and Charles Gardner Rogers, of the University of Chicago, an assistant in physiology. This matter has been under advisement for some time, and it is reported that the University of California as a means of securing the services of Professor Loeb has undertaken to erect and maintain a marine biological laboratory on a large scale.

A Biochemical Journal to Be Established.—Under the title of the *Biochemisches Centralblatt* a new semi-monthly journal is to be launched in December from the press of Borntraeger, of Berlin. Dr. Carl Oppenheimer is to edit the journal with the collaboration of Dr. P. Ehrlich, Dr. E. Fischer, Dr. A. Kossel, Dr. O. Liebreich, Dr. F. Müller, Dr. B. Proskauer, Dr. E. Salkereski and Dr. N. Zuntz. The journal is intended to bridge over the hiatus between medicine and chemistry and to bring before the medical profession those phases of chemistry which bear upon medicine.

Moving to Abolish the Board of Coroners.—At a meeting of the New York State Medical Association of New York County, held at the New York Academy of Medicine on Monday evening, November 18th, a resolution providing for the appointment of a committee to investigate and report upon the advisability of abolishing the Board of Coroners, was introduced by Dr. Harry R. Purdy and adopted by unanimous vote. The committee is to confer with the Committee on Legislation of the New York State Association and other committees representing medical societies so that the general opinion of the medical profession may be reached. Dr. Stephen Smith was named as chairman of the committee, with Dr. Elliott Harris and Dr. Harry R. Purdy as associates.

The Southern Surgical and Gynecological Association.—At the annual meeting, held at Cincinnati on Tuesday, Wednesday and Thursday, November 11, 12 and 13, 1902, Dr. J. Wesley Bovée, of Washington, was elected president, and Dr. Bacon Saunders, of Fort Worth, Texas, and Dr. Christopher Tompkins, of Richmond, Va., were elected vice-presidents. The efficient secretary and treasurer, Dr. W. D. Haggard, of Nashville, was re-elected and his salary as secretary was increased from \$250 to \$500. Dr. T. A. Reamy, of Cincinnati; Dr. J. McF. Gaston, of Atlanta, and Dr. R. B. Maury, of Memphis, were elected honorary members. The retiring president and former secretary, Dr. W. E. B. Davis, of Birmingham, Ala., in his presidential address recommended that an amount of money, equal to that which he would have received as secretary but had declined to accept, be appropriated for establishing a memorial ward in the Charity Hospital at Birmingham, to be known by the name of the association whose birthplace was Birmingham. The sum of \$2,000 was accordingly appropriated, a sum which is really less than the amount he would have received as secretary during his twelve years of service.

The Plans of Dr. Lorenz.—Letters recently received from Dr. Lorenz and written from Los Angeles are to the effect that he finds himself steadily dropping behind in his programme, so that while he had planned to reach this city by December 1st, it seemed probable that he would not arrive here until the sixth or even later. This uncertainty has so far prevented the elaboration of any plans for his reception on the part of his professional friends here. In response to notices published in the daily papers more than a thou-

sand patients have presented themselves at the Cornell University Medical College or have applied by mail to be examined and enrolled for treatment. The large majority of the cases are not within the lines laid down, and only those will be presented to him for operation which are true cases of congenital dislocation and within the age limits which experience has taught it inadvisable to go outside of. Dr. Lorenz is accompanied by his assistant, Dr. Müller, and it is expected that he will operate both at the Hospital for Ruptured and Crippled Children in conjunction with Dr. Virgil P. Gibney, chief surgeon of that institution, and at the Cornell University Medical College with Dr. Newton M. Shaffer, surgeon-in-chief of the New York State Hospital for Crippled and Deformed Children. Dr. Dexter D. Ashley, who has recently returned from a sojourn abroad of eighteen months, a part of which was spent at the clinic of Dr. Lorenz, and who assisted Dr. Lorenz in Chicago, will also assist him here.

The Army Medical School was opened in the Army Medical Museum at Washington on November 10th with a class of forty student-officers in attendance. For the current session, the seventh, the faculty is composed of the following officers in the United States Army Medical Corps: Col. Calvin DeWitt, assistant surgeon-general, president of the faculty and professor of military medicine; Major Walter Reed, surgeon, professor of clinical microscopy; Major Louis A. LaGarde, surgeon, professor of ophthalmology and lecturer on "Duties of Military Officers"; Major W. C. Borden, surgeon and professor of military surgery; Major Walter D. McCaw, surgeon and professor of military hygiene; Capt. Frederick P. Reynolds, assistant surgeon, instructor in first aid, hospital corps drill and field hospital administration; Capt. Carl R. Darnall, assistant surgeon, secretary of the faculty and instructor in sanitary chemistry. In addition to the instructions mentioned lectures on military law are given by Brig-Gen. George B. Davis, judge advocate general, and lectures on those tropical diseases with which our troops have been afflicted in the Philippines will be given by First Lieut. Joseph H. Ford, assistant surgeon.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending November 15, 1902:

DISEASES.	Week end'g Nov. 8		Week end'g Nov. 15	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	145	27	109	28
Scarlet fever.....	93	9	109	6
Cerebro-spinal meningitis.	6	1	6	2
Measles.....	51	1	92	6
Diphtheria and Croup.....	218	46	354	43
Small-pox.....	4	1	2	0
Tuberculosis.....	198	132	241	136

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending November 15, 1902:

Smallpox—United States.

Location.	Dates.	Cases.	Deaths.
California—San Francisco.....	Oct. 25-Nov. 2	2	1
Colorado—Denver.....	Oct. 25-Nov. 1	3	
Florida—Jacksonville.....	Nov. 1-8	1	
Florida—Lamont.....	Oct. 18-Nov. 8	4	
Florida—Mayport.....	Oct. 18-Nov. 8	1	
Florida—Pensacola.....	Oct. 18-Nov. 8	1	
Illinois—Chicago.....	Nov. 1-8	3	1
Illinois—Freeport.....	Nov. 1-8	4	
Indiana—Indianapolis.....	Oct. 1-8	1	
Kentucky—Lexington.....	Nov. 1-8	13	
Massachusetts—Boston.....	Nov. 1-8	8	1
Massachusetts—Cambridge.....	Nov. 1-8	1	
Massachusetts—Medford.....	Nov. 1-8	1	
Michigan—Detroit.....	Oct. 25-Nov. 8	20	
Michigan—Grand Rapids.....	Nov. 1-8	4	
Missouri—St. Louis.....	Nov. 2-9	19	1
Nebraska—Omaha.....	Nov. 1-8	1	
New Hampshire—Manchester.....	Nov. 1-8	2	
New Hampshire—Nashua.....	Nov. 1-8	20	
New York—New York.....	Nov. 1-8	4	1
Pennsylvania—Philadelphia.....	Oct. 31-Nov. 7	4	
Ohio—Cincinnati.....	Nov. 1-8	12	5
Ohio—Cleveland.....	Nov. 1-8	1	
Ohio—Hamilton.....	Nov. 1-8	1	
Ohio—Toledo.....	Oct. 4-Nov. 8	14	2
Ohio—Warren.....	Oct. 25-Nov. 1	1	
Pennsylvania—Altoona.....	Nov. 1-8	1	
Pennsylvania—Erie.....	Nov. 1-8	8	
Pennsylvania—Johnstown.....	Nov. 1-8	5	1
Pennsylvania—Philadelphia.....	Nov. 1-8	1	
Pennsylvania—Pittsburg.....	Oct. 25-Nov. 8	52	8
South Dakota—Sioux Falls.....	Nov. 1-8	1	
Utah—Salt Lake City.....	Nov. 1-8	1	
Wisconsin—Milwaukee.....	Nov. 1-8	20	

Smallpox—Foreign.

Austria—Prague.....	Oct. 18-25	8	
Belgium—Antwerp.....	Oct. 18-25	1	1
Brazil—Bahia.....	Sept. 27-Oct. 18	4	
Chile—Pisagua.....	Oct. 13	6	
Ecuador—Guayaquil.....	Oct. 18-25	1	3
Great Britain—Bristol.....	Oct. 11-18	1	
Great Britain—London.....	Oct. 18-25	1	1
Great Britain—Manchester.....	Oct. 18-25	1	
Russia—Moscow.....	Oct. 11-18	3	
Russia—Odessa.....	Oct. 11-18	1	
Switzerland—Geneva.....	Oct. 11-18	1	

Yellow Fever.

Colombia—Panama.....	Oct. 27-Nov. 3	6	
Costa Rica—Port Limon.....	Oct. 27-Nov. 1	2	2
Ecuador—Guayaquil.....	Oct. 18-25	2	2
Mexico—Progreso.....	Oct. 17-24	1	1
Mexico—Tampico.....	Oct. 26-Nov. 2	1	5
Mexico—Vera Cruz.....	Oct. 25-Nov. 1	7	5

Cholera—Insular.

Philippine Islands—Manila.....	Sept. 14-20	49	36
Philippine Islands—Provinces.....	Sept. 13-20	3,853	2,454

Cholera—Foreign.

Egypt.....	July 12	38,083	32,377
Egypt.....	Oct. 25-Nov. 1	225	22
Egypt—Alexandria.....	Oct. 11-18	58	55
Japan—Kobe.....	Oct. 4-11	49	22

Plague—United States.

California—San Francisco.....	Oct. 28	1	1
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Plague—Foreign.

India—Karachi.....	Oct. 5-12	13	8
Russia—Odessa.....	Oct. 18-25	45	16

Public Health and Marine-Hospital Service:

Official List of Changes of Station and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service for the Seven Days ending November 13th, 1902:

GEDDINGS, H. D., Assistant Surgeon-General. To proceed to Delaware Breakwater quarantine for special temporary duty.

GODFREY, JOHN, Surgeon. Granted leave of absence for one month from November 13.

MCLINTOSH, W. P., Surgeon. Granted leave of absence for three days from November 27.

GUITERAS, G. M., Passed Assistant Surgeon. To proceed to Reedy Island quarantine for temporary duty, relieving Assistant Surgeon T. F. Richardson.

OAKLEY, J. H., Passed Assistant Surgeon. Granted leave of absence for one day.

WICKES, H. W., Passed Assistant Surgeon. To proceed to Cleveland, Ohio, and assume temporary charge of the service during the absence on leave of Passed Assistant Surgeon J. B. GREENE.

GREENE, J. B., Passed Assistant Surgeon. Granted leave of absence for fifteen days from November 22.

HEISER, V. G., Assistant Surgeon. To proceed to Philadelphia, Pa., and report to medical officer in command for special temporary duty.

MACDOWELL, W. F., Senior Pharmacist and Chemist. Relieved from temporary duty in Washington, D. C., and directed to proceed to New York, N. Y., and report to Surgeon G. W. STONER, Immigration Depot, for duty, relieving Senior Pharmacist and Acting Chemist A. M. ROEHRIG.

ROEHRIG, A. M., Senior Pharmacist and Acting Chemist. Upon being relieved from duty at the Immigration Depot, New York, N. Y., to proceed to New York (Stapleton) and report to medical officer in command for duty and assignment to quarters, relieving Senior Pharmacist CHARLES MILLER.

MILLER, CHARLES, Senior Pharmacist. Upon being relieved from duty at New York, N. Y. (Stapleton) to proceed to Pensacola, Fla., and report to the acting assistant surgeon in charge of the Santa Rosa Quarantine Station for temporary duty.

Boards Convened.

Board convened to meet at Washington, D. C., for the consideration of the Act of Congress approved July 1, 1902, entitled, "An act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes." Detail for the board: Assistant Surgeon-General L. L. WILLIAMS, Chairman; Assistant Surgeon-General H. D. GEDDINGS, Passed Assistant Surgeon M. J. ROSENAU, Assistant surgeon B. S. WARREN, Recorder.

Board convened to meet at the U. S. Marine Hospital, Chelsea, Mass., November 17, 1902, for the physical examination of officers of the Revenue Cutter Service. Detail for the board: Surgeon R. M. WOODWARD, Chairman; Assistant Surgeon W. K. WARD, Recorder.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending November 15, 1902:

ALFRED, A. R., Passed Assistant Surgeon. Ordered to the Navy Yard, Puget Sound, Washington.

BAKER, J. W., Surgeon. Retired, ordered to the Naval and Marine Recruiting Station, Boston, Mass.

DRAKE, N. H., Surgeon. Detached from the Navy Yard, Mare Island, California, and to continue duty on the *Solace*.

DUNBAR, A. W., Passed Assistant Surgeon. Detached from the Navy Yard, Puget Sound, Washington, and ordered to the *Wyoming* when commissioned.

GROW, E. J., Passed Assistant Surgeon. Detached from the Navy Yard, New York, and ordered to the *Marblehead*.

MOORE, J. M., Passed Assistant Surgeon. Detached from the *Indiana* and ordered to the *Raleigh*, when in commission.

SHAW, H., Acting Assistant Surgeon. Appointed Assistant Surgeon from October 28, 1902.

WAGENER, J. R., Medical Inspector. Detached from the Marine Recruiting Station, Boston, Mass., and ordered to the Navy Yard, Mare Island, Cal.

WINSLOW, G. F., Medical Director. Detached from the Naval Recruiting Station, Boston, Mass., and directed to await orders.

Army Intelligence:

Official List of Changes in the Station and Duties of Officers serving in the Medical Department of the United States Army for the week ending November 15, 1902:

BUSHNELL, GEORGE E., Major and Surgeon. Granted one month's leave of absence to take effect on or about December 22, 1902.

SHAW, H. A., Captain and Assistant Surgeon. Granted ten days' leave of absence.

HOFF, JOHN VAN R., Lieutenant-Colonel and Deputy Surgeon-General, is relieved from duty in the Surgeon-General's office, to take effect December 1, 1902, and to proceed to Fort Leavenworth, Kansas, and report in person to the commanding officer of that post for duty.

WINN, ROBERT N., First Lieutenant and Assistant Surgeon. Granted one month's leave of absence to take effect on or about November 15, 1902.

Births, Marriages, and Deaths.

Married.

EDGERTON—BECK.—In New York City, on Saturday, November 15th, Dr. J. Ives Edgerton and Miss Lillian Beck, of New Durham, N. J.

KING—HODGES.—In Saratoga, N. Y., on Wednesday, November 12th, Dr. Earl H. King and Miss Laura Jane Hodges.

SMITH—PEARSON.—In Buffalo, N. Y., on Wednesday, November 12th, Dr. Pliny Webster Smith, of Palmyra, N. Y., and Miss Anna Lucy Pearson.

WALKER—ALLEN.—In Washington, D. C., on Thursday, November 6th, Dr. George E. Walker, of Poughkeepsie, N. Y., and Miss Daisy Allen.

WATTLES—BAMBER.—In Kansas City, Missouri, on Saturday, November 8th, Dr. J. H. Wattles, Jr., and Miss Amy A. Bamber.

Died.

ANGEAR.—In Chicago, Ill., on Saturday, November 8th, Dr. John James May Angear, in the seventy-third year of his age.

BAINBRIDGE.—In St. Louis, Missouri, on Friday, November 7th, Dr. Priestly A. Bainbridge.

COCKRELL.—In Harpers Ferry, West Virginia, on Tuesday, November 11th, Dr. Cockrell.

CRIM.—In Baltimore, Maryland, on Saturday, November 15th, Dr. William H. Crim, in the fifty-seventh year of his age.

HAYNES.—In Brooklyn, N. Y., on Saturday, November 15th, Dr. William Henry Haynes, in the forty-sixth year of his age.

PESEL.—In St. Louis, Missouri, on Thursday, November 6th, Dr. Carl Pesel, in the forty-fourth year of his age.

PHELAN.—In San Francisco, California, on Wednesday, November 5th, Dr. Gregory J. Phelan, in the eightieth year of his age.

PHILLIPS.—In Penn Yan, N. Y., on Monday, November 10th, Dr. Lunde M. Phillips, in the forty-fifth year of his age.

SPIRKY.—In Talmadge, Ohio, on Saturday, November 8th, Dr. Willis Sperry, in the seventy-ninth year of his age.

TULLY.—In Hot Springs, New Mexico, on Wednesday, November 5th, Dr. A. Melville Tully, of Chicago.

WATTLES.—In Kansas City, Missouri, on Sunday, November 9th, Dr. J. H. Wattles, Sr.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Clinical Remarks About Constipation. By Dr. J. F. Goodhart. (*Lancet*, November 8th).—Among the points brought out by the author are the following: It is not a fact that, if the bowels do not act for several days, obstruction will result. In thirty-five years the author has seen but one case of the kind. In this case there was visible and palpable peristalsis, and the author made a wrong diagnosis of stricture, but the use of enemata and calomel soon righted matters. Obstruction is mostly due to the implication of such a length of bowel as annihilates the peristalsis over a sufficient space, so as to sever the continuity of the parts above and below.

The bowels were made for man, not man for his bowels. It is not one of the necessary conditions of life that such and such clearances be made every twenty-four hours. He mentions the case of a man aged seventy-seven years, who for nineteen years has taken a pill once a fortnight, his bowels not acting at any other time. Very few persons suffering from constipation show any signs of retention. The abdomen of such a person is usually retracted and apparently empty, and in many cases the constipation is due to the fact that insufficient food is being taken. The absorption effected by the colon is enormous, the small intestine doing little more than digest the food and prepare it for absorption. An abnormally active colon, which rejects very little that is offered it, is a cause of so-called constipation. Much good nutriment is often wasted in the constant endeavor to keep the bowels open; the chronic pill-taker who keeps his bowels always on the run is a most wasteful man. As confirming this, it is to be noted that in cases where colonic absorption is interfered with, *e. g.*, where the colon excretes an abnormal amount of mucus, such subjects are usually thin and ill-nourished. Mucous colitis is an example of this; it is not a colitis at all but a colitic dysmenorrhœa, if the term may be used. Flatulent distention of the intestine rarely of itself causes pain. The combination of flatulence and pain always indicates the necessity for a careful physical examination. Many a case of gall-stone, kidney calculus, or angina pectoris presents itself as flatulence. Flatulence occurs when the muscle is in a state of inertia, whereas pain indicates labor and spasm. In conclusion the author protests against the prevalent doctrine of self-infections and self-intoxications. The great feature of our stomachs and intestines is that they call nothing unclean. One must be careful how one accuses of septicity such a great master in natural asepsis as the stomach or intestine. The author is extremely skeptical as to the value of the doctrine that unhealthy conditions of the mouth are the cause of pernicious anæmia by a process of self-intoxication. Our own juices are antipathetic, or not isotonic, to our own absorbents. They do not excite the appetite of our intestinal villi.

Tape Worms as a Possible Cause of Diabetes. By J. E. Judson, M. R. C. S. (*Lancet*, November 8th).—The author reports two cases in which tapeworms were found to be associated with glycosuria, and he suggests the possibility of a direct connection

between the two. His theory is that the head of the tapeworm might very possibly get into the pancreatic duct and become well fixed to the wall by means of its hooklets, and through the inflammatory change which it would produce cause an occlusion of the duct. Extirpation of the pancreas brings on glycosuria owing to the absence of the internal secretion, the presence of which is necessary in order that the normal assimilative processes can take place with the nitrogen. Now, if the duct is occluded, the gland in time atrophies, and exhibits the same condition as if it had been extirpated.

Dilatation of the Stomach. By Dr. N. Bardswell (*British Medical Journal*, November 1st).—The author's conclusions, based on routine examination of the stomach in cases of pulmonary tuberculosis, are as follows: (1) In all cases of early disease, whether slight or acute, the stomach is found to be normal in size, except where there has been prolonged antecedent dyspepsia. (2) Although the stomach in early cases will usually stand the administration of very large diets, there is a tendency for prolonged overfeeding to cause dilatation, and this dilatation may exist without any symptoms of dyspepsia. The longer such patients are kept at absolute rest, the greater the tendency to atony and dilatation. (3) In sanatoria, patients admitted with acute extensive disease, who will probably be some months before losing their fever, run greater risks of developing atonic dyspepsia and, later, dilatation of the stomach, than any other type of consumptive. This is partly due to the routine prolonged administration of huge ordinary diets which, in the author's opinion, is absolutely unnecessary and unjustifiable because of the serious prognosis of pulmonary tuberculosis associated with dilatation of the stomach. When symptoms of atonic dyspepsia appear in such cases, the diet should be at once reduced in bulk without diminishing its nutritive value. (4) Chronic cases of several years' standing show almost invariably pronounced anorexia and dyspepsia, and about fifty per cent. show some degree of stomach dilatation.

Circulatory Disturbances in the Collapse of Acute Infectious Diseases.—Dr. Pässler and Dr. Rolly (*Münchener medizinische Wochenschrift*, October 21st) conclude from their experimental observations that the circulatory disturbances arising at the height of the acute infectious diseases are due to a paresis of the vasomotor nerves. The heart takes no part in these disturbances; but, on the contrary, its increased work may prevent for a time the threatening loss of arterial pressure. If the blood pressure finally sinks, the heart becomes secondarily affected. The authors further noted that the heart was especially susceptible to diphtheria toxins, but no direct influence upon the organ could be traced to infections by the pneumococcus. The writers believe that, in diphtheria, the heart suffers from parenchymatous degeneration of its muscle, but this does not necessarily mean that the heart plays a rôle in the collapse symptoms due to vasomotor disturbance.

An Epidemic of Paratyphus.—Dr. F. M. G. de Feyler and Dr. H. Kayser (*Münchener medizinische Wochenschrift*, October 14th and 21st) report an epidemic resembling typhoid which was due, in some of the cases, to a mixed infection by typhoid and para-

typhoid bacillus. The cases were marked by a short prodromal period with a slight rise of temperature, backache and headache. The prognosis was good and the course of the disease mild. The temperature curve was characteristic, a remittent and intermittent stage being observed. The pulse varied with the temperature. The gastrointestinal tract showed vomiting, diarrhoea, and coated tongue. The stools were yellow and foul. The urine showed a strong diazo-reaction and contained much indican. The sensorium was usually undisturbed. Roseolar spots were noted in fifty per cent. of the cases. Bronchitis and angina were common, and slight intestinal hæmorrhages were observed. The epidemic could be traced to impure drinking water. The diagnosis between this disease and typhoid rests upon the failure of the agglutination test and by the recognition of the paratyphoid bacillus in culture.

Value and Significance of Cytodiagnosis.—M. André Descos (*Revue de médecine*, October 10th) concludes an exhaustive paper on the subject. The cytology of the pleural transudates has been most thoroughly studied and offers to the clinician unerring evidence as to the nature of the process. The study of spinal fluids has not been as thoroughly perfected; yet by this means valuable data may be secured for the diagnosis of incipient tubes, general paresis and meningo-myelitis. Tuberculous meningitis can thus be distinguished from the inflammatory processes in the meninges, although the findings of the fluid in cases of the former are very variable. The cytology of the pericarditis and peritonitis cases still requires study. Articular and vaginal transudates also throw light upon the processes going on in these organs. Despite the lacunæ still existing in this method of perfecting diagnosis, it has advanced to a degree which demands its present recognition and its future study. [The reader is referred to the original article for the essential data, which are not susceptible of abstraction.]

SURGERY AND ANATOMY.

Experiences in the Extirpation of Tuberculous Lymph Glands During the Last Thirty Years. By K. Parker, F. R. C. S. (*British Medical Journal*, October 25th).—Following Billroth's suggestion, the author has treated tuberculous lymph glands by excision for the last thirty years. During that time he has performed the operation 318 times on 224 persons, of whom 93 were male and 131 female patients, at ages varying from one year and a half to sixty years. The situations operated upon were the axilla 15, the groin 10, the femoral glands 1, and the neck in all the rest. One patient died of secondary hæmorrhage from the internal jugular vein six days after operation; another died of bronchitis twenty days after operation, but the wound had healed. Only four of the patients subsequently died of phthisis. The operation is a well known one, but the author urges the following points: (1) A more frequent and thorough submission to operation of the milder cases, which few surgeons hesitate to attack, and which are naturally those "selected" by preference. (2) A more bold and frequent attack upon advanced and extensive cases while they continue to occur.

The Treatment of Inoperable Cancer. By H. Morris, F. R. C. S. (*British Medical Journal*, October 25th).—The author sums up his conclusions as follows: (1) That the bacterial treatment of malignant disease is not of the slightest use in carcinoma; that not one-half of the cases of spindle-celled sarcoma disappear under treatment with Coley's fluid; that in cases of sarcoma, other than the spindle-celled, Coley's fluid is not of value; that the treatment by Coley's fluid has many dangers, and should never be employed except in absolutely inoperable cases. (2) That Bcatson's treatment is limited in its action to cases of mammary carcinoma, and the local and glandular recurrences after mammary carcinoma; and that, even in these cases, only a small proportion are influenced by the treatment, while, neither as a cure nor as a palliative, can it be relied upon in any given case. (3) That rodent ulcer has in Finsen's light and in the x rays its most successful treatment, so far as we at present know; and that this is true, not only of cases otherwise inoperable, but also of operable cases, because of their excellent cosmetic results, and of their effects upon insidious and non-evident foci. There are, nevertheless, cases of rodent ulcer which resist the light, and others which resist the x-ray treatment, and some of these cases are successfully treated by excision and caustics. (4) That sarcoma, epithelioma, and the other forms of carcinoma are best treated, whenever possible, by early excision; and that all forms of treatment hitherto tried in inoperable cancers of these kinds are uncertain and inconstant in their effects, and unreliable as to the durability of the results they produce. In the vast majority of cases they are quite without palliative influence of any kind, except possibly in relieving pain. (5) That the boundary line between what are called operable and inoperable cases needs revision from time to time; that the tendency to extend the limits of operable cases needs in some instances to be restricted, and that in others there may prove room for further extension. (6) That it is open to question whether some of the operations performed for relief or prolongation of life in inoperable cases of malignant disease should not be abandoned, and whether in other cases palliative operations ought not to be more often performed. (7) That investigations into both the cause and nature of cancer are of the first importance, as being more likely ultimately to lead to cure than any treatment at present known. (8) That, with few exceptions, the attempts to cure cancer by means other than early and free operations have been hitherto almost invariably futile.

Dupuytren's Fracture.—M. Mally and M. Richon (*Revue de chirurgie*, October 10th) describe this fracture as a bi-malleolar fracture of the leg, usually evoked by extreme abduction, accompanied by fracture of the fibula above the inferior peroneo-tibial ligaments, and by a diastasis of the inferior tibiofibular articulation. It is always intra-articular. Functionally, it offers a grave prognosis. Secondary complications may include amyotrophic disturbances of the motor muscles of articular origin (tibio-tarsal). At the same time, cutaneous and vasomotor trophic disturbances appear. Another frequent complication is a secondary progressive valgus. The amyotrophies act like those of reflex origin and as

though there were an atrophy of some of the motor cells in the anterior horn of the spinal cord in the dorsolumbar region. The skin and vasomotor disturbances and the muscular atrophy, lead to the belief that the valgus can be explained as a primary trophic disturbance of the same nature as that which changes the structure of the ligaments and the normal process of the ossification of the callus. The spinal lesions which evoke trophic changes are still unknown but they probably consist in a diminution of the motor cells in the anterior horn with pigmentary atrophy and destruction of their cylindrical elongations.

The fracture must be reduced at once and reduction must be maintained perfectly. The malleolar region should be kept exposed. A special rubber device is described by the authors for this purpose. If there is much œdema, massage and applications should be employed for several days before the apparatus is applied. If the fracture is compound, rigorous asepsis must precede the opening of the joint. Suture of the internal malleolus may be performed. Special muscular atrophy in these articular fractures and accompanied by spasmodic contractions, requires a different treatment from simple atrophy. Local and general sedative applications and cauterization of the vertebral column are useful, as also is static electricity. A viciously healed Dupuytren fracture is a justifiable indication for surgical intervention. Simple or cuneiform osteotomy, resection of the osseous surfaces, astragalectomy, or joining the fragments with pins, are operative measures which may be practised when healing does not proceed satisfactorily.

OBSTETRICS AND DISEASES OF WOMEN.

Intraperitoneal, Hæmorrhage Incident to Ectopic Gestation. By Dr. C. J. Cullingworth. (*Lancet*, November 8th).—*The Bradshaw Lecture.* Intraperitoneal hæmorrhage incident to ectopic gestation may be diffuse or encysted, depending on the extent of the hæmorrhage and the rapidity with which the blood is poured out. The signs and symptoms of the diffuse form consist of those of an acute and sudden abdominal lesion, plus those of severe internal or concealed hæmorrhage. Whenever these are present in a female patient during the child-bearing age, the probability of their being due to a disturbed ectopic gestation should always be borne in mind. The first symptom is a sudden and severe pain in the abdomen often accompanied by vomiting. The patient feels faint, but is quite conscious and remains so. The abdomen is more or less distended and rigid and becomes excessively tender. Along with the usual signs of collapse the surface of the body becomes very pale, and the pulse increases in frequency, and becomes weaker and more compressible until finally it is imperceptible. The patient becomes more faint, her pain abates, she grows restless, yawns, and if left untreated gradually sinks, her mind being clear until the last. The principal points on which a diagnosis should be based are: (1) That the patient was in her usual health at the time of the attack; (2) the gradually increasing pallor and the gradually rising pulse, without a corresponding elevation of temperature; and (3), the extreme tender-

ness of the abdomen. The evidence on physical examination of free fluid in the abdominal cavity is usually not forthcoming. On vaginal examination there may be found a full and boggy condition of Douglas's pouch, and there is often a slight hæmorrhage from the vagina.

The encysted or non-diffuse form of intraperitoneal hæmorrhage (pelvic hæmatocele) is ordinarily characterized by irregular uterine hæmorrhage and by attacks of abdominal pain, more or less severe, and often accompanied by vomiting, followed by the development of a distinctly circumscribed swelling, which may either be limited to the region of the uterine appendages on the affected side, or may more or less fully occupy the whole of the posterior part of the cavity of the pelvis. The irregular hæmorrhages and the pain are almost equally constant symptoms. The discharge is usually dark, moderate in amount, thick in consistence, and steady in its rate of flow. The appearance of decidua in the vaginal discharge helps to confirm the diagnosis. The pain is usually sudden in its onset and at first very severe. It soon abates, and may pass off altogether for the time. Faintness, nausea, and vomiting, rise of temperature, and retention of urine are among the less constant symptoms. These cases are often mistaken for appendicular inflammation owing to the vomiting and the rise of temperature. The conditions from which pelvic hæmatocele requires to be distinguished, and for which it is most frequently mistaken, are retroversion of the gravid uterus, ordinary abortion, inflammation of the uterine appendages, with or without a new growth, and an unsuspected ovarian cyst with sudden twisting of the pedicle. The ordinary result of tubal rupture is a diffuse and highly dangerous intraperitoneal hæmorrhage, while the ordinary result of bleeding from the mouth of the tube is the formation of a hæmatocele. Hæmorrhage into the ovum often produces rupture of the tube, because of the sudden increase in size of the ovum. In other cases it causes a trickling of blood from the end of the Fallopian tube, exactly fulfilling the conditions necessary to the formation of a hæmatocele. Only in exceptional cases does the blood flow fast and furiously causing a diffuse hæmorrhage.

NERVOUS AND MENTAL DISEASES.

The Diagnosis of Functional and Organic Paralysis. By Dr. T. Buzzard. (*British Medical Journal*, November 1st).—There are probably no symptoms which can be relied on, unsupported, to establish a diagnosis of functional paralysis. The author does not attach much importance to the presence of the so-called stigmata of hysteria. On the other hand, there are many symptoms the presence of even one of which in a case is conclusive as to the existence of organic disease. Amongst these may be mentioned the following: Optic neuritis or atrophy; fixed pupil; hemianopsia; absence of knee jerks; definitely pronounced changes in the electrical reaction of the muscles, especially the reaction of degeneration; "picked-out" atrophy of muscles; characteristic bed sores; paralysis of the bladder; paralysis exactly limited to the district of a single nerve or plexus. With these must be included the "toe phenomenon" of Babinski, one of the most important of them all. The mode of onset of the paralysis lends important aid;

paralyses of functional nature are likely to be preceded by physical or moral shock. An interval of hours or days usually occurs in such cases. Again, the age and the absence of cardiovascular changes is important evidence on the negative side. The author discusses in turn the diagnosis between functional paralysis and the following forms of organic paralysis: hemiplegia, monoplegia, paraplegia, and insular sclerosis.

Overlooked Forms of Graves's Disease. By Dr. H. Campbell. (*British Medical Journal*, November 1st).—Graves's disease in its early stages is apt to be overlooked, and it may be months or years before its existence is suspected. The most striking clinical feature of the disease is extreme nervousness—the entire nervous system is in a state of excessive irritability. The symptoms which first suggest the disease are extreme nervousness and hand tremor. Tachycardia is practically always present, and this trio of symptoms, if constant, makes the diagnosis fairly certain. If, in addition, the patient is emaciated, perspires profusely, and has a pigmented skin, the diagnosis becomes positive, even though no thyroid enlargement or exophthalmos be present. The disease is due to the passage into the blood in excessive quantities of the colloidal contents of the alveoli of the thyroid gland, or of a perverted thyroid secretion, metabolism being profoundly modified thereby. There are also other cases which, though presenting many of the features of Graves's disease, cannot rightly be referred to it. It is possible that such cases owe their symptoms to an exaggerated physiological activity of the thyroid gland, without there being actual disease of the same. Many of the symptoms of the climacteric—the flushing, sweating, tachycardia, etc.—might be thus explained.

OPHTHALMOLOGY.

Functional Derangement of the Eye. By R. M. Gunn, M. B. (*British Medical Journal*, November 1st).—Cases of functional amblyopia fall into two groups: (1) Idiopathic, occurring usually in women and sometimes in children. (2) Traumatic, occurring probably equally in both sexes, but always in adults. As a working hypothesis it may be assumed that there is a temporary partial or complete loss of the power of conduction between the lower or middle visual centres and the highest conscious centres, and possibly the same is the case with infants who, with no obvious disease of the eye, take no notice of objects. Complete double amaurosis is exceedingly rare. The great difficulty in these cases is to distinguish between a hysterical loss of sight and malingering. The prognosis is good. The treatment chiefly useful is to remove the patients from their home surroundings, to avoid too much sympathy, to give such drugs as asafetida, and the use of Faradism.

Vasomotor Disturbance of the Eye. By Dr. S. Lodge. (*British Medical Journal*, November 1st).—The author has examined the eyes of about thirty cases in which there were undoubted signs of vasomotor disturbance elsewhere in the body. The ophthalmoscopic examination and the charts of the visual fields showed conditions more or less common to all, which were: (1) Spasmodic contraction of the

central artery of the retina and its branches. (2) Marked dilatation of retinal veins with, in some cases, pulsation. (3) Visual fields fairly or quite full on the nasal side, while the temporal and infra-temporal portions were greatly contracted. These changes were found to be as characteristic in mild cases as in severe cases of the definite Raynaud type. Such patients complain of intense frontal and parietal headache; there is often more or less ametropia, for which they are already wearing proper glasses. The condition known as the "hot eye" of Hutchinson, or subconjunctivitis of Graefe, or periodic transient episcleritis of Fuchs, is, in the author's opinion, really a vasomotor affection of the eye. As regards treatment marked improvement follows the use of suprarenal eye drops.

The Treatment of Sclerokeratitis. By Dr. A. Sanford. (*British Medical Journal*, November 1st).—The author holds that sclerokeratitis, apart from its many associated complications, is an extremely rare affection, and that, with few exceptions, it is a local manifestation of acute rheumatism, or of some more or less modified form of tuberculous infiltration. It differs in no marked characteristics from similar manifestations which take place in other fibrous capsules, such as those of the joints or of the testes. Most cases, apart from their complications, will, if taken in time, yield to the judicious use of the iodides or salicylates, combined with local rest and protection and with suitable food and hygienic conditions. In acute non-tuberculous cases the author also administers hypodermic injections of pilocarpine. But the treatment is protracted and irksome, and the disease has a marked tendency to recur upon the slightest provocation.

Contribution to the Ætiology of Myopia. By Dr. J. E. Widmark. (*British Medical Journal*, November 1st).—The author holds that convergence, equally with accommodation, is not one of the most important factors in the origin of myopia. The chief cause of myopia is "seeing" in a limited sense—derangement of perception in the yellow spot and the processes connected therewith at the posterior pole of the eye. He suggests that efforts to see objects quickly lead to hyperæmia at the bottom of the eye. Accumulated products of fatigue may also have a deleterious effect upon the membranes. A combination of these two—*vis.*, hyperæmia and products of fatigue—may lead to more serious changes of an inflammatory or atrophic nature. If from any cause, the sight of one eye is weakened in early childhood, myopia is developed exclusively or principally in the other (strong) eye, whether the first named takes part in fixation or passes on to convergent or divergent strabismus. If one of the eyes is lost, a typical myopia may be developed in the other eye. These facts are against the theory of convergence being a factor in the causation of myopia.

CUTANEOUS MEDICINE AND SURGERY.

The T. R. Tuberculin Treatment of Lupus Vulgaris at University College Hospital. By Dr. H. R. Crocker and G. Pernet, M. R. C. S. (*British Medical Journal*, October 25th).—The authors report six cases of lupus vulgaris treated with T. R. tuberculin, and conclude that up to a certain point it

has a beneficial influence, but that the cases must be selected. It is most effectual in the ulcerative forms of the young, while in the nodular forms, especially with fibroid changes, its effects are either trifling or nil. Local injections answer better than those applied at a distance from the diseased area. In order to ensure permanence of result the T. R. tuberculin treatment should be followed by the prolonged administration of thyreoid extract. The drawbacks of tuberculin treatment are its expense and the great tediousness of the method. On the whole it has only a restricted use in carefully selected cases as an adjunct either before or after other procedures.

The Treatment of Psoriasis. By M. Morris, F. R. C. S. (*British Medical Journal*, October 25th).—As a general rule, no internal medication should be employed in psoriasis, except in response to a definite constitutional indication. Arsenic is worse than useless in acute cases. When hyperæmia or active inflammation is present, antimony is called for. If there are symptoms of nervous disorder bromides should be administered. As regards local remedies bactericidal substances applied to the affected parts give the best results. The strength of the agent should be proportioned to the intensity of the process. As a preliminary it is essential that the scales should be completely removed by washing freely with soap. If there is but little hyperæmia the most efficacious drug is chrysarobin. Pyrogallie acid, tar, and mercurial ointment are also serviceable. In acute rapidly spreading forms of inflammation, antimony, in the form of vinum antimoniale, \mathfrak{xxv} to \mathfrak{xxx} thrice daily, controls the inflammation. If mental excitement, headache, or insomnia is present, potassium or sodium bromide should be given. Arsenic is useful in cases with neurotic accompaniments. In very acute cases opium should be given, and the local applications should be very mild (cold cream, etc.). In severe forms with joint affections arsenic is also useful, given in the form of Fowler's solution, freely diluted. In the type of psoriasis in which there is a tendency to the development of pityriasis rubra, chrysarobin must be discontinued, tepid bran or alkaline baths being used in its stead. In psoriasis of the seborrhæic type, sulphur is the best local agent. Thyreoid extract has proved unsatisfactory in the hands of the author. The following general maxims may be laid down: In slight cases complete destruction of the early lesions should be aimed at. Small patches should be dealt with by strong applications; large areas require gentle handling. The best security against relapses is the complete possible removal of all remnants of the disease.

The Pathological Changes in the Skin Produced by the Rays from a Finsen Lamp, with Special Reference to Lupus Vulgaris. By Dr. J. M. H. MacLeod (*British Medical Journal*, October 25th).—The author asserts: (1) That the action of the actinic rays from an arc lamp on the granuloma of lupus is essentially destructive, and that this destructive process is indirectly produced and is simply the result of an ordinary inflammatory reaction. (2) That the effect of the rays on the surrounding healthy tissue is negligible, so that the doubtful tissue in the neighborhood of a patch of lupus may be safely exposed to them without subsequent injury

and scarring. (3) That the destructive process, if the rays are judiciously employed, is not of such an intensity as to prevent subsequent repair, and a few days after it has reached its acme a process of construction sets in similar to that which takes place in the healing of inflammation. (4) That the process of construction is capable of replacing the destroyed granuloma with healthy fibrous tissue, forming a pliable scar, and the epidermis completely recovers from the œdema caused by the action of the rays. Hence, from the histological standpoint, the treatment of lupus and other granulomatous affections of the skin by the actinic rays is an ideal one.

Scleroderma.—Dr. A. Buschke (*Berliner klinische Wochenschrift*, October 13th) reports the case of a previously strong and healthy man forty-six years of age, who presented an unusually severe dense and deep œdema of the neck, back, head, chin, face, and the upper arms. An attack of influenza two years before was the only previous illness from which he had suffered. Within the following two years the œdema disappeared without leaving any traces in the skin of its presence. The deeper layers of the skin of the face showed some permanent thickening, however. The return to the normal differentiates the case from one of scleroderma. The author thinks the disease may have had its basis in a diffuse diseased condition of the lymph vessels.

GENITO-URINARY DISEASES.

Intracapsular Resection of the Prostate.—Dr. Rydygier (*Centralblatt für Chirurgie*, October 11th) recommends this method as the normal one for prostatic hypertrophy. Formerly he performed an intracapsular enucleation, but frequently saw injuries to the prostatic portion of the urethra, which interfered with the after-treatment. The posterior surface of the prostate is exposed by the perineal incision, either through the rhaps or by a crescentic horizontal section. After section of the perineal fascia, blunt dissection is done in the depths until the prostate is reached, when its capsule on one side is opened some distance from the median line. The edge of the capsule is sharply retracted and an attempt is made to shell out the portion of prostate presenting. As the previously inserted catheter is approached, further attempts cease, and the loosened prostatic gland is resected. The same procedure is used on the other side. The author speaks with reservation as to relapses.

Tuberculosis of the Testis, Prostate, and Seminal Vesicles. By Sir T. Myles (*British Medical Journal*, October 25th).—The author holds that tuberculosis of the testis is a primary disease, and that to justify total extirpation of the testis for a localized nodule of tubercle, it must be shown that partial excision has failed, that disease in other organs has followed the operation, and that such recurrence is due to infection from the primary focus in the testis. Tuberculosis of the prostate and seminal vesicles is invariably a sequel of testicular disease. Tuberculosis of the bladder may be secondary to disease of the kidney. Where isolated chronic tuberculous nodules are formed in the testis, without evidence of general or local infection, the author lays the nodule open, resects it *en masse* without regard to anatom-

ical considerations, swabs the wound with ten-per-cent. solution of formalin, searches carefully for any smaller nodules, and then closes the wound without drainage. Where disease of the prostate and seminal vesicles coincides with disease of the testicles, he places little reliance upon operative treatment. In those cases where suppuration exists and the testicle is enlarged and useless, total extirpation should be practised without delay, whether the prostate and vesicles are involved or not. Where both testes are involved the question is a difficult one. Total castration is abhorrent to the average man, and the moral and mental effects of the operation are serious. Yet in cases of impending death from general infection it must be performed. Cases showing evidence of lung or other infection should not undergo operation. The author's experience of operative treatment of tuberculosis of the bladder has not been favorable. In some cases, however, good results may be obtained by a combined method, the suprapubic route being chosen to obtain access to the bladder and the perineal route for subsequent drainage.

Bladder Disturbances Caused by Myomata.—Dr. Wilhelm Hahn (*Münchener medizinische Wochenschrift*, October 7th) calls attention to the disturbances of the bladder caused by fibroid growths of the uterus. They may compress the bladder so as to lead to frequent urination or to the retention of urine, the latter resulting in cystitis. Their compression may evoke pain in the bladder and in the act of urinating. Fibroids may bulge forward from the uterus dividing the bladder into diverticula. If the fibroids have a pedicle and lie higher in the abdomen, they may compress the ureters causing hydronephrosis and pyelitis. If they become incarcerated, they may produce reflex bladder symptoms. In deciding upon an operation for fibroids, the bladder symptoms, as well as others, must be taken into account, and if the disturbances are severe, they are as much an indication for operation as hæmorrhages, pain, and dysmenorrhœa.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Radiography, X Ray Treatment, the High-Frequency Method, and Light Treatment. By Dr. Freund (*British Medical Journal*, October 25th).—All radiant phenomena have the same physical basis; one class of ethereal vibrations gradually passes into another of different wave length, with no sharp boundary between. The rays possess chemical, fluorescent, and electrical properties. Their effects range from mere stimulation to actual destruction of tissue. In weak doses they favor organic processes, *e. g.*, growth of hair, while in stronger doses they lower vitality or produce inflammation or actual necrosis. Radiant heat, light, electricity, and x rays all influence cell life similarly. The physiological effects are in direct proportion to the intensity of the raying, but in inverse proportion to the wave lengths. The reactions appear after a latent interval, the length of which is also inversely proportional to the wave lengths and intensity of the raying. Those rays which have the property of exciting fluorescence are also physiologically the most powerful. D'Arsonvalization can be included

in radiotherapy, its effects being solely due to the spark discharges. These spark discharges cause physiological effects by (a) the mechanical bombardment of the tissues, (b) the production of heat, (c) chemical effects—formation of ozone, and (d) ultra-violet ray formation. The effects of sparking vary according to its intensity; on the skin the vasomotor system is affected and necrosis of the superficial epithelium takes place. It is useful in the various forms of pruritus, in lupus erythematosus, and to produce exfoliation in pityriasis versicolor, acne vulgaris, rosacea, and pigmentary anomalies. Favorable results are also attained in fissura ani. In the x-ray method the effective factors are probably the x rays themselves and the electric surface tension of the tube. Two groups of skin diseases are suitable for x-ray treatment. The essential feature of the first is the removal of hair—ringworm, favus, sycosis, hypertrichosis. The depilatory properties of the x-ray tube are due to direct destructive action or to alteration in the blood supply of the follicles; it has no bactericidal action. In the second group, cell infiltration and proliferation are essentials—lupus, epithelioma. The clinical effects of x-raying are: (1) intumescence of the skin; (2) mild erythema; (3) pigment changes; (4) loosening of hairs; (5) subjective phenomena—burning, itching. It is not yet known whether inflammatory reaction or bactericidal effects are solely responsible for results with Finsen's lamp. Light rays, like x rays, besides destroying morbid cell elements, stimulate the production of connective tissue and cicatrices. The two methods require about the same length of time. A rational method is first to x-ray large surfaces and treat the remaining surfaces with Finsen's apparatus.

Action of Brewer's Yeast in Variola.—M. Conche (*Lyon médical*, October 12th) has used brewer's yeast in three cases of smallpox and five of varioloid. He noted a diminution of fever from the time of beginning the treatment, less development of pustules than usual, a seeming inhibition of their growth, and a more rapid desiccation of the pustules. There was also little fever with the suppurative period, a time usually very serious in variola. The course of the disease was milder and there was no late eruption of furuncles, such as is often seen. The cicatrices were not so deep as usual, although Conche opened many of those on the face with an aseptic needle. In the cases of varioloid there was little fever attending the eruption, the eruption was discrete, the pustules desiccated rapidly, and suppuration was attended with little rise of temperature.

The Dietetic Treatment of Granular Kidney. By Dr. C. von Noorden. (*British Medical Journal*, November 1st).—Among the interesting points brought out by the author are the following: When the albuminoid substances in the diet of patients suffering from granular kidney are slowly increased, it is found that they secrete with ease quantities of nitrogen amounting to less than fifteen grammes for seventy kilogrammes of body weight. But when the amount of nitrogen to be daily excreted exceeds fifteen per cent., then the elimination becomes irregular and uncertain. Animal tissues rich in nucleins should not be allowed, as uric acid is not al-

ways readily eliminated. The kidneys make no distinction between the albumens of meat, fish, eggs, milk and vegetables. It is the total amount that is important. Further, the difference in extractives contained in white and red meat is too trifling to deserve the attention hitherto given to the subject. The author, contrary to the usual custom, restricts the amount of fluid taken by the patient. By inundating the vascular system with water we increase the work of the heart. Not more than three pints of water should be allowed in the twenty-four hours. The patient should have plenty of strengthening food, but on no consideration should they be overfed. And whenever their weight must be reduced, this must be effected in the most cautious manner. Carlsbad cures are utterly unsuitable.

PHYSIOLOGY AND PATHOLOGY.

An Attempt to Transform the Non-virulent Diphtheria Bacillus into a Pseudodiphtheria Bacillus and into a Virulent Diphtheria Bacillus. By Dr. Bomstein (*Roussky Archiv Patologii, Klinitcheskoy Meditsiny i Bakteriologii*, August 31st).—A critical analysis of the literature of the subject convinced the author that there exists diphtheria bacilli of varying degrees of virulence, and that some of these have lost their poisonous effects altogether, and yet have preserved all the morphological and biological characteristics of the Löffler germ. The best method of reinforcing the virulence of the germ is to cultivate it in bags of collodion introduced into the peritoneal cavity of animals. By this method the author succeeded in transforming the non-virulent germ into a virulent one, and in obtaining even after the third passage of the culture in the collodion sacs, a diphtheritic toxine which was capable of neutralizing antitoxic serum. Experiments performed in the same manner with the pseudodiphtheria bacillus failed completely.

Unity of Streptococci.—Dr. F. Meyer (*Berliner klinische Wochenschrift*, October 6th) has examined a great number of generations of streptococci, partly derived from cultures in the Pasteur Institute, and partly from human disease. So far as his experiments would lead him to conclude from the morphology, virulence, hæmolytic properties, growth after filtration, and immunizing sera, he believes that it is not wise to say at the present time that all streptococci are of the same variety. He thinks, above all, that the streptococci pyogenic to man should be kept distinctly apart in classification from those found in many anginas and those found in animals.

A Report of the Blood Examinations in Ten Cases of Severe Burns of the Skin.—Dr. Edwin A. Locke (*Boston Medical and Surgical Journal*, October 30th) asserts as the result of his examinations that the changes in the blood of individuals severely burned are: (1) The blood flows sluggishly, and is of a peculiar dark, purple appearance. (2) An immediate increase in the number of erythrocytes, in severe but not fatal cases, of from one million to two millions to the cubic millimetre takes place within a few hours; in fatal cases, of from two millions to four millions to the cubic millimetre. (3) A rapidly increasing leucocytosis constantly occurs; in cases ending in recovery often of thirty thousand or forty

thousand to the cubic millimetre; in fatal cases usually above fifty thousand to the cubic millimetre. (4) Morphological changes in the erythrocytes are slight. (5) The percentage of neutrophils is somewhat above the normal, but not so much so as in the ordinary inflammatory leucocytosis. (6) A considerable destruction of the leucocytes takes place, especially in the very severe burns. (7) Myelocytes may be present in small numbers in severe cases. (8) There is, as a rule, marked increase in the number of blood plates.

Rôle of the Skin and Cutaneous Muscles of the Neck in the Suspension of the Breasts.—M. P. Aubert (*Lyon médical*, September 28th) records the case of a woman, forty-six years of age, a nullipara, who, while fully dressed, was severely burned about the chest. The burn had involved the chest wall a little above the transverse line formed by the superior border of the sternum and the clavicles, and extended on the left almost to the anterior border of the axilla. Below, it involved the entire upper portion of the breasts almost to the nipples. During the next year, the breasts began to hypertrophy until they reached a very considerable size. As the breasts enlarged, the right, which attained the greater size, became displaced upon the side of the thorax until it occupied the axillary line, and the left one was similarly displaced. On account of the displacement of the breasts and of the contractures due to the burn, the patient walked with her head forward and was uncomfortable in any but the recumbent position. Finally, the breasts became so heavy and the patient's condition so unbearable, that, two years after the original accident, ablation of the breasts was performed with intervals of a month. Surgically, the result was perfect. The right breast weighed ninety-six ounces, the left, fifty-seven ounces.

The deviation of the breasts from their normal position appears to be the most significant feature of the case. The burning of the skin of the chest above the breasts and of the lower part of the neck destroyed the natural power of the muscles of the skin of these regions to support the breasts, and permitted them to slide away from their normal position and take up their place in the axillary lines respectively of each side. Aubert goes thoroughly into the minute anatomy and physiology of the skin of these regions, and says that, from his clinical study of the case, there can be no question that the skin of the anterior region of the thorax is the true supporter of the breasts, and that it is aided by the cutaneous muscles of the neck. It is probable, also, that this is the only function of these cutaneous muscles.

The Value of the Imperfectly-Descended Testis. By W. McA. Eccles, F. R. C. S. (*British Medical Journal*, October 25th).—The frequency with which imperfect descent of the testis is associated with inguinal hernia is great. This is the outcome of the patency of the processus vaginalis testis. Such a condition should, in the majority of cases, be submitted to operative intervention before the onset of the period of puberty. In a case in which there is a unilateral arrest of a testis accompanying a hernia on the same side, a radical operation is indicated, and the testis should be placed in the scrotum if this can be done perfectly easily and with a strong proba-

bility that it will not recede, but under other circumstances it should preferably be returned within the abdomen unless there are special reasons why it is thought more advisable to remove it. But if the case is one in which both testicles are arrested, it is injudicious to remove either of them; for the amount of internal secretion that together they produce may be sufficient to cause a proper development of the body in general, while that amount which one alone can provide may be altogether too little to cause this growth. In such instances it is well to replace the testis within the abdomen on the side on which the hernia is, if it cannot be readily brought down or there is no scrotum to receive it, for in this manner it is almost certain that its power of providing an internal secretion for the body is maintained, although there will be no attempt on its part to develop and produce spermatozooids, the possessor becoming virile but remaining sterile.

Proceedings of Societies.

NEW YORK COUNTY BRANCH.

ASSOCIATION.

NEW YORK COUNTY BRANCH.

Meeting of November 17, 1902.

The President, DR. ALEXANDER LAMBERT, in the Chair.

Is there a Decadence in the Art of Prescribing?—In a paper on this subject DR. HARRY R. PURDY said that many times since entering upon the practice of medicine had he had occasion to ask himself the question, Has prescription writing become a lost art? He had been surprised to learn that some physicians habitually recommend patent and proprietary remedies, and that others depend almost entirely upon the ready-made prescriptions of the tablet manufacturers. Again, he had been astonished at the original prescriptions of men, who, in all branches of their profession except therapeutics, were quite capable. They seemed to have no knowledge of the incompatibility of drugs. A few instances would suffice to illustrate this. Cocaine and borax are often ordered in the same mixture, with the result of forming an insoluble precipitate of cocaine borate. Ammonium carbonate is frequently ordered by physicians in the same cough mixture with syrup of squills which contains acetic acid, with the result that a chemical reaction takes place liberating carbon dioxide, and the gas given off startles the patient by forcibly expelling the cork or even bursting the bottle. An acid and an alkali should only be mixed when a new product is desired. How frequently iron is ordered mixed with substances containing tannic acid, with the result of forming iron tannate or ink.

Sometimes a mixture containing an alkali and an alkaloid is ordered, as potassium iodide with strychnine sulphate, with the result that nearly all the strychnine is precipitated by the potassium salt in the form of insoluble hydriodide and is contained in the last dose. Death has been caused by a prescription like this.

Corrosive sublimate is incompatible with almost everything. Even the compound syrup of sarsaparilla is said to decompose it. Yet how often is it

found prescribed with other drugs? In the catalogues and price lists of prominent tablet manufacturers it may be found in a number of formulæ in which it is incompatible. The speaker commented upon the fact that many of the pompous prescriptions to be found in these lists and catalogues were written by physicians whose names are printed under them, and he said that few of these physicians have reason to take pride in their authorship. It was, he said, opposed to sound policy and good taste for these men to allow their treatment of disease and their names to be thus advertised; besides the popularization of medicines, which frequently contain poisons, and which the laity can too easily procure, was a wrong and a danger that it was the duty of physicians to do all in their power to suppress. Those physicians who stock their offices with ready-made, and often stale, incompatible, insoluble, and inert tablets, and try to fit the disease to the remedy, rather than the remedy to the disease, make a mistake in the speaker's opinion. There was scarcely a prescription that would not be better if freshly compounded; besides the doling out of tablets seems to many patients, both rich and poor, to be a cheap and undignified way of practising medicine. The patient should have some stronger motive to return to the physician than merely to get a new supply of tablets.

Dr. Purdy said that clinical experience had ever taught that it was wisest to prescribe as few remedies as possible and to use no powerful drug without a distinct idea of what it was intended to do and that to get the best effects from such a drug it should usually be given by itself.

There was good reason to fear that to-day there was too frequent violation of this rule—due perhaps as much to carelessness as to lack of knowledge. The very ablest physicians have been successful and gained renown by using only simples, yet it was not to be denied that good results are sometimes obtained by the scientific combination of drugs for joint effect. Thus atropine increases the good effects of morphine and prevents its bad effects. The same may be said of morphine and chloral, and in a cough mixture it is often wise to add a sedative to quiet the cough and an expectorant to affect the mucous membranes; and purgatives seem to act better when several of them are united. When a new product or remedy is desired this may be obtained by combining certain chemicals, as potassium iodide with mercuric chloride, when we get the valuable double salt, potassium-mercuric iodide. Skill in the combination of drugs, not only to increase the physiological action of each, but to make the medicine pleasant of administration, was greatly to be desired, and had made the reputation of many a man. But to attempt to prescribe for every symptom of a disease, by throwing unskillfully together eight or ten drugs, as is too often done, was unscientific, dangerous, and was that abomination of abominations—polypharmacy.

The speaker said that while there were men who use too many drugs there were others who do not use enough, and indeed in certain quarters it seemed to be the fad to decry all drugs. Dr. Purdy thought it was probable that the men who seldom prescribe have had bad results through overdosing, and have become as afraid of drugs as the reformed drunkard is of liquor, or they may have used medicines ignorantly and consequently without success, or it may be with some men

pure affectation. He believed this last remark applied to certain surgeons as well as to a few pathologists. These surgeons seem proud to say that they do not write one prescription a month. They speak sneeringly of the backwardness of medicine, and point with pride to the rapid strides which surgery has made in the last half century. Can it be, asked the speaker, that they do not know that they owe more of their success to therapeutics than they do to their skill with the knife? For hundreds of years there have been almost as skillful operators as we have today. The discovery of anesthetics and antiseptics is what has revolutionized surgery. Be the surgeon ever so great, what would he do following certain operations, and sometimes during, or even preceding them, did he not resort to medication? What would he do without strychnine and digitalis; morphine and atropine; nitroglycerin and caffeine, and last, but not least, common salt?

With those pathologists who profess to feel sorry that therapeutics cannot keep up with them, and who laugh at empiricism, Dr. Purdy had little patience. Diseases, he said, were treated successfully before they crowded the stage, and neither was it always necessary to wait until a man died before a diagnosis could be made. Let the pathologists tell the nature of certain diseases—cancer and rheumatism, for instance—and therapeutists will find the remedy. After it was learned what that dread disease diphtheria really was, it was not long before we had antitoxine which, next to vaccination, is probably the greatest discovery of this or any age. It has been well said "that the man who does not believe in the proper use of drugs for the cure of disease must lack the keystone of the arch upon which all medical knowledge rests."

More to be condemned than men who do not use any medicine whatever, according to the speaker, are those who prescribe patent medicines. In using these secret remedies they not only confess that they are incompetent, but they also violate the code of medical ethics. The last remark, he said, applied with particular force to those physicians who have their own secret remedies for the treatment of delirium tremens and other diseases. These charlatans are probably beyond redemption. They are not so ignorant as vicious and mercenary, and their punishment is the contempt in which they are held by their fellows. Patent medicine men, osteopaths, Christian Scientists and similar imposters prey upon a class of people who are so "wise in their own conceit" and so amazingly credulous, that "it is easier to cheat them out of their lives than of a shilling." Dr. Purdy asked if the medical profession, that had unselfishly done so much to alleviate the distress and suffering of mankind, was doing all it could properly do to eradicate dangerous and hurtful prejudices; and to guard the ignorant and unsuspecting against the frauds and impositions of unscrupulous quacks and pretenders? Were the physicians of to-day as public spirited as were the illustrious fathers of medicine?

The speaker referred to the discussion that had been carried on quite recently in certain medical journals as to the best method of excluding from their pages articles bearing the semblance of having been written by physicians in the interest of manufacturers and importers of proprietary medicines. These journals, he said, appeal to medical men to

help them. He then quoted a paragraph from an editorial in a recent number of the *New York Medical Journal*, as follows: "Meetings of even the most dignified of our societies have at times not wholly escaped the suspicion of having been exploited by the touters for some medicinal or dietetic preparation, and it is certain that papers are often read before them which a reputable medical journal would hesitate to publish." This, the speaker said, was truly a deplorable state of affairs, and the profession should go to the aid of these reputable journals by tabooing any of its members guilty of such unprofessional conduct as was charged.

Dr. Purdy said it might be asked why it is that we have among us physicians who use the character of remedies of which he had spoken. These men give as their chief reason that they cannot trust the apothecaries; that they substitute and have poor drugs. It is true that there are dishonest men among pharmacists as there are among physicians, but he believed the vast majority of both professions were honorable men. It would be as absurd to condemn all pharmacists because a few were guilty of substitution as it would be to condemn all physicians because a few performed criminal operations. If one looked about him he would have no difficulty in finding a reliable pharmacist who knew his materia medica and his chemistry, and who could not only be relied upon to put up prescriptions properly, but to stand between the physician and the patient, saving the latter from any errors that the former might, at times in the rush of practice, commit. Therefore, in his opinion, this excuse was a poor one. Was it not ridiculously inconsistent for a physician to trust some man in Kamschatka say rather than his own neighbor? If the physician knew how to write a prescription; knew how it should look and taste and smell after it was prepared, he would soon catch the dishonest pharmacist and thereafter could avoid him, but alas, there are only too many medical men who are unable to do this; too many who are unable to tell morphine from potassium bromide. This, Dr. Purdy said, was the crux of the matter. Why did they not know? Why do physicians not know therapeutics, materia medica, pharmacy, or, to combine all these into one word—pharmacology. He answered this by saying it was because they had never been properly taught and have not taken the pains to learn. One reason, and in his opinion the principal reason for the state of affairs he had described, was that present graduates of medicine were taught neither pharmacy nor pharmacology; were not given the opportunity of learning how to write prescriptions by compounding them, nor of becoming acquainted with drugs by handling them.

It was true that for the last year or two a small number of medical colleges had been giving a little attention to pharmacology. For this improvement we should be thankful, but when it was considered that to learn only pharmacy a young man was required to spend three years in a drug store, and attend the college of pharmacy two years in addition, it could readily be understood how little knowledge a medical student could gain of pharmacology by one weekly exercise in the laboratory during only half a session of his second and third years. This was about the way that chemistry was taught until the State Board of Medical Examiners, by sending many students

home without the coveted certificates, compelled the colleges to be more practical in the teaching of this subject. When it was considered that no matter what branch of medicine or surgery a man might take up after graduation he would have to resort to the use of drugs, was it too much to ask that as much time be given to pharmacology as to any other study? Was it too much to ask that the faculty of each medical college of this country create a chair of pharmacology equal in dignity and influence to any other chair, and fill it with an experienced, able man? When this was done; when physicians as a whole became more public spirited; and when they gave more attention to scientific prescribing and to medical ethics, there would then be for our ancient and honorable profession, and for society generally, the dawning of a better day.

On invitation of the chair, the paper of Dr. Purdy was discussed from the viewpoint of the pharmacist by Mr. THOMAS J. KEENAN, associate editor of the *American Druggist and Pharmaceutical Record*. Mr. Keenan said that pharmacists viewed with alarm the growing tendency among physicians to prescribe proprietary articles. The increase in the number of ready-made medicines ordered on physicians' prescriptions during the past ten years had been very noticeable. In fact, a comparison of the prescriptions written during the period from 1892 to 1902 with those of the decade immediately preceding showed a complete change in the character of the preparations ordered now as compared with then. Of 50 prescriptions taken at random from the files of a pharmacy, doing a family dispensing business in a residence district of Brooklyn, for the year 1882, 48 were for simple galenicals or preparations official in the Pharmacopoeia. Eight years later in 1890 the number of prescriptions of this character showed a decrease, 10 of the 50 being for proprietary articles. From 1892 onward the increase in the number of ready-made prescriptions was constant. In the year named the proportion stood 15 proprietary to 35 regular. In 1895 the figures almost balanced, 24 proprietary articles having been called for on regular prescription as against 26 simples or official preparations of either the Pharmacopoeia or the National Formulary. In 1896 the balance was against the pharmacist, for out of 50 prescriptions taken at random from the prescription file for that year, 30 were for proprietary compounds, from which the manufacturer's label had to be removed and a regular prescription label substituted therefor before dispensing. During 1901 an examination of the prescription files of the pharmacy in question showed a corresponding increase in the number of proprietaries called for on prescription, as out of 50 only 9 represented compounds devised by the physician himself as against 41 proprietary prescriptions.

The great increase in the prescribing of proprietary medicines is attributed by pharmacists (1) to the enterprise of the larger firms interested in the manufacture of such compounds who lose no opportunity of bringing their good to the attention of physicians; and (2) to the practice of hospital physicians ordering medicines by number or title from the hospital formularies. Trained in this way it is not surprising that medical students fall an easy prey to the manufacturer of ready-made medicines and compressed drugs. Pharmacists do not find, the speaker said,

that the older physicians are writing for more proprietaries than they did a few years ago. It is the younger practitioner who creates most of the demand for this class of medicaments, not, as pharmacists believe, from any special lack of knowledge of the principles of combining drugs in effective and agreeable forms, but because he finds that it calls for the exercise of less thought and the minimum of labor to write the trade name of some medicinal compound that appears to fit the malady under consideration, than is required for the scientific arrangement in a prescription of the various articles of the materia medica that may be indicated in a given case.

Mr. Keenan said that while the standard of pharmaceutical education was being elevated year by year, and the pharmacist of to-day was required to have a scientific as well as a practical training, it had to be said that the medical profession had not always shown a corresponding disposition to recognize the professional status of the pharmacist. The pharmacist feels that if the members of the medical profession were really disposed to regard him as a man of scientific training who is willing and competent to meet emergencies in medical practice, they would make more demands on his scientific skill and not compel him to be the mere medium for the handing over of proprietary compounds, the dispensing of which calls for the exercise of no more expert knowledge than was possessed by the average grocery clerk. The speaker said that pharmacists everywhere complained loudly and with good cause of the expensive amounts of new drugs and chemicals of a proprietary nature which they were compelled to stock in order to enable them to dispense one or two prescriptions. These new chemicals, largely of synthetic composition and made in Germany, are vaunted as great discoveries when introduced, but experience frequently proves that only a short time elapses before they are superseded and described either as useless or dangerous. Go into any drug store to-day, he said, and you will find the shelves back of the prescription counter overcrowded with bottles and containers of all sorts, from each of which, perhaps, one or two prescriptions have been filled, while the remainder have not been called for in years, and which the pharmacist would be glad to get rid of at any price.

In closing, Mr. Keenan expressed his personal sense of gratification at being allowed to present the pharmacists' view of the matter under discussion. It seemed to him that the innovation might well be taken as a precedent and be followed by occasional invitations to representatives of pharmacy, either as individuals or as representing such organizations as the State Pharmaceutical Association, the New York College of Pharmacy, or the Manhattan Pharmaceutical Association of this city to participate in discussing such subjects as happen to be of mutual interest to pharmacists and physicians; for if discontent exists as had been shown, it would, in his opinion, be the part of wisdom to let such discontent find expression, that it might be alleviated, rather than to try to suppress it and so cause it to find expression otherwise. He was happy to say it had been his experience that the pharmacist who cultivated the closest and most confidential relations with the physicians who patronized him, was the one who had the least complaint of any kind to make.

Our Subscribers' Discussions.

A SERIES OF MONTHLY PRIZE ESSAYS.

[Questions for discussion in this department are announced once a month. So far as they have been decided upon, the further questions are as follows:

XIX.—How do you treat frostbite? (Answers due not later than December 10, 1902.)

XX.—How do you treat buboes that threaten to suppurate? (Answers due not later than January 10, 1903.)

XXI.—How do you treat infantile convulsions? (Answers due not later than February 10, 1902.)

XXII.—How do you manage occipitoposterior positions of the presenting head? (Answers due not later than March 10, 1903.)

Whoever among our subscribers (with the limitations mentioned below) answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but NOT REQUIRED) that the answers be short, if practicable, no one answer to contain more than six hundred words. So far as our space will allow, we shall publish the substance of such of the answers as seem to us most likely to prove interesting to our readers, and we reserve the right to publish any of the answers in any department of the JOURNAL.

Only subscribers to the NEW YORK MEDICAL JOURNAL (including regular and volunteer officers of the medical corps of the United States Army, Navy, and Marine-Hospital Service, commissioned or under contract) will be entitled to compete, and all persons known to be engaged in medical journalism are disqualified. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish.]

The prize of \$25 for the best essay submitted in November has been awarded to Dr. Hugh T. Nelson, of Charlottesville, Va., whose paper appears below:

PRIZE QUESTION NO XVII.

THE PREVENTION OF MAMMARY ABSCESS.

By HUGH T. NELSON, M. D.,
CHARLOTTESVILLE, VA.

The prevention of this very troublesome condition must of necessity antedate the delivery of the child and what might be termed the period of *active lactation*. Active lactation is spoken of advisedly, for the mammaræ may be the seat of an active hyperæmia as soon as the impregnated ovum fastens itself to the uterine mucosa. Hence the commencement of lactation may be considered as synchronous with conception.

In a paper as limited as this, the minute anatomy of the mammaræ cannot be given very fully, yet to any one passingly familiar with the structure and functions of the gland in question it will be apparent that under many conditions it may easily become the seat of inflammatory processes. Ordinarily possessed of a very full blood supply—this supply being increased at the moment of conception and continually increasing during the period of gestation—it can readily be seen how any obstruction to the circulation in the gland—arterial, venous, or lymphatic—would establish a *locus minoris resistentiæ* which would soon become the focus of inflammation.

This being the case prior to confinement and the period of *active lactation*, no wonder that after active lactation is established there are still greater opportunities for the development of inflammatory processes within the mammary area.

With this much by way of prelude, it can be readily inferred that measures for the prevention of mammary abscess should be begun as soon as the condition of the gland warrants a suspicion of pregnancy.

The gland hyperæmia varying in different individuals, there can be no fixed time at which preventive measures must be taken against the access of inflammation. Suffice it to say that when the enlarged and hardened breast, the deepened color and increased area of the areola, and the increased size and tenderness of the nipple give evidence of pregnancy, care should be taken to guard the breasts against the possibility of infection. What are the measures to insure against antepartum mammary abscess?

First of all, systematic bathing with tepid antiseptic lotions of moderate strength, followed by gentle friction from nipple to circumference should be employed every night on retiring to bed. The high corset should be done away with at once, and, if the breast is large and heavy, a gauze sling should be made to support it.

As the pregnancy nears the end, the nipples demand special attention, not only to keep the mouths of the ducts and the crevices clean, but to render them hard and firm so that the epithelium may not be so readily removed by the infant in its early attempts at sucking. For this purpose there is nothing so good as frequent bathing accompanied by gentle friction with a saturated solution of boric acid in dilute alcohol.

In many women on the eve of motherhood active lactation has already been established several weeks before delivery, and in these cases there is all the greater need for care. Here, as in postpartum cases the secretions should not be allowed to accumulate to the point of discomfort, even if artificial means have to be employed to keep open the ducts and prevent the accumulation in the distended lacunæ of the gland.

Under this condition rubbing the breast from circumference to nipple with sterilized cacao butter will be found quite effective, though only in very extreme cases should *pumping* be resorted to. Sterilized gauze pads should protect the nipples from the dress and underclothing, these to be changed as often as they become saturated.

After the birth of the infant, even when active lactation has not yet been set up, strict attention should be given to the mouth of the infant, cleansing it thoroughly each time before it is put to the breast, as well as immediately afterward. For this purpose

nothing is better than a saturated solution of boric acid in water. Of course, the entire breast must be treated before and after nursing as already advised.

The nursing mother should avoid draughts of air, should be warmly clad, particularly about the neck and shoulders, and, above all, should protect the feet from dampness. It is no strange thing for an accoucheur to be summoned to a lying-in mother or even much later in the lactation period, to find her with high temperature and "lumps" in one or both breasts, which are frequently considered as the effects of *taking cold*. Some of these so called lumps can easily develop into abscess, and frequently do so even with great care.

Should this condition exist the breast must be promptly emptied of all its secretion, using artificial means if necessary, but with the greatest care. Some evaporating lotion—such as ammonium chloride in tincture of arnica—should be applied to the entire gland on pieces of surgeon's lint, to be changed as often as they become dry and hot. Failing to dissipate the lumps by this means, the ice water coil should be applied—half hour on, half hour off—till the danger of abscess has been averted.

Very strict attention should, during the entire lactation period, be given to the nipples by watching for fissures and excoriations, which are oftener the starting points of mammary abscess than all other conditions combined. When ulceration first begins in the nipple, the wearing of a leaden cap, or shield, over it will give good protection. These shields, made of thin sheet lead, can easily be procured at any druggist's, as can also glass shields with rubber nipples attached for the child to nurse through. These latter prevent the irregularity of the child's sucking force and do away with the twisting and wringing of the nipple by a vigorous infant, which motions tend to keep the ulcer from healing. Should the trouble fail to yield under these measures, conjoined of course with thorough asepsis of the mother's mammae and the infant's mouth, thorough cauterization of the active ulcer should be done with a sharpened pencil of sulphate of copper after the parts have been thoroughly cocaineized, as the pain of the cauterization is very intense. In some cases when ulceration is very persistent, and abscess is seriously threatened, the nursing process may have to be stopped in one or both breasts, and only sufficient milk artificially taken away to keep down tension. At the same time, should it be necessary to interdict sucking the child, a large belladonna plaster should be applied, covering the entire gland save the nipple. If it is found necessary to stop nursing entirely, this plaster should be worn continuously until the lacteal secretion has been entirely suspended. Should the ulcer heal, however, the plaster may be removed and nursing again attempted.

It is not my function in this paper to deal with the treatment of mammary abscess, though I am satisfied that careful attention to the above mentioned notes will in very many if not all conditions prevent the formation of abscess and all the suffering which it entails.

205 EAST HIGH STREET.

Dr. J. L. Andrews, of Memphis, Tenn., writes:

An abscess means pus, and there can be no pus without pyogenic bacteria; therefore avenues of entrance for these germs must be carefully guarded against. The baby's mouth must be sharply looked after and kept sterile, in addition to the well known precautions regarding the mother's nipples. Cracked nipples are very dangerous, and the cure of the nipple must be obtained at the earliest possible moment. Infrequently, one or more of the small glands (Montgomery's) at the base of the nipple become inflamed and suppurate, infecting the nipple and gland. Each small gland should be laid open and curetted and its base touched with a strong solution of carbolic acid or corrosive sublimate.

The starting point of mammary abscess is generally an inflammation of the gland, and the beginning of mastitis is always congestion, so what are the precautions to prevent congestion? Ample care should be taken to prevent that condition of affairs known as "taking cold" in the breast. That exposure to cold, sitting in a draft or a cold, damp room, will cause the minute blood vessels and lymphatics to become engorged cannot be doubted. A popular fallacy is the belief that a congested breast is full of milk, that its milk ducts are choked with secretion. It is the blood supply and the lymphatics which are the seat of intense engorgement, not the milk channels. This has great practical bearing on the subject in hand. When the mother, by the death of her baby or from whatever cause, does not nurse the child, there is always ground for anxiety about the glands, especially if the woman is of full habit. Here the prevention of congestion, inflammation, and abscess lies in perfect cleanliness, the drawing out of the accumulated milk (generally small in quantity) by, best of all, another infant, a grown person, or a puppy; the discreet use of saline purges; and the partial restriction of liquids ingested. Diaphoretics, in the main, are contraindicated as being too drastic. The breast pump is very greatly abused in this connection. In simple supersecretion, where the baby is not able to handle the supply, its use is attended with good results. But in severe congestion and threatened inflammation I have seen it so many times improperly used that I have lately acquired a sort of repugnance to it. That it has been the means of doing great harm in many instances

there is not the least doubt. Many times I have seen and countenanced its use in an effort to reduce the congestion in a swollen, indurated, and intensely tender gland without the slightest effect. This was because we had the mistaken notion that the breast was full of milk. The best methods of emptying the breast have been mentioned in the order of their efficiency, and the breast pump, though a favorite with many, is a very bad "last." Nature is not a very quick pupil, but a most obedient one. It requires several days for her to learn that the milk supply is not needed, but when she thoroughly understands the situation, it seems as though she stopped its secretion without further ado. I might add in passing that she seems to be very sensitive, for when her milk supply is once untimely checked, it is often hard enough to start it again, even though badly needed. Internal medication, with iodide of potassium, phytolacca, etc., after repeated trials, has never afforded me visibly good results, but often bad results in the way of stomach derangement. I have never been altogether convinced of the efficacy of the classical belladonna plaster. The amount of secretion taking place in the gland is in direct ratio to the amount of blood entering it, and it would seem more reasonable, certainly more certain, to give the belladonna internally; or, from the standpoint of empirical therapeutics, ergot is indicated. In the next case in my hands I shall try one of the newer antiphlogistics, in the form of a paste with a sort of clay as the base.

The very best method of relieving the congestion is by massage properly applied. Its proper application is fully described by C. S. Bacon, of Chicago, in the *American Journal of Obstetrics* for June, 1902. He justly criticises the classical directions, with the accompanying illustrations, which have from an early date appeared in works on obstetrics. The working principle in his plan is that the massage must be directed from the nipple to the base of the gland, and not *vice versa*. Massage must commence in the axillary and subclavicular regions, and considerable time must be employed in reaching the gland proper. By this method the congested capillaries and lymphatics are emptied and a gland which previously was in a "strut" becomes flaccid and lax.

The wisdom of the advice given in the standard works to allow the child to nurse the sound, uncongested, uninfamed breast is very strongly called in question. The fact is ignored that even the presence of the child increases the functional activity and necessary congestion of the affected as well as the sound breast. It is very generally believed that the milk secretion occurs entirely, or nearly so, during the intervals between nursings. As a matter of fact, a relatively small quantity only is secreted in the intervals, the great bulk being secreted during the act of nursing. In the interval, the delicate secretory

apparatus is being prepared for its rapid secretion during the nursing. Any observer can recall the sight of a perfect stream of milk flowing like water from a watering pot from the unused breast while the other is being nursed.

In the face of so serious a contingency as a mammary abscess, with due regard for individual circumstances, it is entirely proper to consider the advisability of removing the infant as far as possible from the sight and hearing of the mother. Moreover, there is always more or less fever and constitutional disturbance in connection with a congested, inflamed breast, and the milk is very apt to be vitiated. Mental emotion, worry, fright, etc., might cause such changes in the blood as to irritate the delicate secretory apparatus and provide the starting point for inflammation and its sequelæ. The incident related by Hirst of the sudden death of an infant while nursing, just after the mother had witnessed the murder of her husband, makes this idea not at all improbable.

An ice bag is often of great service in relieving congestion. Heat I have found of service only when suppuration was unavoidable and it was desired to hasten the breaking down of tissue injured beyond the hope of resolution. Strapping or snugly bandaging the breast is entirely proper, though it is of service only as a support and sling for the affected gland. The "old woman," with her flannel rags saturated with camphor, etc., is responsible for many mammary abscesses.

(To be concluded.)

Book Notices.

Photographic Atlas of the Diseases of the Skin. A Series of Eighty Plates, comprising more than One Hundred Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By GEORGE HENRY FOX, A. M., M. D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York, etc. Parts II-XI. Philadelphia and London: J. B. Lippincott Company, 1902. Pp. 141 to 154.

A Practical Treatise on Smallpox. Illustrated by Colored Photographs from Life. By GEORGE HENRY FOX, A. M., M. D., Consulting Dermatologist to the Health Department of New York City. With the Collaboration of S. D. HUBBARD, M.D., S. POLLITZER, M.D., and J. H. HUDDLESTON, M. D. Parts I and II. Philadelphia and London: J. B. Lippincott Company, 1902. Pp. 31. (Price, \$3.)

By one already familiar with skin diseases, the preference will be given to photographs as a rule rather than to lithographs or other reproductions, colored or uncolored, for the reason that the former are less liable to error. The photograph cannot lie, it is said; yet it does prevaricate sometimes so as to be very misleading unless one is well aware of its

foibles and knows beforehand what points are of real significance. Sometimes the absence of color and still more the exaggerated effect of the "high lights" are very apt to give false impressions. Hence for the beginner or in the case of an entirely new disease a colored print that, as is usually the case, is a reproduction of a water color or of a drawing colored by hand is more instructive. It has the character more or less of a diagram in which those features of the eruptions that are most essential are emphasized and made salient.

In the two admirable works before us, Dr. Fox has certainly to a great degree evaded the sources of error in photographic pictures, first by the excellence of the photographs themselves, next by the addition of judicious coloring, and finally by the clear explanatory text that accompanies each of the plates. As a complementary addition to the pictorial part of the work there is an excellent treatise on diseases of the skin. Following some "general considerations," the various affections are taken up and considered in alphabetical order. Evidently it has been the author's purpose to simplify the subject as much as possible, avoiding all that is unnecessarily technical or obscure. In this endeavor he has shown much practical good sense.

Perhaps with Dr. Fox the pendulum swings a little too far the other way. When he goes so far as to deprive dermatology of the title of a specialty, it seems to us he is underrating too much his own distinguished attainments. A specialty is anything that one does especially—*well* being usually understood. The existence of medical specialties will always be governed by the principle of supply and demand. For the present there appears to be a demand for skin specialists. When that demand ceases dermatology as a specialty will no longer exist.

The work on smallpox is published in form corresponding with that of the *Photographic Atlas*, and preserves the excellent character of the latter. The plates are especially valuable in that they show the disease in "each of its successive stages."

Acute Dilatation of the Stomach. By H. CAMPBELL THOMPSON, M. D. (Lond), M. R. C. P., Assistant Physician to the Middlesex Hospital, etc. New York: William Wood & Company, 1902. Pp. 54. (Price, 75 cents.)

This small book, although modest in size, is undoubtedly of distinct value. In it the author gives a brief history of five of his own cases, followed by an abstract of forty-four recorded cases of this disease. This is succeeded by a brief summary of the etiology, symptoms, morbid anatomy, course, prognosis, pathology, and treatment. It is clearly shown how important the thorough understanding of this disease is to both the physician and the surgeon, since it may be met with by either at times when it is least expected.

In this work the severer cases are taken as the type, but at the same time the necessity of detecting the milder forms is emphasized, as only in these may brilliant results of treatment be expected. The majority of the cases narrated followed some injury or surgical operation, and the remaining cases followed some indiscretion in diet.

In connection with the surgical cases a proper

emphasis is laid upon the fact that the patient appeared to be progressing favorably up to the time of the sudden onset of gastric symptoms. Great stress is also laid upon the necessity of making frequent examination of the stomach in acute illnesses, for after death various grades of unsuspected dilatation are occasionally found.

The chapter on the pathology of this ailment gives a fairly complete discussion of the various factors entering into the causation of the condition. Although the author appears to incline to the theory of a widespread nervous affection of stomach and bowel, yet he points out the advisability of bearing in mind all the possible causes until more is known of the subject, rather than attempting to fix one's attention upon a single specific cause to the exclusion of all others.

The book, although not so complete as it might be, is well worth perusal, treating as it does of a subject which has not as yet received the proper attention due it, more especially from English and American writers.

The Diagnosis of Surgical Diseases. By Dr. E. ALBERT, late Director and Professor of the First Surgical Clinic at the University of Vienna. Authorized Translation from the Eighth Enlarged and Revised Edition. By ROBERT FRANK, A. M., M. D. With Fifty-three Illustrations. New York: D. Appleton & Company, 1902. Pp. viii-419. (Price, \$5.)

Those familiar with Albert's classical work will not hesitate to express their gratification at the appearance of an English version which has not sacrificed in the translation the style and spirit pervading the original. This admirable book should find its way into the hands of all students, since it sets forth the subject with a fulness to be found in very few other works on the subject. It by no means covers this vast field completely, but cites typical cases in the concrete. The subject is arranged regionally, and the illustrations are telling and strictly in conformity with the text. With these admirable features in its favor, the book merits a wide circle of readers, particularly among medical students, who will learn from the perusal of its pages that logic is the basis of diagnosis and not any group of symptoms, as is the average teaching. We welcome a book of this kind, which is a radical departure from the flood of surgeries bristling with technics, yet void of the vivid portrayal of clinical medicine to be found in these pages.

Atlas and Epitome of Otolaryngology. By GUSTAV BRÜHL, M. D., of Berlin, with the Collaboration of Professor Dr. A. POLITZER, of Vienna. Authorized Translation from the German. Edited by S. MACCUEEN SMITH, M. D., Clinical Professor of Otolaryngology, Jefferson Medical College, Philadelphia, etc. With 244 Colored Figures on 30 Lithographic Plates, and 99 Text Illustrations. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 292. (Price, \$3.)

It is easy to become enthusiastic in the praise of such a book as this, but it is difficult to review it so as to present the reader with its special characteristics. The fine delineation, the excellent coloring of the

plates, must be seen to be appreciated, they cannot be reproduced in words, and yet such points form the important features of a medical atlas.

One half of this book is devoted to the atlas, which contains thirty-nine plates, almost all of which present several figures. Perhaps the greatest number is devoted to the presentation of the normal temporal bone, of adults and children, by various sections. Of these, the most beautiful are plates 8 and 12. Plate 8 shows the temporal bones of a child, made transparent, with the labyrinth injected with mercury. Plate 12 shows the anterior portion of the right side of a skull which had been made transparent, with the accessory cavities of the nose filled with Wood's metal and a catheter passed into the Eustachian tube. Pathological conditions are also well represented, and a good number of plates are devoted to their appearances under the microscope.

The epitome is good reading, though very concise and not perfectly complete. It gives in 277 pages the anatomy and physiology of the ear, the methods of making physical and functional examinations, including bacteriology and histology, general pathology, symptomatology, and treatment of various morbid conditions, including operations, deafmutism, accidents, and expert testimony.

Textbook of Physiological and Pathological Chemistry. By G. BUNGE, Professor of Physiological Chemistry at Bale. Second English Edition. Translated from the Fourth German Edition by FLORENCE STARLING, and Edited by ERNEST H. STARLING, M. D., F. R. S., Professor of Physiology in University College, London. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xi-470. (Price, \$3.)

The work before us has gone through many transformations since the appearance of the previous edition. The chemistry of the proteid molecule, which forms so important a figure in modern physiological chemistry, is deservedly treated at length. The author discusses, however, at considerable length the various steps in the development of proteid chemistry from Drechsel's earlier work, giving due credit to the classical work of Schmiedeberg and Hofmeister and the respective schools, as well as to the masterful researches of Kossel of more recent years. The lectures, entitled *The Food of Man* are replete with interesting matter pertaining to the subject.

Digestion and its concurrent processes are most logically and exhaustively discussed. The physiological action of the various organs and tissues and their resultant products are in turn carefully and systematically dwelt upon. The chapter upon formation of fat in the body and the exhaustive treatise embraced in the chapter upon diabetes mellitus are most interesting, and the functions of the various enzymes in normal and pathological conditions are elucidated in an absorbing and instructive manner.

The book is most ably translated and edited and compares favorably in every way with the original German production. The author's arrangement is closely followed, a subject index and an index arranged under the names of the various research workers adding to the value of the volume to the general reader as well as to the specialist in the different subjects mentioned.

Genitourinary Diseases and Syphilis. By HENRY H. MORTON, M. D., Clinical Professor of Genitourinary Diseases in the Long Island College Hospital, etc., Illustrated with Half Tones and Full Page Color Plates. Philadelphia: F. A. Davis Company, 1902. Pp. xii-372. (Price, \$3.)

This book affords the student a very clear insight into genitourinary and syphilitic affections. By a liberal use of italics the salient features are readily impressed, and the pages at every turn will be found alive with practical advice. Theory is conspicuously absent, and the book is thus far in advance of many of its contemporaries, since it considers with due conservatism the newer technical procedures—endoscopy, cystoscopy, galvanocauterization of the prostate, and prostatectomy. Though the indications for these several procedures are freely discussed, yet the technical execution of them is not elaborated sufficiently. On the other hand, a strong feature is in the precise advice given for the institution of therapeutic measures and in a rigid insistence on aseptis and antiseptis in all that appertains to the manual and instrumental treatment of the genitourinary tract, with a detailed description of how to effect this in each instance.

The sober judgment of the author is apparent when referring to the use of the various proteid silver compounds. He assigns a different level of efficacy to each, eulogizing none exclusively.

The consideration of syphilis is terse, yet the ground is fully covered in the two concluding chapters. We commend this book as offering what is best, selected from widely divergent sources and modified by the author's evidently wide and accurate clinical experience.

Atlas and Epitome of Operative Surgery. By Dr. OTTO ZUCKERANDI, Privat-docent in the University of Vienna. Second Edition, Revised and Enlarged. Authorized Translation from the German. Edited by J. CHALMERS DACOSTA, M. D., Professor of the Principles of Surgery and of Clinical Surgery in Jefferson Medical College, Philadelphia, etc. With forty Colored Plates and 278 Illustrations in the Text. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 410. (Price, \$3.50.)

By the addition of the description of newer operations, their accompanying illustrations, and some few corrections of the text, this hand atlas is brought up to date and is in a position to gain an increasing circle of readers.

Operations-Vademecum für den praktischen Arzt. Von Dr. EDMUND LESER, Professor an der Universität Halle A. S., etc. Mit 84 Zum Theil Farbigen Abbildungen. Zweite Vermehrte und Verbesserte Auflage. Berlin: S. Karger, 1902. Pp. viii-186.

This second edition has been modified by substituting original drawings and photographs and preceding each operation with a list of the necessary instruments. This feature is in harmony with the purpose of this book, which is to serve the rural practitioner who is occasionally obliged to perform an operation.

Hernia. Its Etiology, Symptoms, and Treatment, By W. McADAM ECCLES, M. S. (Lond.), F. R. C. S. (Eng.), Senior Assistant Surgeon at the West London Hospital, etc. Second Edition. New York: William Wood & Company, 1902. Pp. xvi-233. (Price, \$2.50.)

The illustrations are the only emendations which this edition has to offer. They are so numerous and excellent that we see in them a material gain for the author's concise brochure on this subject.

First Aid in Accidents. By CHARLES R. DICKSON, M. D., Lecturer and Examiner, St. John Ambulance Association, etc. Chicago, New York, and Toronto: Fleming H. Revell Company, 1902. Pp. 3 to 127.

This manual, prepared for the International Association of Railway Surgeons, is intended to be a guide for instructing railway employees in first aid treatment of the injured. It is very practical, concise, and sufficiently illustrated. It serves the double purpose of affording the surgeon a basis for his lectures, as well as that of being a reference book for the railway employee which he can conveniently carry about in his pocket and peruse at his leisure.

Miscellany.

Mediterranean Fever.—Zammit (*Malta Arch. and Scien. Soc.*, May; *British Medical Journal*, October 18th) states that in Malta the fever attacks about 700 people per annum, mainly between May and September, and though the mortality is not high, the convalescence is often protracted. It is specific, caused by Bruce's micrococcus, discovered in 1886. The coccus is always to be found in the spleen after death; it grows on the ordinary nutrient media and lives for months; inoculated in animals and men, it is capable of reproducing the disease. The fever has its own temperature curve, symptoms, and pathological changes. The older theories as to its causation and diffusion are untenable. Three tables carefully compiled from the public health reports prove that there is no relation between the fever and unsanitary conditions. The low-lying town of Cormi, with an average death rate of 31 per 1,000, had only 37 cases of this fever within the last ten years; whereas Birkiscara, on higher ground, with a death rate of 27, had 526 cases within the same period. On the other hand, enteric fever, being a filth disease, was in proportion to the death rate. The sea water of the harbors has no direct effect, as the ships in the harbors are unequally affected, and the inhabitants of the cities along the shores are not more attacked than those living in villages inland. Even at Msida, where a narrow creek of the sea is badly polluted by sewage, there are fewer cases than in towns on high ground. The sanitation, again, throughout both islands, has greatly improved of late years, but the occurrence of the fever has not sensibly diminished anywhere. The theory of polluted air, held by Hughes in 1806 to have a specific effect, is contradicted by Tarxien, with its old narrow streets and high rate of mortality, having a yearly average of

only 5 cases of fever, as against neat and fashionable villages with a lower mortality rate, but with an average of 32 cases of fever per annum. Food though carefully analyzed, has not been found to have caused any outbreak. Zammit's tables show that in the 38 localities noted the cases form an irregular wave of abatement and recrudescence during ten consecutive years. Also, within any one affected area the cases are clustered, certain houses or blocks of houses being foci of infection. These facts, along with such an outbreak as that at the Conservatorio Bugeza in 1900, prove the endemo-epidemic character of the fever. It bears a close comparison with malaria. How the Bruce coccus enters the body is unknown, but it may enter through the skin without exciting any visible local action, as the plasmodium does in malaria. It was proved at Netley in 1899 that men and animals could be infected through the skin with Bruce's coccus. The symptoms and pathological changes of the two diseases are comparable; in both the spleen seems to bear the brunt of the attack, and is similarly affected. This fever is probably of malarial origin, in the sense of an insect-borne disease, and the infection spread by mosquitoes from those affected to the healthy. Anopheles has never been found in Malta, but culex abounds, breeding in small puddles in or near dwellings, in tanks, pots, tubs, old tins, and broken crockery so abundant in back yards, cellars, and gardens; in fact, wherever water is stagnant, larval mosquitoes are found in quantities. The author recommends isolation of each patient by means of a mosquito net, and, as an experiment to test his theory, the systematic removal from some chosen district of all tins, bottles, and other receptacles from gardens, back yards, and cellars, with a judicious distribution of petroleum in ponds and stagnant pools, that cannot be covered or drained, by a squad of workmen under the direction of an intelligent officer, in order to free the locality from gnats, and then to observe the effect upon the number of cases of fever.

An Apothecaries' Oath of the Fourteenth Century.—The *Journal médical de Bruxelles* for October 2nd, citing the *Gazette de gynécologie*, refers to a case before the criminal tribunal of the Cour de Cassation, in which the point at issue was whether it was allowable for physicians and pharmacists, though practising different yet allied professions, to enter into partnership. Maître Momard representing the affirmative showed that the profession of pharmacist had been from remote times a dependent of that of medicine, and in support of this view cited a curious oath of the fourteenth century which used to be taken by the "apothicaires" of those days. The oath is as follows: I swear not to malign any of my former masters, physicians, pharmacists, or others, whoever they may be; to uphold as far as in me lies the honor, glory, ornament, and majesty of medicine; not to disclose to idiots and ingrates their secrets and mysteries; to do nothing rashly, without the counsel of physicians or in the hope of gain; to disown and to avoid like the plague the disreputable and entirely pernicious methods of practice now followed by charlatans, empirics, and dabblers in alchemy, to the great disgrace of the magistrates who tolerate them. May the Lord prosper me as I observe these conditions.

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Original Communications.

THE WORKS OF EDWARD JENNER AND THEIR VALUE IN THE MODERN STUDY OF SMALLPOX.*

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Jenner's *Inquiry*: "No book so small has been talked of so much; no book has been read from the original so little; no book of such dimensions has made the name of any author so famous."—Sir Benjamin Ward Richardson.

Few topics in medicine are more interesting than the history of vaccination, and the extract I have taken as a text may serve to show the particular aspect of the subject I wish to discuss. Through the kindness of Dr. William Osler—one of many examples of a generosity for which I can not adequately express my gratitude,—I was able recently to examine a full collection of first editions of Jenner's works on vaccination. The collection itself is particularly interesting in having been given by Jenner to his friends, W. F. Shrapnell and Henry J. Shrapnell, who will be remembered by readers of Baron's *Life of Jenner*. The volumes, bound together, were ultimately presented by the family of Dr. Hunter McGuire to Dr. Osler, and it is hardly necessary to add that a more appreciative owner could not be found. Jenner's first three works on vaccination had long been familiar to me through a copy of the second edition, but in the McGuire-Osler collection I read for the first time the brief pamphlet on the *Origin of the Vaccine Inoculation* and the *Instructions for Vaccine Inoculation*. These emphasized certain of Jenner's characteristics, viz., his practical sagacity, coming as it does so near to inspiration, and his lack of method. The study of the later pamphlets led me to investigate Jenner's life and work after the announcement of vaccination. My examination included a large proportion of the books and pamphlets concerning vaccination published during Jenner's life, and a great deal of periodic literature of the same era, including several non-medical journals. For the opportunity of seeing most of this great and, I may add, rare material, I am particularly indebted to the officers of the Boston Medical Library. The Boston

Public Library and the Boston Athenæum also gave me opportunities for research that could not easily be found elsewhere. Thanks are further due to Dr. J. H. McCollom and Dr. Samuel W. Abbott for valuable assistance.

I do not intend to go into the details of Jenner's life, interesting as that would be. At the time of his first publication on vaccine inoculation he was in his fiftieth year. Though fond of natural history all of his life, pupil and friend of John Hunter, he yet preferred the career of a country practitioner to that of a naturalist or medical teacher. An active, popular and successful physician, he had shown more than ordinary ardor in the observation of disease and its treatment. A facile maker of verses, he shows a tendency to poetic expressions in his articles on cowpox, as he did in his conversation and letters. As examples may be cited the answer to the question of Charles James Fox,—vaccination is "like a section of pearl on a rose-leaf,"—or when, after speaking of the effect of vaccination in healing chronic eruptions he said, "it is not one gift only that the fair and bountiful hand of *Vaccina* has bestowed upon us." Yet Jenner's writing is always simple and attractive. Such expressions as I have quoted seem to come rather from the exuberance of a mind naturally imaginative and poetic than from any attempt at decoration. His chief fault is in the poor arrangement and diffuseness of his material.

In his mental qualities Jenner has been compared with Franklin, and there is a resemblance in the simplicity of his observations and methods, as when he settled the question as to the hottest part of a flame by putting his finger into it. Two other facts should be mentioned before we leave the man for his work. He suffered much from illness, his wife and one son were invalids and the latter required constant care. Besides, he had a tendency to indolence, "of all the ill habits a man may fall into, the most difficult to get rid of," he said, adding: "I for one am a sad example of the truth of this position, and this very sin has got me into more scrapes than all the rest put together."

Jenner has suffered much, as his discovery has suffered, from indiscriminate praise. It is often said that he devoted his time for years,—thirty is the period most frequently given,—to the investigation of cowpox, before he published his results. This is by no means the real basis of Jenner's claim to renown. The results are important without reference to the

* Read before the Buffalo Academy of Medicine, October 14, 1902.

time spent in achieving them. Jenner himself gave twenty-two years as the period of investigation. In the parliamentary hearing which resulted in the first grant of money, ten thousand pounds, one of the witnesses stated that Jenner had spent six thousand pounds in prosecuting his inquiry, but Jenner himself never made such a claim.

The first publication, *An Inquiry into the Causes and Effects of the Variolæ Vaccinæ*, appeared in 1798, as a quarto of seventy-five pages, with four colored engravings.

The work begins, after some general observations on the variations of animals, with an explanation of the origin of cowpox in "grease," a disease of the heels of horses. Jenner thought that milkers, having previously dressed the sores of such horses, carried the disease to cows. He cited seven cases showing the relationship, as well as the immunity furnished against smallpox after accidental inoculation of grease-cowpox in man. He admitted that he had not been able to show the relations of grease and cowpox by actual experiment, but was not very critical in the matter, for he had held the belief in the grease origin of cowpox and smallpox for more than ten years. Further on in the same work he cited a case in which cowpox originated, not in matter from the heels of a horse, but in an "erysipelatous" inflammation on the upper part of the thigh of a colt. After several weeks the process terminated in the formation of small abscesses. The same men who dressed these abscesses milked cows, and in a short time the whole dairy, twenty-four cows, had cowpox. The milkers in turn got vaccinia in varying degrees of severity according to their previous histories, one, who had never had either cowpox or smallpox, being severely affected. Circumstances prevented a test of the cowpox by variolous inoculation, yet Jenner thought there could be scarcely any room for suspicion that the disease was not true cowpox. He supposed, also, that the specific virus became more "certain and determined in the cow," because it was easier for milkers to become infected than for the dressers of sore heels, but, aside from the experiments he thought of but did not make, he seems not to have considered the greater exposure in milking as compared with the dressing of horse's heels. A great deal of work was done on grease in the early years of vaccination. Many investigators agreed with Jenner; certain strains of "vaccine" virus originated in the sore heels of horses, but the final conclusion was that grease was not a specific disease, or at least not related at all to vaccinia, and if, in some cases, cowpox seemed to have originated in horses, the latter animals must have had variola. Jenner never seems to have publicly abandoned his theory, but the course of events relegated it to obscurity. While still working on his early grease observations, Jenner inoculated his son

with swine pox, but he did not follow up this line of investigation.

No one seems to have tried to deprive Jenner of credit for the grease theory, but the case is very different in the next step of his work, regarding cowpox more particularly. Just what Jenner claimed, and what he deserved in this connection, are often not remembered. As he often pointed out, the protective action of cowpox against smallpox was widely known among dairy farmers, but perhaps became recognized only after the general use of variolous inoculations, which called attention to cases refractory to the latter. Investigations aroused by Jenner's *Inquiry* fully confirmed the extent of the belief among farmers, and before that, as early as 1795, Adams, in his *Observations on Morbid Poisons* spoke of it as a well-known fact. The question whether the accidental infection might not be used with a distinct purpose must also have been raised by many. Ring, one of Jenner's most ardent supporters, says he was often asked by patients whether cowpox or chickenpox would not protect against smallpox. Nor was the knowledge of cowpox confined to England. Heim tells us that his father, a preacher in Saxe Meiningen, told him as early as 1763, when one of his cows had cowpox, that the dairymaids who milked such cows became infected, and added it was believed those who once had the vaccine disease never took smallpox. But whenever such facts were mentioned contradictory experiences were not wanting. So Jenner was often reminded by his friends, and the feeling of the latter shows why the observation of immunity was not earlier acted upon. After Jenner's claims were published, and especially at the time of the parliamentary action on Jenner's petition for a grant in 1802, other cases of planned inoculation came to light. Among these were some ascribed to Nash, a surgeon in Devonshire, and a Mrs. Rendall, but the most important were those of the now well-known Jesty. It is interesting to observe that in this case the champions of Jesty did not even know either his name or his habitation. Pearson called him Justin. His visit to London and the painting of his portrait were both done to discredit Jenner, but the outcome did the latter no harm. Many years later Husson asserted that Rabaut, a protestant minister of Montpellier, had vaccinated in 1781, having derived the idea from a farmer, and that the operation was suggested to Jenner by a Frenchman. Husson should have put the date earlier. There is no doubt that Jenner had talked of vaccination before 1781. None of these earlier observations, interesting as some of them are, weaken Jenner's claim in the slightest degree. He not only inoculated cowpox virus with the purpose of protecting against smallpox, but also with the aim of making the operation known, and he not only did make it known, but he put it beyond question that,

but for him, Jesty and all the other claimants might have remained long in the obscurity in which his discovery found them. He also carried the inoculation through several generations in the human body, proving the possibility of becoming independent of primary cowpox, and in marked contrast to Jesty, he overcame the fear of the disease. Thus he caused vaccination to be practised by others, so that from a casual and formidable operation it became used all over the world on an enormous scale, and always in association with his own name. How he did this is an interesting part of the subject.

Jenner gave brief notes showing the protective action of casual cowpox against variola, acquired either naturally or by inoculation. The interval between infection and test varied in different cases from a few months to fifty-three years, though in only three was it more than thirty years. He also cited cases showing that smallpox gave immunity sometimes, but not always, against cowpox, and others proving that cowpox could repeatedly infect the same subject. He promised to give a great number of instances showing the protective influence of cowpox. He really gave only sixteen, and not all of these in detail, but we must remember that this was before the numerical method was applied seriously to medicine. After all, the number of cases is not much smaller than that cited by one of the greatest students of ætiology and prophylaxis in an address of fundamental importance more than one hundred years after Jenner. At the present day we should expect protocols of all cases of cowpox infection and some at least from cases simulating cowpox, but such critical methods were not known in Jenner's time. He had collected more cases showing the protective action of cowpox than had ever been published before, and had drawn from them conclusions of far-reaching importance.

For he was now at the point where an experiment was necessary, an experiment quite as novel as that of Columbus when he started for the shores of Cathay. On May 14, 1796, he inoculated James Phipps, a lad of eight years, with matter taken from a sore on the hand of Sarah Nelmes, "a dairy maid who was infected from her master's cows." The matter "was inserted into the arm by means of two superficial incisions, barely penetrating the cutis, each about half an inch long." "On the seventh day the boy complained of uneasiness in the axilla, and on the ninth he became a little chilly, lost his appetite, and had a slight headache." On the day following he was well. "The appearance of the incisions in their progress to a state of maturation were much the same as when produced by variolous matter." The only difference Jenner perceived was in the state of the limpid fluid, which assumed rather a darker hue, and in the efflorescence around the incisions, which had more of an erysipelatous look than

is usual after variolous inoculation. The boy was tested with variolous matter six weeks later, but was refractory, and it may be added that he was inoculated many times in later years—twenty, Jenner said,—but never took smallpox. The success of the experiment was therefore perfect. Jenner intended to publish his results at this stage, but did not, nor did he until 1798 find opportunities for repeating his experiment. This new series began in a case of grease, which affected three servant men, two of whom had had inoculated variola. From a sore on the hand of one of the two, a boy was inoculated. Jenner's object in this was to see if the passage through the human subject would render grease matter a sure protection, as did the passage through the cow. However, the boy had a contagious fever and was rendered unfit for further inoculations. In the meantime the cows became affected from the same man, and from one of the cows the first of a series of cases was inoculated, and the virus carried through five generations. One out of four of the fourth generation failed to take. The matter lost none of its original properties in the passage, so far as the lesions were concerned, and a subsequent inoculation test of three of the subjects showed they were immune to variola.

These experiments were ended about the middle of April, 1798; the inoculations somewhat later. The dedication of the first edition of the *Inquiry* is dated June 21, 1798, and the volume appeared soon after that date. Following the experiments and observations mentioned, which occupy a little more than half the book, Jenner gave a number of speculations and conclusions bearing on different aspects of vaccination and smallpox. He based the value of his observations on the possibility of superseding variolous inoculations, "which even under the best management sometimes produced deformity of the skin and even death." He had never known of cowpox being fatal, even when acquired under the most unfavorable circumstances. Moreover the fact that vaccinia could be acquired only by inoculation and not by "effluvia," which Jenner had tested, made it much more manageable than smallpox. He held that cowpox gave perfect immunity against smallpox, and thought it could be inoculated at anytime (though he gave a case to the contrary), while smallpox sometimes failed to take when inoculated. At this time he did not seem to think smallpox could be extirminated, as he did later. Another of his beliefs was that scrofula was not so likely to be excited by vaccination as it was by variola. One of the most interesting remarks is "It is not the identical matter inserted which is absorbed into the constitution, but that which is, by some peculiar process in the animal economy, generated by it"; but this idea he did not develop farther than to

suggest that "different parts of the body may prepare or modify the virus differently."

In conclusion he held the subject out as one worthy of further investigations, and promised for his own part to "prosecute the inquiry, encouraged by the hope of its becoming essentially beneficial to mankind."

On the whole, the *Inquiry* does not seem like a work destined to cause a therapeutic revolution. Reading it in our present light, one must be struck by the incompleteness of many parts of the evidence. We find, for example, no systematic description of vaccine lesions, day by day, either in man or cows. Those relating to cowpox, though much fuller than those of human lesions, have been well described by Bousquet as of a "*laconisme désespérant*." But we must remember that experiments in pathology, ætiology, and immunity were all but unknown at that time, and even careful descriptions of clinical phenomena, such as Jenner had to deal with, were by no means the rule. The small number of the experiments made by Jenner did not necessarily weaken his conclusions as to the main fact, but explains why he got and tenaciously held what proved to be erroneous ideas of some of the associated features of vaccination. It does not seem that Jenner anticipated the results of his publication; if he had, he would certainly have incorporated many facts and theories that he afterwards found necessary to print. He believed he had discovered a therapeutic measure of the greatest value, but realizing its weak points, he published it as a scientific matter, to be the subject of further investigation by himself and others.

The immediate reception of the work is said to have been lukewarm, and this was but natural, seeing that the book is free from the sanguine and exaggerated air often used by those who wish to overthrow established ideas. The natural objections, that the experimental proof was not sufficient for all the claims made, and that smallpox had been known to follow casual cowpox, checked the enthusiasm of many. For three months after the publication Jenner lived in London, but was not able to obtain a subject on whom to test his virus.

Some of the earliest opposition was made by the professional inoculators of variola, who saw a lucrative industry threatened. They had a champion in the powerful Dr. Ingen-housz, who, though no longer inoculating, still had a reputation in that line from the fact that he had, long before, been called to inoculate the children of Maria Theresa. He called Jenner's attention to some of the facts alluded to, in a courteous letter. Jenner received the information rather impatiently, and soon expanded his side of the correspondence into a pamphlet which he published in April, 1799, entitled *Further Observations on the Variola Vaccinæ or Cowpox*. Like the first work,

this was dedicated to Parry. In the dedication Jenner expressed his pleasure at seeing the investigation so generally entered into. In the pamphlet, he said he had not been able to extend the inquiry much beyond the original limits, the reason, not given, being that the supply of vaccine virus was exhausted. He wished to communicate some new facts and to "point out the fallacious sources from whence a disease imitative of the true *Variolæ Vaccinæ* might arise," in order to prevent inoculators from producing a spurious disease; also to reiterate the advantages of cutting short the inoculated local disease as soon as it produced a sufficient influence on the constitution. A large number of details follow, most of them reminding one of commentaries on the *Inquiry*, and notes on some of the objections and criticisms on that work. Ingen-housz's case of smallpox after cowpox Jenner very properly rejected, because the cow at the time of infection gave out an offensive stench from the udder. He suggested the following possible causes of spurious cowpox: pustules which contain no specific virus; virus originally good but decomposed by putrefaction or some other less obvious change; matter taken too late in the progress of the disease; some peculiar morbid matter from the horse. He suggested that those engaged in the investigation should suspend controversy until they could ascertain what was and what was not cowpox. As to the settling of that problem he begged the question, as before, rejecting the farmers as witnesses and then going back to their criterion, as the one the most worth following. According to this, spurious cowpox vesicles ("blisters on the nipple") "never eat into the fleshy parts like those which are commonly of a bluish cast, and which constitutes the true Cow-Pox." As to the change in cowpox matter, Jenner was on firmer ground, for he had the extensive history and experience of variolation to furnish examples. For preserving cowpox virus he recommended that the lymph be dried on glass or on a quill, and afterwards secured in a small vial. Thus prepared, he had found the lymph perfectly active at the end of three months. He was as yet unable to say when the virus should be taken, but advised it should not be after ulceration (as was likely to happen) had occurred. He said that severe local lesions and sometimes general symptoms might follow the use of such material, and yet the constitution receive no protection—facts that even now are not remembered as often as they deserve. After another discussion of grease, Jenner passed on to the local lesion of cowpox and its treatment. He clearly realized that the violent symptoms sometimes seen after vaccination are secondary and do not indicate immunity, and, following the procedure sometimes used in variolation, he urged the application of red precipitate ointment or similar preparations. At this time

he thought a single lesion sufficient to render the body immune to smallpox, while on the other hand he admitted that a large number of vaccine lesions might be fatal. The latter admission seems directed to reports of death following vaccination, some of which, useless now as evidence, were early published. Jenner also cited some cases illustrating the fact that the system might resist the action of smallpox even when vaccine inoculation was cut short before the virus had acted upon the system. His conclusions are not quite clear, for while the first patient tested in this manner may not have had smallpox (as seems probable to me) Jenner admitted that those who were inoculated from her did have variola, adding, "we may have it in our power to produce mild smallpox at will." Obviously, at the time this was written, Jenner did not anticipate the extirpation of smallpox, and in fact he went on to suggest variolation as a test of the certainty of cowpox in practice, asserting that "no injury or inconvenience can accrue" from it, though only a few lines farther he admitted that in numberless instances inoculated smallpox was "baneful to the human frame." Recurring to the cutting short of the vaccine lesion, Jenner admitted that he did not know at what stage this should be done. He hoped "for further reasoning and experiments." Jenner then took up the consideration of smallpox, showing that "the constitution cannot be rendered totally unsusceptible of the variolous poison." As he truly said, smallpox is a "distemper not well understood" and he was equally correct in thinking his own discoveries would promote its investigation, though he could not be expected to realize how, for more than a hundred years, that distemper would continue to baffle the most accomplished investigators. Jenner also devoted some attention to the cases of eruption after vaccination, observed by Woodville and Pearson, but he did not state, as clearly as he might have done, that the patients had been accidentally variolated.

By the time this pamphlet was in circulation, vaccination was going on actively, assisted very materially by the writings and the virus of Woodville and Pearson, who, beginning as friends of Jenner, became his bitter rivals. The rapid development of vaccination, before the investigation hoped for by Jenner, depended upon certain facts always well to bear in mind, but often forgotten. One is the intense eagerness with which all alleged healing methods are accepted and put into practice without criticism. Another, even more important, is the knowledge of what smallpox meant to Jenner and his contemporaries. This is by no means easy to recall, but some facts and figures may assist. For more than a thousand years smallpox had existed in Europe. Leprosy and bubonic plague had so far disappeared as to be almost forgotten; some other

plagues of the middle ages, such as the sweating sickness, were no longer known; syphilis, common enough and still severe, was less feared than before, but smallpox kept up its original virulence and all its horrors. In the middle of the century De la Condamine estimated that every tenth death was due to smallpox, and that one-fourth of all mankind were either killed by it, or crippled or disfigured for life. "From love and small-pox," so ran the proverb, "none remain free." At the end of the eighteenth century forty thousand people died annually of smallpox out of the ten millions of the Prussian population. In 1800, it was imported into England twenty times by the Channel Fleet alone. In Russia one-seventh of all children were said to die of it. So rarely did children escape it that it was known technically and among the people of Germany as *Kinderpocken*. Language was not strong enough to convey the fear of the disease. The most temperate writers spoke of it as a "horrid pestilence"; the eruption was frequently described as a "heavy burden." Though it varied in severity from year to year, and though inoculation for a time lessened the dread, there was no reason for hoping the disease would naturally decline as some other pestilences had. Inoculation, while often an advantage to the individual, increased rather than lessened the total extent and the absolute mortality of the disease. If small pox was feared in Europe, it was no less so in America, and especially in the young United States. Again and again it had raged among the colonists, as it had among the aborigines. In 1721, more than half the population of Boston had smallpox and eight hundred and fifty died of it, and in 1792, having appeared and disappeared many times in the interval, 8,346, almost half the population, were affected, a still larger number being protected by previous attacks. Waterhouse vividly describes how among the people of New England, "the most democratical region on the face of the earth," "the fear of smallpox led to restrictions of liberty such as no absolute monarch could have enforced." The Cambridge professor of medicine, the "Jenner of the new World," as Ring named him on the snuff-box Lowell thought mythical, explained the situation in the whole civilized world when he added: "We cannot wonder that to a people thus circumstanced the announcement of a mild, safe, and comparatively pleasant and non-contagious substitute for the smallpox was received with an ardor bordering on enthusiasm." Institutes for cowpox inoculation were organized before the end of 1799. Within another year Jenner wrote that 6,000 people had been vaccinated. By this time the method was already used in many parts of the continent. Aubert, who was sent to England to investigate the matter, reported to the French government in 1800. On December 10, 1800, Lavater wrote that over 1,000 children had been

vaccinated in Geneva, where the physicians had so arranged that pastors gave printed advice at the end of baptism, offering free vaccination to the poor. The startling events surrounding Napoleon's rise to the mastery of Europe did not interfere with the interchange of virus and writings among the vaccinators of various countries. While Napoleon himself liberated prisoners of war at the request of Jenner, Godoy, the notorious Prince of the Peace, started a vessel around the world, with children to be vaccinated *en route*, in order to spread the marvelous remedy in the New World. In 1806, it was said that 230,000 had been vaccinated in the Philippines. In 1800, Waterhouse began to vaccinate in Boston, Hosack soon afterwards in New York. Waterhouse said that vaccination was not begun in Philadelphia until a late period, "the leading physicians there pronouncing it too beastly and indelicate for polished society," but a marginal note, unsigned, in the copy of Baron's *Life of Jenner*, in the Boston Medical Library, says that "Dr. Wm. Yates, an Englishman, is said to have brought vaccine from Jenner in June, 1799, and vaccinated in Philadelphia." At all events, John Redman Coxe, of that city, published his *Observations on Vaccinia*, in 1802. By a common irony of human nature, the new means of saving life was soon spread among the red men who were still far too numerous and active for the comfort of the expanding white race. When the Royal Jennerian Society for the Extirpation of Small-pox held its first Festival, May 17, 1803, with "300 noblemen and gentlemen" present, a poem was read, containing the following lines, valuable alike as evidence of the spread of vaccination and of the poetic gifts of the bard:

"See prowling Indians, fixed at thy applause,
Trace thy vast gifts from the Eternal Cause;—
With peals of rapture rend the wondering air,
Lay bare their arms and mark thy glory there."

The same Society, the ideas and aim of which are fully expressed by its title, had already prepared a notice to be given by clergymen at the baptism of children, containing the following: "As you value the life of your infant and the safety of your neighborhood, you will immediately avail yourself of the advantages offered" (in vaccination).

The first thought in reference to this is that it would have been better had the matter been turned over to a commission or commissions, in order to have proper tests made. A little consideration, however, will show that this would probably have been futile. It would have been difficult to form competent commissions. The best students of pathology at that time were devoted to lines quite different from the experimental field opened by Jenner. They would have brought to the subject no more technical skill, no better ability to weigh evidence, and prob-

ably no interest. Waterhouse was quite right when he said that to wait until vaccination was demonstrated to give permanent protection would be imitating the Irishman's son, who was told not to go into the water until he had learned to swim. That being the case, nothing could have been better than the widespread experiment that was made.

In the history of the relation of the Prussian government to vaccination in the earliest days, we find much to admire, but in a country with less strongly developed bureaucratic instincts the same plan could hardly have been followed. Vaccination was begun very early in various parts of Germany, Pearson having sent threads containing virus to Berlin, in 1799, by two noblewomen, one of whom also carried some material from Jenner. In the very beginning, Hufeland had opened the pages of his influential *Journal für die Arzneykunde* to articles on the subject, and warmly advocated the operation himself. The Prussian government first took official notice of the discovery in a circular of July 11, 1801. In this it was said that vaccination was not yet sufficiently understood to enable one to declare positively as to its merits; though reports were very favorable, the observation and collection of cases was still very important. In the meantime, it was thought best to lay down rules, so as to make use of observations and set bounds to the enthusiasm of vaccinators. Those permitted to vaccinate were accordingly named; they were ordered to keep journals, stating all particulars of their work, and to return these, under oath, every year to certain authorized bodies. Physicians were not to importune fathers, guardians, etc., to subject children to vaccination, still less to bid for patients, "partly because they were not yet able to predict the consequences of the operation, partly because physicians should be careful in experiments the effects of which they cannot state with certainty." Directions were also given regarding the proper sources, characters, preservation and use of vaccine virus. About a year after this cautious beginning, a proclamation was issued in which it was stated that 7,445 vaccinations had been reported, most of which had been tested by variolous matter, and among these were only four cases in which protection had not been definitely demonstrated. Vaccination was then permitted, under certain restrictions. An interesting light is thrown on the exploitation of the operation in this document—for I cannot imagine it to be a joke—in the statement that "it can not be proved that stupid children are made clever by vaccination." A circular of the same date made it the duty of physicians to recommend vaccination to parents, guardians, superintendents of orphan asylums, etc. Such persons as insisted on variolation were to be held responsible for any danger resulting. On October 22, 1802, Rules were published for the foundation of

an Institute for Vaccination, to be opened December 1, 1802. The objects were to give all, especially the poor, conveniences for vaccination and the certainty of genuine material. Two healthy children between three and twelve years of age were to be maintained in the Institute, in order to insure a supply of material; certain days were set for vaccination; the patients were obliged to return on the eighth day; a journal was to be kept. A regulation of October 31, 1803, stated that new discoveries in medicine did not immediately come under governmental care. Since the previous proclamation the question as to danger and protection had been answered by the results of 17,741 cases. Eight thousand cases showed protection of from two to three years. Henceforth, vaccination was to be a special object of governmental control, in order to extirpate and destroy smallpox. The observation and reporting of cases was to continue; efforts were to be made to diminish the still existing prejudice against the operation. Variolous inoculation, though still permitted, was to be limited as much as possible. In case of need, country pastors, school-teachers, and midwives were allowed to vaccinate, but only under direction of the nearest district physician. The sources of lymph were regulated, and traffic in virus was prohibited.

In most countries there was no control in any way. At the best, vaccination was carried on by physicians, surgeons, and apothecaries, and doubtless varied as much in method and results as did other therapeutic measures of the vaccinators. At the same time vaccination was taken up by the classes that have always zealously fostered new medical discoveries. Preachers and idle women were among the most active. The Rev. Mr. Finch vaccinated 3,000 people before 1802 was far advanced. Jenner spoke, in February, 1805, of 20,000 vaccinated by his "fair disciples," and one of them, Lady Charlotte Wrottesley, counted 10,000 of her own cases before 1808. One of Jenner's most malignant critics, Moseley, said: "The County Lord, Squire and Parson, encumbered with time and benevolence, have here employment offered them, and an opportunity of doing, as they were told, a great deal of good for a very little money, and also of making themselves better acquainted with their tenants, peasantry and parishioners." Jenner's lay disciples, however, were instructed, and he tells us few mistakes were made by them. This could not be said of the Gamps, merchants, peddlers, stage-drivers and sextons who followed the new business. By these, any sore was considered good for vaccination purposes.

It must not be supposed that vaccination was cultivated on so large a scale without opposition. There was some, but as in many other cases it often was either ridiculed or overshot its mark and hastened the measure it attempted to check. The assertion that

vaccination could not be depended upon for life-long immunity was almost universally derided by the contemporary advocates of the operation. "Had not the farmers proved that it was good for fifty or sixty years?" was the most frequent answer. The Royal Jennerian Society refused to investigate the time element, stating that it was settled, as early as 1804. The assertion that vaccination often left chronic ulcers, and in that respect was more unpleasant than smallpox, made little impression on a generation used to the issue and seton as mild and customary aids to health. The objection of Hufeland, that vaccination might make the human body susceptible to animal diseases, was one of the most reasonable advanced, but the assertions so often made in the beginning, that inoculation would be followed by bovine changes of mind, face, and figure could not make much impression on people who ate the flesh and drank the milk of the same species without harm. Still, some cases were reported in which it was asserted that after vaccination the patients coughed like cows or bellowed like bulls, and morbid fancy went so far as to predict the appearance of a new Pasiphae. Among the sarcasms launched, the neatest was that "the medical profession had introduced a new disease when it was not able to cure all the old ones."

Jenner never took part in the discussion that was at times warm but often frivolous. He did, however, publish a pamphlet, soon after the second, in answer to the publications of Woodville and Pearson. This was entitled *A Continuation of Facts and Observations relative to the Variolæ Vaccinæ or Cow Pox* (London, 1800).

In this, Jenner noticed the spread of vaccination, the satisfaction with which it was used, and the failure of those who attempted to depreciate it. He paid special attention to Woodville's cases of supuration following vaccination, explaining them as due to variolation. His explanation of the subsequent decline of such accidents in Woodville's practice was that the "cow-pox virus assimilated the variolous, the former being original, the latter a modification."

(To be concluded.)

Another Case of Explosive Eructations.—In our issue for November 1st we cited from the *Lancet* a case of explosive eructations. In that journal for October 18th Mr. Edward Horder, F. R. C. S. Ed., reports the case of an alcoholic who suffered from chronic gastritis. One day he came to Mr. Horder much alarmed, because on lighting a short piece of cigar, when eructating stomach gases, a slight explosion had taken place and singed his moustache. Shortly after seeing this case Mr. Horder read of another case reported in the *Lancet* by, he thinks, Sir William Gairdner.

TYPHOID FEVER AND DRINKING WATER.

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PHYSICIAN TO ST. FRANCIS HOSPITAL.

It is commonly believed that typhoid fever is found more frequently during the fall of the year than at other times in New York and in other cities having similar climate, because many inhabitants spend the months of July and August (or parts of them) in the country, where the chances for infection with the typhoid bacillus are said to be far greater than in the cities.

To see upon what facts this prevalent belief rested, I have arranged the typhoid mortality of New York city, during the years 1891 to 1901, on chart I, so that we can readily grasp its distribution among the different months of the year. We notice that people die of typhoid in New York in every month of the year; that this mortality is lowest in April and highest in September; that more typhoid patients die in January than in February, March, or April; and lastly, that during July one third more persons succumb to this disease than during January, and almost double the number of April.

If we now consider that the majority of typhoid patients die of complications, and sequelæ (as Hælscher, *Münchener medicinische Wochenschrift*, 1891, No. 43, showed from 2,000 autopsy reports by the figures 76 per cent. and 24 per cent.), and if we remember the time taken up by the incubation period, then we can take it for certain that three fourths of the dead represented here by the curve on this chart were infected at least two weeks previously to their demise; so that, if we wished to mark down the probable time of their infection, we should have to advance this entire curve to an earlier date by at least from two to three weeks.

Assuming that these 4,245 deaths represent about 10 per cent. of those that were affected by typhoid during these ten years, then we find that at least 42,450 New Yorkers suffered from this infection during this decade, or 337 during every month; and furthermore that, even during the healthiest season of the year as regards typhoid fever, namely during February, March, and April, at least 182 persons are attacked monthly in New York by this infection. In an investigation of the relation between Cholera Infantum and the Weather (*Medical Record*, March, 1888) I showed that with large statistics the mortality and the morbidity of the same infectious disease practically always remained in the same proportion to one another during the different months of the year, meaning that in those times and localities in which many persons are attacked by a certain disease, more will die of it than during periods

and in localities where but few are sick. The more infections the more deaths, and vice versa. Therefore we can correctly compare mortality with morbidity statistics of the same disease.

Again, we can deduce that, if two countries with the same climate, though far from each other, have become permanently infected by some pathogenic germ, the result of its action upon the inhabitants must show decided similarity regarding its distribution among the different months of the year. That this is true in regard to typhoid fever is shown by Chart II, representing 18,003 cases of this disease in the Prussian army during eleven years, arranged according to months. Comparing this morbidity curve with the mortality curve of New York, we notice a striking similarity, proving that the frequency of typhoid is distributed among the respective months of the year in exactly the same proportions among the soldiers of the Prussian army as among the inhabitants of New York. As Prussian soldiers do not recuperate in the mountains and at the seashore during July and August, like many New Yorkers, then we must look for some other possibilities of infection which both communities have in common. New York, as well as the cities containing the garrisons of the Prussian army, have long since been permanently infected by the typhoid bacillus; yet as to occupation, dress, and other habits, Prussian soldiers have but little in common with New Yorkers, proving that there must be a *chief carrier* of typhoid infection, equally common to New York and to Prussia, which is similarly influenced as to its efficiency by the similar climate.

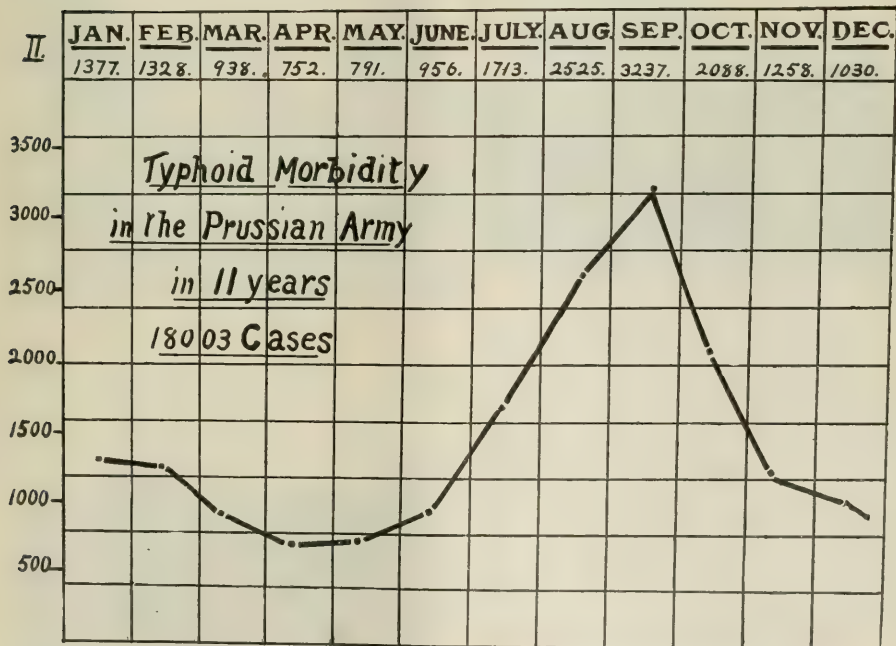
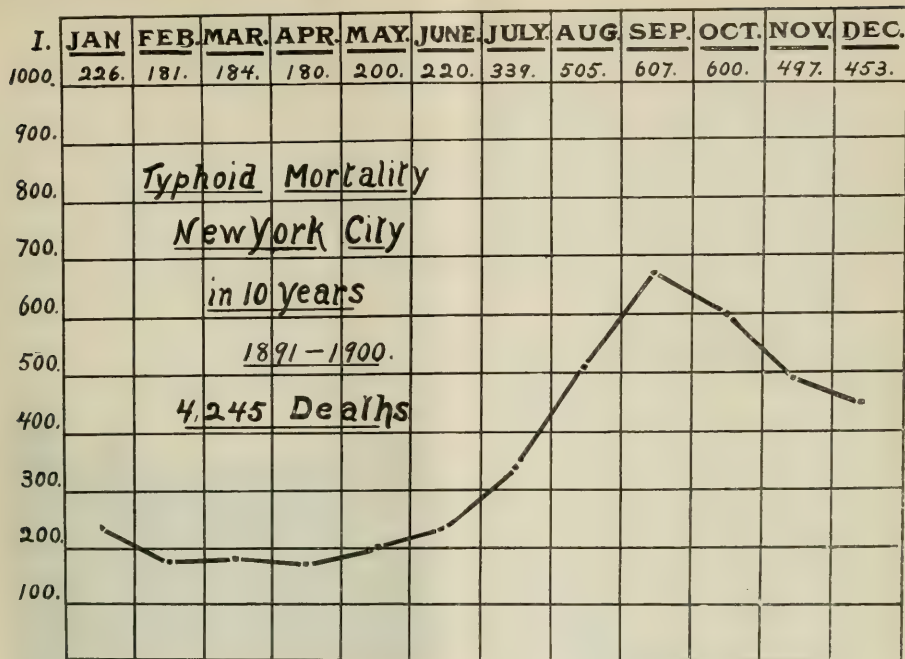
That this variation of typhoid-frequency is due to the changes in the atmospheric temperature is plainly visible on these two charts. Remembering that typhoid infection of the human body is not recognized as a rule until weeks after it has occurred, we may say in view of these two curves that the warmer the weather the more typhoid, and vice versa, in New York as well as in Prussia.

That the variations of atmospheric temperature, by their *direct* action upon the human body alone, do not cause typhoid infection is beyond debate, and therefore, we must look for an *indirect* action of atmospheric heat upon the human body as well as upon the common chief carrier of this infection.

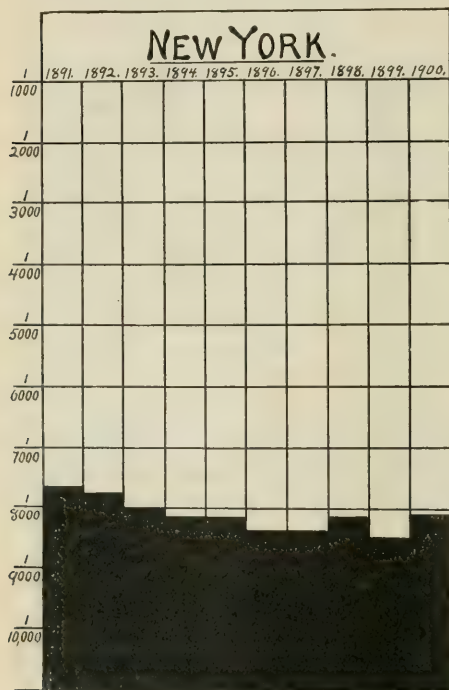
This indirect action of heat can only consist (1) on the human system, in the increase of thirst, the greater consumption of drinking water; and (2) on the common chief carrier, in increasing the number of bacteria in the drinking water during warm weather.

Therefore the common chief carrier of typhoid infection must be the drinking water, here and abroad.

To prove this inference by facts and figures, it was necessary to collect the typhoid mortalities of a larger



number of cities, and to compare them with the different systems of water supply. To obtain these data, I sent blank charts to the health authorities of the larger American and German cities, with the request that they would fill in the typhoid mortality of each month of the last twenty years, and, if possible, ten years with unfiltered, and ten years with filtered water. Wherever such reports were accessible in printed annual reports, there of course the correspondence only related to the water supply. After somewhat lengthy comparisons between the reports sent to me by the respective health authori-

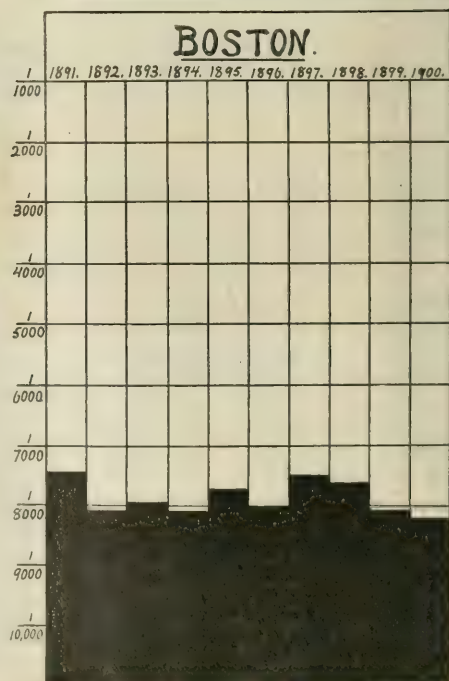
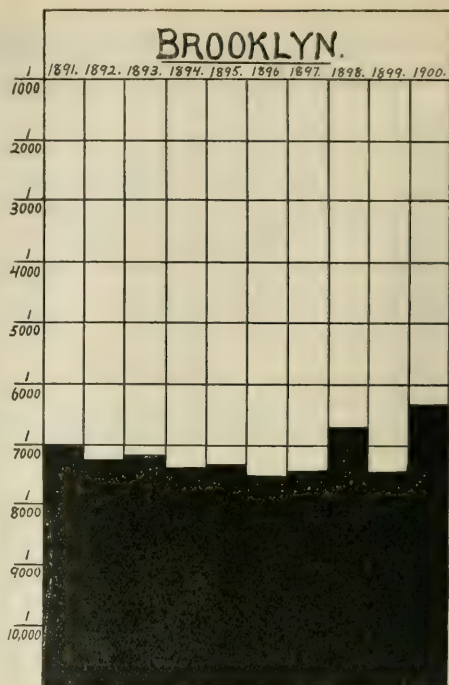


UNFILTERED DRINKING WATER.

ties, I concluded to demonstrate the relation between the typhoid mortality and the drinking water of each city on a separate chart.

The typhoid mortality of each year was figured out on the scale of 1 to 1,000 inhabitants, so as to enable a just comparison between larger and smaller cities. On the left side of each chart the figures of this scale are placed, and as all charts are of equal size and the marked-off spaces upon them also, we can not only see the height of the typhoid mortality of each year in its relative proportions to the other years at a glance, but also compare one city with another.

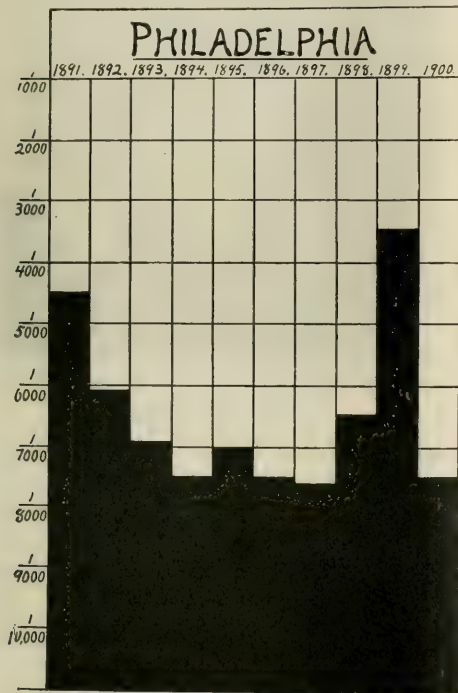
I must first call attention to the similarity of the



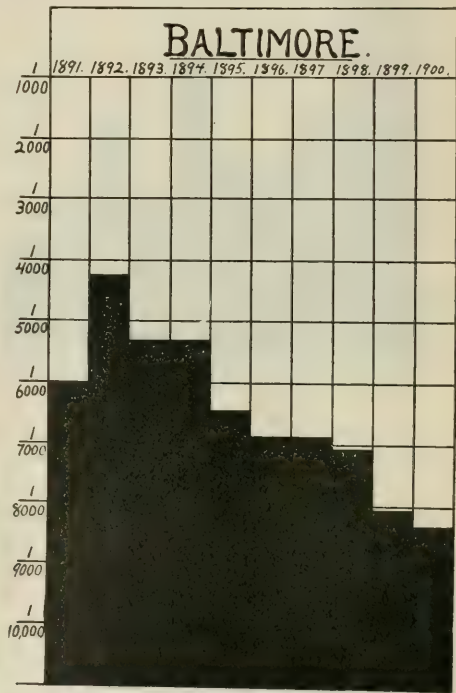
typhoid mortality in neighboring cities. This we notice on the charts of New York, Brooklyn and Boston. Their drinking water is not filtered at the waterworks. It is taken from reservoirs filled by numerous smaller tributaries of extensive watersheds, thinly populated, and remote from the possibility of bulky sewage-contamination, thus resulting in but a moderate concentration of typhoid germs in the water and in but an even mortality of one typhoid death to every eight thousand inhabitants annually. Another factor certainly influences this mortality, namely, that less water is consumed in its raw state by the masses in these cities than in some of

Possibly the somewhat warmer climate may also add to this showing by inducing the inhabitants to drink even more of this decidedly impure water than the people of the three cooler cities. The number of habitual water drinkers may also be greater.

In Chicago and St. Louis we find a very high typhoid mortality in the first years of the last decade, with a marked falling off during the second half. During 1891, one out of every 450 inhabitants died of typhoid fever in Chicago, the highest figure found in this investigation. The reduction of this mortality was effected by the removal of the suction-pipes of the waterworks in Lake Michigan from a too close



UNFILTERED DRINKING WATER.



UNFILTERED DRINKING WATER.

the others. The well-to-do people of New York drink filtered or spring water, and the working people drink tea, coffee, and beer.

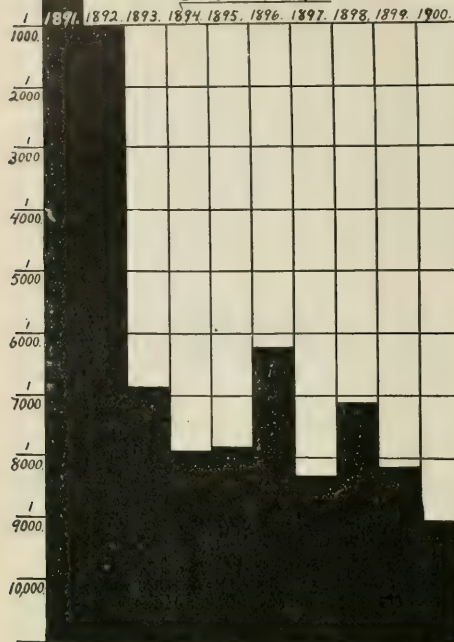
A second similarity we notice between the charts of Philadelphia and Baltimore. These cities also have no filtering plants. They take their drinking water from larger streams in close proximity to densely populated districts, the sewage of which empties into these waters, which therefore contain more impurities than the reservoirs of New York, Brooklyn and Boston, and accordingly Philadelphia and Baltimore have a much higher typhoid mortality (about 1 to 5,000).

proximity to the outlets of some of the main sewers, where they had had their position for years.

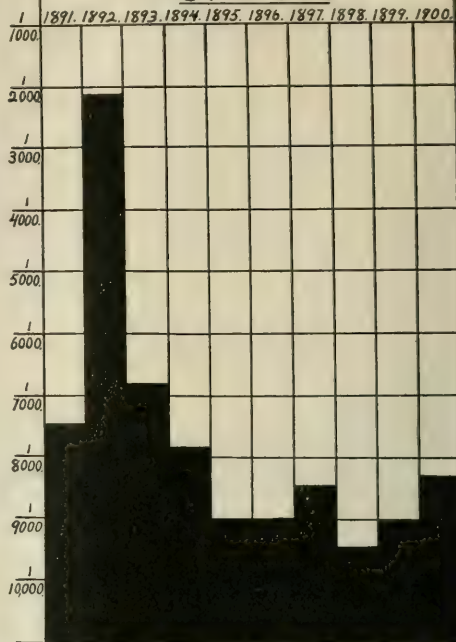
As to the statistics of St. Louis I do not regard them as sufficiently reliable, because a large number of deaths are classified in the annual reports of the health office under headings such as typho-malaria, remittent fever, and other names, which in part, at least, should have been added to the typhoid mortality. Both Chicago and St. Louis have no filtering plants.

If we now turn to the typhoid statistics in the "good, old times," then we find on the first chart of Berlin a presentation of these conditions during the

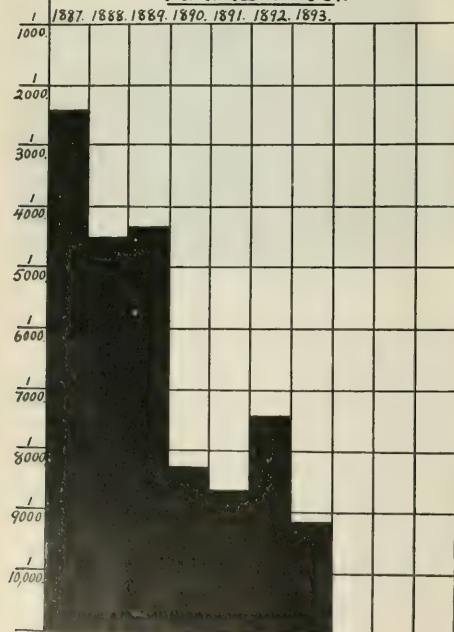
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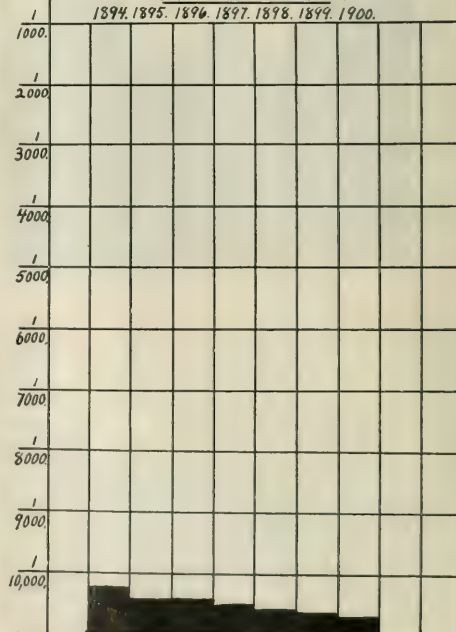
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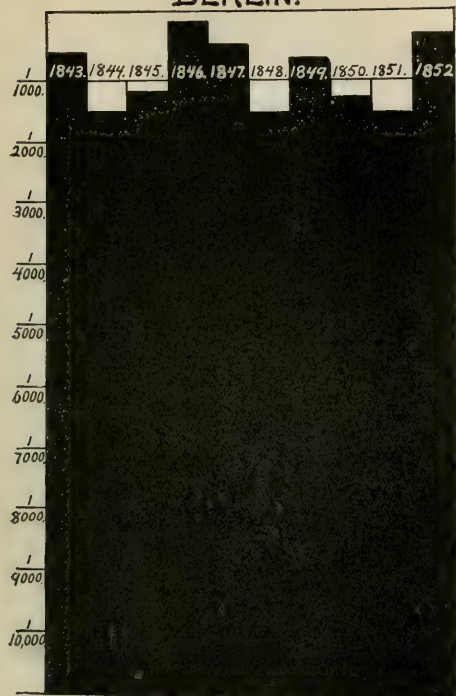
HAMBURG.



HAMBURG.



BERLIN.

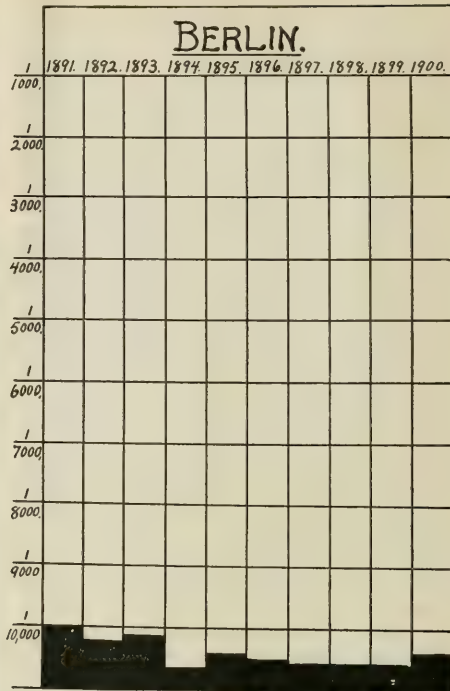


UNFILTERED DRINKING WATER.

last ten years before the introduction of central sand filtration, namely, from 1843 till 1853, a report which no doubt is characteristic for most cities of those times, for the sending of which I feel specially indebted to the statistical bureau of that city, all the more so because such ancient statistics were not obtainable in any of the American cities. We notice on that chart that from January 1, 1843 till January 1, 1853, one out of every 900 inhabitants of Berlin died annually of typhoid fever.

Before discussing the influence of central sand filtration on the typhoid mortality, I must insert here that the abolition of urban wells in the older European cities and the introduction of water supplies from outside alone caused a marked decrease. Furthermore, it must be mentioned that the cities of Munich, Frankfort-on-the-Main, Würzburg and Aachen have reduced their typhoid mortality still further by supplying their people with water taken from springs in distant mountains, while Wiesbaden but recently installed an extensive ozonization plant, efficient enough to destroy the life of all bacteria in the water. The reports from these cities, though highly interesting, do not come within the scope of this paper.

BERLIN.



FILTERED DRINKING WATER.

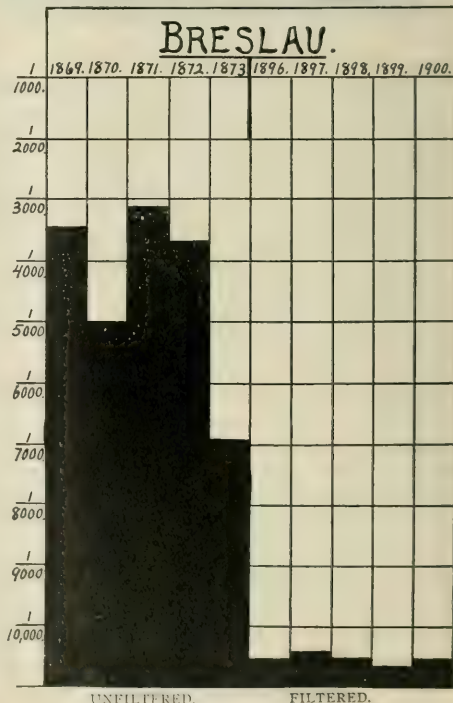
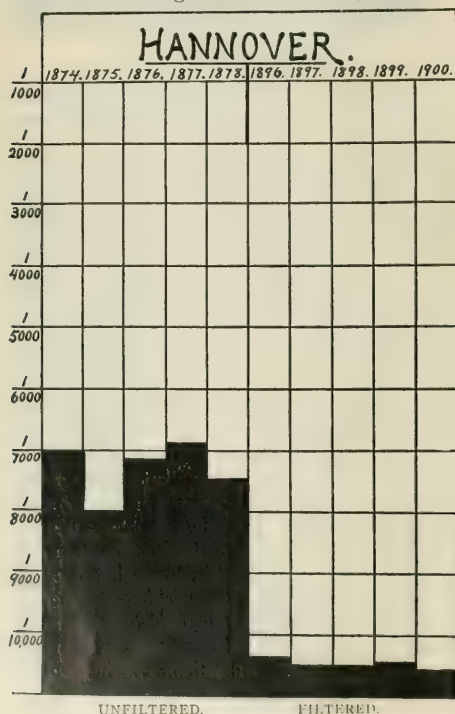
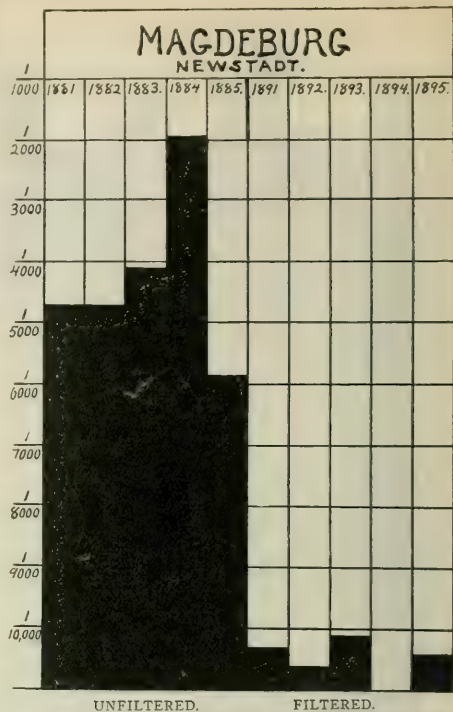
On passing to the influence of sand filtration of drinking water on typhoid mortality, we again find in the experience of Berlin the most conspicuous example, for instead of one typhoid death in every 900 inhabitants annually from 1843 to 1853, this city lost but one person out of every 9,000 of typhoid annually from 1883 to 1893, although not all of the city's wells had been closed and the supply of filtered water from the old waterworks (installed in 1853) had become insufficient on account of the rapid growth of the city. But when, about 1892, the new waterworks which could supply 2,500,000 inhabitants with pure, filtered water, were completed, this mortality was promptly reduced to one in 50,000, although the population of Berlin had increased from 400,000 in 1853 to 2,000,000 in 1890.

This same influence of the installation of filter-beds we notice on the charts of Hamburg, Hannover, Breslau and Magdeburg. Specially notable is the fact that the typhoid mortality of these cities during the last seven to ten years is equally low, 1 in 50,000; to me the absolute proof that *the drinking water of the cities is the chief carrier of typhoid infection*. On comparing the two charts of Hamburg we can notice the rapid action of water filtration. During the fall

of 1893 the Hamburg filters began their work, and during the following year the typhoid mortality of that city dropped below 1 in 10,000, and reached the low mark of 1 in 60,000 in 1900. If Hamburg had installed its filters before the spring of 1892, then its inhabitants would have been spared that terrible visitation during the late summer and fall of that year, of having 18,000 persons attacked by Asiatic cholera, of which 10,000 (in round numbers) died; for cholera, like typhoid, is chiefly spread by drinking water. The fact that the city of Altona, practically a part of Hamburg, with 150,000 inhabitants and taking its drinking water from the same river and below both cities, had but 500 cholera patients, most of whom worked in Hamburg during the day-time, proves the truth of this assertion, for Altona had had its own waterworks with complete sand filtration since 1876.

In summing up the results of this investigation I submit the following conclusions:

1. All rivers, creeks, brooks and lakes located in populated districts of the United States and of Germany have long since become permanently infected by the typhoid bacillus.
2. The chief carrier of typhoid germs into the human system is the drinking water of cities and towns.
3. All cities and towns which are compelled to take their drinking water from lakes, rivers, or



brooks, are in duty bound to clean the same by central sand filtration at the waterworks.

In conclusion I take pleasure in thanking all health authorities who aided this investigation.

114 EAST FIFTY-SEVENTH STREET.

TENT LIFE IN THE TREATMENT OF TUBERCULOSIS.*

By A. MANSFIELD HOLMES, M. D.,
DENVER, COLORADO.

Out-of-door life as a treatment for tuberculosis is by no means a new theme. It is, however, one that is year by year growing into increased importance. For many years this method of treatment has been strongly advocated by such men as Brehmer and Dettweiler, of Germany, Bennett, of England, and Trudeau, of our own country. The world, however, has been slow to profit by the results of their experience.

Even to-day it is a surprising fact that a large percentage of those afflicted with tuberculosis give a history of having worked in poorly ventilated offices. For years they have slept in rooms with windows closed. Ventilation is a subject that frightens them. Hence, it requires some courage to advocate the radical reform of out-of-door and open air life.

TENT LIFE.

It has been my good fortune, during the last five years, to see much of tent life in Colorado. I have availed myself of the opportunity to experiment along this line and have carefully noted the results. These observations have been made with a view of ascertaining the practicability of tent life in the treatment of tuberculosis.

My first experience with this method of treatment was secured under more or less unfavorable conditions. Tuberculous patients coming to Colorado almost invariably manifest a tendency to flock to the larger cities. By this course they fail to realize the advantages of the climate. Lack of means compels many of these patients to avail themselves of remunerative employment. Under existing conditions the best they can do, if they are successful in securing employment, is to seek a residence in the suburban district, which furnishes them an opportunity to breathe purer air when not employed.

My first experiments were made in the more thickly settled parts of Denver. Tent sites were secured on unused parts of lawns adjacent to the buildings where patients arranged to take their meals. Even with these uncongenial environments the results were good. Realizing the impurity of the

air in these central localities, I advised my patients to try the suburbs of the city. The results obtained by this method were more marked. This led to the selection of rural and mountain sites for tent colonies. In these districts I have secured my best results. This is due to a purer air and the ability to establish and enforce a more rigid discipline.

Many patients have attempted tent life without the systematic rules necessary to overcome the hardships and inconveniences so often experienced. A careful study of the subject has made it an easy matter to suggest remedies.

Another difficulty which I have constantly met with is the tendency on the part of patients to limit the period of tent life to a few months during the summer and fall. For the purpose of making a practical test during all seasons of the year, I found it necessary to formulate a system of rules and to make radical changes in tent architecture.

TENT ARCHITECTURE.

Tent architecture is one of the chief factors upon which the success of tent life depends. The *ordinary wall tent* is the simplest form in use. This form has undergone many improvements. Probably the best tent yet devised is the *Munson Sanitary Tent* recently adopted by the United States Army. I have introduced this tent into our sanatorium during the past year, and of all forms we have tried, it gives best results. Even with the improvements and devices that have been proposed, I have been unable to find a tent that gives entire satisfaction during all seasons of the year.

THE TENT-COTTAGE.

After many attempts, the inconveniences which I have heretofore encountered have been overcome by combining the advantages of a tent and those of a cottage, constituting what is known as a "tent-cottage." I shall attempt a brief description of the *Sanitary Tent-Cottage* which I have adopted.

Principles of Construction.—This cottage is built of a framework of lumber upon a floor 10 x 12 feet in dimensions. The wall is five feet high. This frame is covered with heavy canvas in the form of an ordinary wall tent; the tent wall being 2½ feet, reaches within 2½ feet of the ground.

Eave Ventilation.—The cottage is constructed with double walls. The inner wall consists of heavy canvas extending from the floor to the full height of the walls. The outer wall is separated from the inner wall by an air space of four inches. The outer wall consists of two sections. The lower half (2½ feet) is made of half-inch lumber to be known as the wainscoting; the upper half (2½ feet) consists of the wall of the tent proper already explained. An open space of two inches is left between these two sections of the outer wall. This opening extends

* Read before the meeting of the Mississippi Valley Medical Association at Kansas City, Mo., October 15, 16, and 17, 1902.

around the entire tent. The air passes through this two-inch opening and thence upward through the four-inch space between the inner and outer walls and enters the tent at the eaves or the top of the walls. For want of a better term I have called this the "eave ventilation." This system permits the air to enter the tent through both sides and both ends by means of a continuous open space, without producing a draught in any portion of the tent.

Roof Ventilation.—A system of "roof windows" has also been adopted, which is inexpensive and can readily be manipulated by the patient from any part of the tent.

Windows.—Windows have also been designed for the rear end and either side of the cottage and for the upper half of the door. These admit the sunlight and may be opened and closed by a system of ropes, pulleys and weights. The windows are covered exteriorly by mosquito netting or a wire screen to

fly, which is elevated six inches above the roof of the cottage and projects one foot at each end and at each side. This protects the cottage from the hot sun, the snow, and rain. It further facilitates the ventilation of the tent, adds comfort, and increases the strength and durability of the structure.

Portability.—Finally, the entire structure is held together by a special *system of bolting*. By removing eight bolts the frame of the structure is separated into five parts, which renders it easily portable.

Cost.—The approximate cost of constructing such a "tent-cottage" is \$60.

Advantages.—Points considered in the construction of the "Sanitary Tent-Cottage": Stability, durability, and portability; lightness of material and economy of construction; ease of manipulation and economy of space; it provides the maximum of heat, light, and ventilation; may be used in any climate, and is much cheaper than an ordinary cottage. Realizing the difficulty of giving a description of such a cottage, I have prepared a model which is on exhibition for the inspection of those who are specially interested in the subject.

RULES GOVERNING TENT LIFE.

Tent life, to be made ideal, must be governed by exact discipline. For sanitary purposes, tents and tent-cottages should be carefully tended and should be fumigated at regular intervals. All bedding should be periodically exposed to the air and sunlight. The floors should be kept scrupulously clean.

A tent should be occupied by but one person. When a tent is used chiefly for sleeping purposes a floor is not an absolute necessity, although it is a luxury which adds much to the comfort of the patient. The sanitary condition can be more easily regulated with a floor. In dry climates, possessing a sandy and porous soil, the floor can be dispensed with, especially if economy is an important point with the patient. A tent without a floor is not to be recommended for a prolonged residence. Tent life is, or should be, practically an all-day, all-night, and an all-the-year-round out-of-door life.

It should be remembered that a tent is intended chiefly as a sleeping apartment. The tent-cottage, however, can be made an ideal living room in which the purity of the air can be maintained and the temperature regulated during all conditions of the weather.

Tent life, when governed by well selected rules, becomes thoroughly enjoyable. Before beginning such a life, however, patients almost invariably entertain exaggerated ideas of its dangers and inconveniences. A short trial soon dispels this fear and they are with difficulty induced to return to an indoor life.



FIG. 1.—Showing frame of "tent-cottage" and "system of bolting." The wainscoting is in position. The inner wall of heavy canvas is in position on the front and rear end and the right side. The upper half of the inner wall on the left side has been dropped. The two-inch opening above the wainscoting is clearly shown.

prevent insects from entering when they are open. A screen door may also be used in summer.

Tent Pavilion.—By a simple mechanism the upper half of the outer wall of each side and the rear end can be converted into an awning, which changes the "tent-cottage" into a "tent-pavilion." A similar mechanism may also be applied to the upper half of the inner wall. By this means the walls are practically removed, permitting a free circulation of air through all parts of the interior of the tent, and at the same time the patient is protected from the hot sun of summer days. These may be opened or closed at will. During the winter they are closed. Mosquito netting may be substituted for the heavy canvas of the inner wall during the hot months of summer, when so desired, at very slight expense.

The Fly.—The tent-cottage is provided with a

RESULTS OF TENT LIFE.

The results of tent life, studied clinically, may be briefly summarized: The appetite increases; nutrition improves; cough disappears; night sweats cease; sleep improves; weight increases; temperature falls; tendency to "take cold" diminishes; respiration improves; and the pulse rate diminishes.

SUITABLE CASES.

Marked improvement has been observed in all stages of the disease as a result of tent life, but early cases and those well advanced in convalescence offer the best results. If a case is hopeless, by all means let the patient remain at home in the midst of his family and friends.

TREATMENT.

During recent years there has been constant experimentation in the treatment of tuberculosis. If these experiments have demonstrated anything it has been that the closer patients are brought to primitive Nature the better the results; and the nearer they are confined to artificial conditions the greater the ravages of the disease. In other words, tuberculosis is a disease that arises from artificial conditions; it is a disease that Nature, unmolested, seldom if ever propagates. Hence, if we hope to find a successful treatment for tuberculosis we must substitute primitive Nature for the artificial conditions of modern civilization. The conditions of primitive Nature are fresh air and sunshine, good food, and cheerful surroundings. These conditions are found in an out-of-door life.

PREVENTION.

If primitive Nature possesses conditions capable of reinforcing the vital functions of the patient and checking the tuberculous process, we may with confidence look to the same factors as the best means of preventing the disease.

Vaughan has estimated that, at the present death rate from tuberculosis, 10,000,000 or more of the 70,000,000 people now living in the United States will die of tuberculosis unless something is done to prevent it.

There is much that can and should be done. Statesmen, municipal authorities, physicians, and philanthropists should unite to establish sanatoria. A campaign of education, which is now in active operation, will do much toward giving the masses a clearer conception of the nature of the disease, will assist them in decreasing the sources of infection and increasing their resisting power, which will be the means of preventing and curing it. The day is not far distant when sanatoria providing tent life the entire year will be considered the ideal institutions for the treatment of tuberculosis. A resort best suited for such institutions should be within or adjacent to a pine forest; it should possess a congenial

and attractive environment with an eastern or southern exposure; with a sandy or porous soil and good drainage; with pure, dry and cool air, and a maximum of clear days and bright sunshine. There



FIG. II.—Showing the "tent-cottage" as used in winter. The fly intact, the sides and door closed, the "roof-window" open. The opening between the two sections of the outer wall is plainly shown.

should be well regulated sanitary rules and strict discipline, and a management that will give good, wholesome food and light employment when patients are able and willing to take part in productive industries.

Those who cannot avail themselves of Nature's

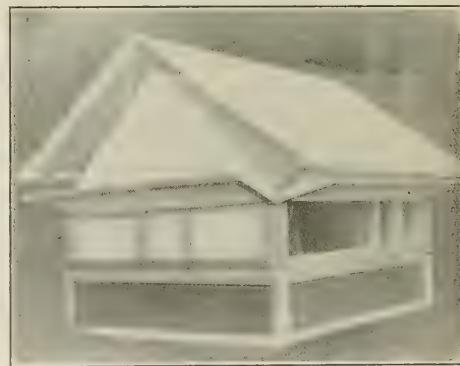


FIG. III.—Showing the "tent-cottage" as used in summer. The upper sections of the outer walls are converted into awnings. The rear end shows the inner wall intact. The side shows the upper half of the inner wall lowered, which practically removes the side of the "tent-cottage" converting it into a "tent-pavilion." The same mechanism may be applied to each side and to the rear end. A small window is shown in the centre of the side. A similar window may be inserted in the rear end. When converted into a "tent-pavilion" the sun can penetrate to any portion of the interior.

best resorts, rich in ozone and fragrant with pine balsams, should adopt the next best course and live a tent life at home.

205 JACKSON BLOCK.

ORTHOFORM IN THE DIAGNOSIS OF GASTRIC ULCER.*

By FRANK H. MURDOCH, M. D.,
PITTSBURGH, PA.

Orthoform is a local anæsthetic. When brought in contact with exposed sensitive terminal nerve endings, as in burns, ulcers, abscesses, etc., its influence is decided and prolonged, lasting on account of its slow solution and consequent non-absorption for many hours. It is practically non-toxic; sixty grains taken by a man in the course of a day produces no symptoms whatever (1).

Manquat has given it internally to relieve the pain of gastric ulcer. Regarding the therapeutic value and uses of orthoform he says, "Taken internally orthoform seems to have produced some good effects against the pain of ulcer of the stomach (Goldscheider). A cachet containing 0.50 gramme of powdered orthoform, taken during the painful paroxysms, gives relief, which takes place in from five to ten minutes" (2). From the foregoing quotation it would seem that Manquat gave orthoform to relieve the pain of ulcer after the diagnosis had been made, but he drew no diagnostic inferences from his observations. Indeed it does not appear, so far as I can learn, that orthoform has up to the present time been employed as a means of diagnosis in ulcer of the stomach. To demonstrate its value when administered with this end in view I will report the following cases.

CASE I.—On October 29, 1901, Mr. J. A. C.' a former aged fifty-one years, came to me, complaining that for ten years past he had suffered from severe attacks of pain, which came on once or twice a year and lasted from four to six weeks. The unusual feature of these attacks was that the pain while more or less constant, became so severe when he assumed either a sitting or recumbent posture that he was in the habit of walking about to secure a measure of relief. The present attack has continued longer than any of the preceding ones, having begun three months ago; and the pain has been steadily increasing in severity. For the past three weeks he has had great difficulty in obtaining sleep. He could not sleep walking about and the pain prevented him from either sitting or lying. He found, however, that by kneeling he could sleep for fifteen or twenty minutes.

Present Condition: Within two months he has lost twelve pounds in weight. His appetite is good, his bowels are constipated. His lungs are clear, his liver normal in size. The heart's apex is in the nipple line and three inches below. There is slight but not circumscribed tenderness on deep pressure in the epigastrium, but none to the left of the lower dorsal vertebræ. His knee jerks are present and his pupils respond to light. Examination of the stomach contents, taken an hour after Ewald's test meal, shows that free hydrochloric acid is present

in excess, being + 56, with a total acidity 88. His urine is normal.

Now, severe pain in the epigastrium may be due to hyperchlorhydria, permanent hypersecretion, hyperæsthesia of the stomach, nervous gastralgia, biliary colic, cancer, certain affections of the spinal cord, and gastric ulcer. The pain from which this man suffered did not correspond in character to that usually experienced by patients affected with any of the diseases just mentioned, and yet the high degree of hyperchlorhydria, together with the slight tenderness on deep pressure in the epigastrium, led me to think of ulcer. I therefore prescribed orthoform in eight-grain doses, put him upon a liquid diet, and directed him to return at the end of a week. At the appointed time he presented himself and informed me that when he reached home at 9:30 P. M. after his former visit to my office he took a powder, and in twenty minutes experienced entire relief. He went to bed at 11 P. M. and slept soundly until 2 A. M., when he awoke with slight pain, but did not take another powder. Instead, he walked about for an hour, then lay down again and slept until 6 o'clock in the morning. Each succeeding night he took a powder and slept well, waking only once or twice. At this time, *November 6th*, I found a circumscribed spot of great tenderness in the epigastrium and one to the left of the tenth dorsal vertebra. I directed him to continue the liquid food and gave him bismuth to be taken in water three times a day.

November 13th. He has taken orthoform every second night during the past week. When he took a powder at bedtime he awoke once with some pain, but could turn over and go to sleep again. When he did not take a powder he awoke with pain and was obliged to rise and walk about for an hour, when he could lie down and sleep until morning. There being no further indication for its use the orthoform was discontinued.

November 10th. To-day he came in complaining of pain, not in the epigastrium, but extending from a point four inches below the left nipple to a point four inches to the left of the eleventh dorsal vertebra, which was promptly relieved by galvanism.

On February 12th, having lived on liquids for about three months and a half, and the circumscribed spots of tenderness having entirely disappeared, he was permitted to take solid food.

CASE II.—On September 20, 1899, Mr. L., aged forty years, came to me complaining that for two or three months past he had experienced distress in the stomach which came on two or three hours after meals and which was relieved by eating. The night before I saw him he had such a severe attack of pain as to require the application of hot fomentations to his abdomen; but he was not entirely relieved until he vomited. Examination showed that the whole epigastric region was very sensitive to pressure, and there was a circumscribed spot of tenderness to the left of the tenth dorsal vertebra. Suspecting an ulcer, he was put upon liquid food and bismuth. I also gave him some eight-grain orthoform powders with directions to take one should the pain return. That night and the next afternoon he again had an attack of severe pain, which in both instances was promptly relieved in twenty minutes by this remedy. The diagnosis now being established the orthoform was discontinued.

* Read at the annual meeting of the American Gastro-enterology and Association in Washington, D. C., May 1, 1902.

On September 25th, the general tenderness over the stomach had disappeared but a small circumscribed spot situated two inches below the xiphoid cartilage and extremely painful on slight pressure could easily be defined. This patient lived on liquids for two months, when, the tenderness on pressure having disappeared, he was permitted to take solid food and made an uninterrupted recovery.

In doubtful cases where ulcer is suspected, Fenwick (3) gives a teaspoonful of salt dissolved in a glassful of water at a time when the stomach is empty; and if an open ulcer is present it usually brings on a sharp attack of pain. He also uses a weak galvanic current, the negative pole connected with a pad applied over the left hypochondrium and the positive over the lower dorsal spine. If there is gastric ulcer severe pain is excited so soon as the current begins to pass through that part of the mucous membrane upon which it is situated. But in the gastralgic form of the disease neither of the methods above mentioned can be used to advantage; because the pain is at times so excruciating that one would hesitate to employ any agent that might precipitate an attack. It is here that orthoform is of such great value, for, as it will not anæsthetize nerve endings when they are protected by skin or mucous membrane, it is certain that, if it relieves severe pain in the stomach, it can do so only by coming in contact with a surface from which the mucous membrane has been removed. I have never given orthoform in cachets but always in powder, and have found that in suitable cases it gives relief in twenty minutes. Its continuous use is seldom if ever necessary, because, as a rule, gastralgic attacks, when caused by ulcer, generally cease so soon as the patient is put to bed and restricted to liquid food.

Moreover, we have in opium a sure relief for pain; but orthoform is the only remedy which enables us to differentiate pain resulting from other affections of the epigastrium from that produced by gastric ulcer.

References.

1. *United States Dispensatory*, 18th Edition p. 1751.
2. Manquat. Therapeutic Value and Uses of Orthoform. *Nouveau Montpellier médical*, February 11, 1900.
3. Fenwick. *Ulcer of the Stomach and Duodenum*, p. 207.

Nugæ Medicæ Veterum.—Thus singeth one:

Like a port sculler one physician plies,
And all his art and all his skill he tries;
But two physicians, like a pair of oars,
Conduct you faster to the Stygian shores.

URIC ACID BOTHERS.

By WILLIAM S. STOAKLEY, M. D.,
CHERITON, VA.

The literature on this subject is immense; the remedies, theoretical and practical, are numerous; the graphic portraiture of chemical capers by reason of atomic combinations and recombinations, together with possible developments of molecular energy stored and released, are bewildering; but the *Ultima Thule* of the matter and exact procedures and positive results are as far distant at this era of medicine as in the days of our fathers, who, befogged as they were through lack of penetrative lights to peer into and through Nature's veil of secrets, were driven *ex necessitate* to extremity in thought from their gloomy standpoint in solving the problem of the painful toe, aching back, and perturbed kidneys—spurred on, too, very often, by sharp personal reminders that something must be done.

We see the everyday paintings of Nature but fail to give them more than a casual glance of appreciation and admiration, because we do not know the artist. Once, we knew the power behind the pencil of "Madam Nature" in all these ecstatic colorings of the forest in November, so delicately harmonized, then could one (like the naturalist,—Mr. Darwin, I believe—working on radiant matter, which was gradually escaping into space) well imagine "a hidden hand elaborating beyond the ken of mortal man" in conservation of energy for normal operation in every direction, from the single cell to a conglomeration of the same. Medical art begins, primarily, in sustaining, or endeavoring so to do, the hygienic status in cases where Nature is handicapped.

Without keen observation as to relief, by close attention to "Nature's sewers," for aseptic drainage of peccant matter from the system, whether it comes from the food, or broken down cells, all treatment cannot be other than futile.

No greater compliment could be paid to medicine to-day than to have it known and acknowledged to be conservative all along its lines.

That it has done, and will doubtless continue to do, drifting with the tendency of the other sciences we know—even from the astrological age. They are all its kith and kin, as is plainly revealed in its *ensemble*; and this kinship will be acknowledged the more as it advances.

The cheering reports of recoveries from the field of abdominal surgery, where a few years ago all died, is clearly an advance by virtue of a closer acquaintance with "Dame Nature's way of doing things." Conservative work begins in the tiny cell, going on and up under the guidance of a Master

Workman who is perfect in knowledge and absolutely truthful in purpose, to the point of perfection, subject to certain laws for its attainment, on the observance of which the architectural stamina of the edifice will depend.

Thanks to Virchow and Pasteur, and to all the workers who are forcing the profession of medicine to the front, and abreast with the other sciences with which, we are beginning to see, it is indissolubly connected.

Nothing can be done with good judgment in departures from health until the status of normality is learned.

In this instance of uric acid bothers, when their treatment is undertaken, success will depend on the status of normality—whether it be low or high in this particular case. The cells are feeble in some persons *a puero* and sometimes inherited. Having freed the burdened eliminants—not by storm, but rather through persuasion of the skin, with a tender touch of the kidneys and mild opening of the *via prima*, it can then be seen to what eccentric degree the emunctories have wandered.

They may have labored so hard that a little *rest* and a “toning up” may be absolutely required before any regular procedure as to drugs can be determined upon.

In meantime, noting the antagonisms to normality in this case, wherever they may harbor—in the earth, the air, the water, the age of the patient, the sex, the habits of the person, and all the little things in connection therewith—as we have learned what the little cell can do by way of cure in consumption, so we think, it can do the same service in the affections under consideration, provided it is not handicapped at the time, or of anæmic birth.

The engineer in field drainage looks first to the natural waterways, in order to make his work conform thereto; for he wants balance of antagonisms to get normal equilibrium of forces, that there may be complementary movements for permanence of action.

The farmer has long since learned about antagonistic forces and “contrarities”—*contretemps* from “bugs”—but he knows that these destructive insects are themselves destroyed by others, the result being an equilibrium.

This equilibrium in primal life, for normal energy is the goal medicine is seeking, if the loss of it is the cause of disease; and nothing can be more patent in everyday experience than that the whole world is operated on by opposing forces in order to maintain an equilibrium.

Physicians know that every pathogenic germ has its real or attempted counterpoise, and, adversely, every hygienic one likewise, and the tilt of the lever of energy for cellular health or disease will go to the strongest side.

Now, in these stagnations and perturbations in question, it is *rational* to relieve the burdened cells and equally so to “tone them up” after this relief has been given them.

This method of procedure is about the substance of the result of the wearisome thought which moved our fathers, as related above. They, too, were very careful to remember the old proverb, *Incidit in Scyllam qui vult vitare Charybdim*. If they could do no good they were sure to do no harm in the case in an opposite direction.

In the palmy days of “ye olden times” in the “sunny South,” foreign vintage had its devotees and exercise was not so popular as it should have been to keep up the necessary equilibrium for health, so these troubles were prevalent. In those days there appeared to be a “big lesson to be learned in bile.” It seemed to have the power of making the laity sick (“bilious”). This charge went for just what it was worth in the minds of the doctors. They knew, or thought they did, about where the trouble originated; besides, the old axiom, “the hair of the dog . . .” to be sure was “in the rough” at that time, but it had some significance, nevertheless, and to relieve and “whet up” the overloaded eliminants for natural work nothing appeared to be so applicable as calomel for the one purpose (relief), and quinine for the other (toning up).

The bile, besides “making people sick,” as was charged upon it by the laity, physicians discovered to have a very decided way of making them well, especially so in what are now termed uric acid troubles. That it was antagonistic to all the elements concerned therein was so plainly demonstrated that none could doubt it.

How this was done they did not know, and here is a lesson that our expert chemists, maybe, can teach us to-day. “The eating of the pudding” is an unquestionable test for that particular appetite only.

Calomel proved itself both catabolic and anabolic in these cases; after it, quinine with a touch of tincture of colchicum did good work.

Of course, an accurate diagnosis, under the new lights of this era of medicine, will indicate certain remedies, alkaline or acid, seemingly with some degree of accuracy, yet they will be found (like Pasteur’s tartaric crystals) not to fit all cases, and this is where a “hidden hand may be working” beyond our ken for the *tout ensemble* of the edifice.

In conclusion, it would seem invidious and unfair to single out particular preparations where there are so many, and many of them good, along this line; but it can be said fairly that those preparations which act through the liver give more permanent relief, and, I believe that, if it is not now conceded, further experience and experimentation will verify this fact.

Therapeutical Notes.

For Chronic Cystitis with Dysuria and Strangury.—Dr. Liégois (*Journal médical de Bruxelles*, October 23rd) ascribes the following formula to Malley:

R Venice turpentine..... 6 grammes (90 grains);
Camphor 4 grammes (60 grains);
Extract of opium. } of each 0.30 grammes (4½ grains).
Extract of aconite.)

M. For 60 pills. From three to six to be taken daily.

The following he attributes to Dujardin-Beaumetz and Yvon:

R Venice turpentine..... 4 grammes (60 grains);
Castoreum 2 grammes (30 grains);
Camphor 4 grammes (60 grains);
Calcined magnesia..... enough for 40 pills.

M. ft. pil 40. From three to four daily.

In vesical blennorrhœa, Gall reinforces by copaiba the anticatarrhal action of turpentine:

R Copaiba..... } of each 10 grammes (150 grains);
Bordeaux turpentine))
Calcined magnesia..... enough for 100 pills.

M. ft. pil 100. From three to four during each of the three meals.

Camphor in the Treatment of the Morphine Habit.—Hofmann (*Therapeutische Monatshefte*, July) finds that camphor leads, in healthy persons, to increased blood pressure and contraction of the heart, while morphine lessens the blood pressure and causes dilatation of the heart. In the morphine habitué, however, this effect of morphine is reversed, and stimulation ensues on the use of the drug. The "abstinence" symptoms which result from withdrawal of the drug should theoretically be combated by the use of camphor, and this Hofmann finds to be the case. He cites the case of a physician-patient showing that, by gradually decreasing the hypodermic dose of morphine and giving camphor by the mouth, these "abstinence" symptoms can be avoided. When the patient became accustomed to the camphor, validol in fifteen grain doses, was used. Trional was used occasionally to produce sleep. From about 7½ grains of morphine in the day on January 9th, the dose was reduced to about one grain by the 21st. The camphor was then given in ¼ grain doses twice, three, four, or five times a day, p. r. n. On January twenty-ninth plain sodium chloride solution was substituted for the morphine injection, and no morphine was given afterwards. The method was very successful in this, as in many other cases.

Calcium Chloride in Hæmorrhages.—Valère Cocq (*Gazette de gynécologie*, September 15th), whose experience with calcium chloride in hæmorrhages has been satisfactory ascribes the following formula to Bertignon:

R Crystallized calcium chloride 4 grammes (60 grains);
Syrup of mint 30 grammes (1 ounce);
Distilled water 90 grammes (3 ounces).

M. To be taken in the twenty-four hours, a tablespoonful every two hours.

The mixture may be renewed on the following days if necessary.

The following douche may also be prescribed:

R Calcium chloride 10 grammes (150 grains);
Sterilized distilled water..... 200 grammes (7 ounces).

M.

It should be preceded by a hot evacuant douche; the calcium douche being retained as long as possible.

Calcium chloride has been used with success in the treatment of hæmatophilia, hæmatemesis, enterorrhagia, hæmaturia, urticaria, purpura, hæmorrhagic variola, scorbutus, epistaxis and hæmoptysis.

For Chronic Pyelitis.—Dr. Liégois (*Journal médical de Bruxelles*, October 23rd) says that the charge that has been brought against turpentine, of speedily upsetting the stomach, may be brought with truth against benzoic acid and sodium benzoate, the drugs that of late years have replaced turpentine. The truth is that turpentine, taken in small doses with meals does not upset the stomach in such a way as is asserted of it. Such slight action as it has in that way may be overcome by combining with it the soft extract of cinchona, as follows:

R Venice, Bordeaux, or..... } of each 10 centigrammes
Canada turpentine..... } (1½ grain).
Soft extract of cinchona..... }

M. ft. pil. i. Three during each of the principal meals.

The author's special formula in chronic calculous pyelitis is as follows:

R Canada balsam..... } of each 10 centigrammes (1½ grain);
Balsam of Peru.))
Calcined magnesia..... enough to make 1 pill.

M. ft. pil. i. Three to be taken during each of the principal meals.

The author says: "I purposely add the balsam of Peru to Canada balsam; the former is to some extent a pepsic adjuvant; it doubles the anticatarrhal properties of turpentine; it prevents the ammoniacal fermentation of the urine consequent on the transformation into hippuric acid of the cinnamic and benzoic acids contained in it; and it enjoys, rightly or wrongly, a special reputation for expelling calculi, as says Lazarus Rivière, "*balsamum peruvianum ad calculos expellendos*."

Inhalations of Hydrofluoric Acid in the Treatment of Malaria.—Olivieri, an Italian physician, some years ago experimented with the inhalation of hydrofluoric acid in malaria subjects. Recently, Morgoni, of Levanto (*Nouveaux Remèdes*, October 8th), reported a series of tests which he conducted with this remedy. The inhalations, which lasted as a rule about half an hour at a time, were given usually during the period of apyrexia, by means of an apparatus resembling that used for inhalations in phthisis. The acid was diluted with two volumes of water, but even when stronger solutions were used, the author did not see any unpleasant symptoms, save a slight degree of lacrymation and conjunctival irritability. The inhalations of hydrofluoric acid were found particularly useful in cases of chronic malarial fever with obstinacy against quinine. They were also found efficient as adjuvants in acute cases of malaria in which quinine alone proved insufficient to relieve the paroxysms. Finally, these inhalations found application in cases in which a patient did not tolerate quinine at all.

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THE NEW YORK MEDICAL JOURNAL.

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NEW YORK, SATURDAY, NOVEMBER 29, 1902.

THE PROPOSED FOREIGN SERVICE MEDICAL CORPS.

Elsewhere in this issue we print a rough draft of a bill authorizing the creation of a Foreign Service Medical Corps as a portion of the Medical Department of the army. In documents accompanying the copy of the bill received at this office it is stated that the purpose of the proposed new organization is to be similar to that of the British East India Medical Service. The scheme, as we understand has suggested itself to a number of surgeons of United States Volunteers who have had several years' experience in the Philippines, and as at present elaborated it is the result of informal conferences among themselves and interchanges of views with medical officers of the regular army and with a number of contract surgeons serving in the Philippines. These gentlemen think it is essential to the existence of the corps upon a high plane that it should be an integral part of the army and subject to the surgeon-general of the army. They submit their plan to the surgeon-general, expressing the hope that it will be presented to the Secretary of War "with such advocacy as military usage will permit."

In an explanatory circular the promoters of the measure express their conviction that for some time to come properly qualified medical men will not emigrate to the tropics in sufficient numbers to enable the officials and employees of the government to obtain such medical services as they would receive in the United States, unless an incentive is offered them. Such an incentive would, of course, lie in the tenure of a permanent medical appointment under the government, with suitable provision for retirement and liberty to return home on the attainment of a certain

age or on the completion of a specified period of service.

While we think it will be generally conceded in professional and governmental circles that our work in the Philippines will always, or at least for a great many years, call for an organized medical service comparable to the British service in India, there may be some ground for questioning the expediency of making the organization an integral part of the army. It may be argued that practically all the advantages depicted by the advocates of the scheme under discussion may be had by putting the proposed corps in the hands of some other government department than that of war. Probably the duties of such a body of men, year in and year out, would bring them into much more frequent contact with the civil employees of the government and with the native constabulary than with military men, and all the prestige that comes from army discipline and rank could readily be secured for the members of the corps, as has been amply demonstrated in the case of the Public Health and Marine-Hospital Service, which, as is well known, is under the jurisdiction of the Treasury Department. It is probable that there will have to be created a new cabinet office charged with the administration of public affairs in our foreign possessions, and into the hands of such a department it may be thought, it would be preferable to give the management of a medical corps organized especially for foreign service.

THE UNWARRANTED USE OF MEN'S NAMES.

A correspondent addressing us from Lansing, Michigan, encloses a newspaper advertisement of a certain nostrum purporting to cure a long list of serious ailments, and says: "It scarcely seems possible you would endorse a patent medicine of the kind mentioned in the enclosed ad., and yet you might have expressed yourself regarding it. If so, and the medicine was what it claimed to be, it would be a God-send to thousands to know that a man of your standing in the medical world had endorsed it, for they would have no hesitation in purchasing the same. There are so many of these medicine frauds nowadays that it makes one tired to read the ads. I shall feel greatly obliged if you will say if the ad. is correct in regard to your endorsement." We have already written to our correspondent that we have

not endorsed the nostrum or ever heard of it before, but we wish to caution our readers against ever admitting the possibility of our having endorsed any nostrum.

In the advertisement we find the following passage: "That the ingredients of Dr. ——'s discovery will cure these diseases is believed by Dr. Wilks, of Guy's Hospital, London; Dr. Frank P. Foster, editor of the *New York Medical Journal* and author of *Foster's Practical Therapeutics*; Dr. H. C. Wood, member of the National Academy of Science; and a long list of others—in fact, it is seldom one sees a remedy so highly endorsed." It will be noticed that the writer is careful to say that "the ingredients" of his preparation are believed, etc.; he does not state squarely that the preparation itself, as such, has received the endorsement of any one of the physicians mentioned in his advertisement, and therein he shows that he is crafty enough not to burn the bridges behind him. Of course, he far exceeds the truth when he says that Dr. Wilks, Dr. Foster, or Dr. Wood believes that any known medicinal substance or combination will "cure" the diseases that he enumerates, but that statement would probably be taken by a jury as a pardonable exaggeration. If, however, he had said that any one of the physicians whose names he unwarrantably uses had spoken favorably of his particular product, it might be demanded of him in court that he prove his assertion, which assuredly he could not do.

There seems to be no legal redress for those who are made to appear in the eyes of the unreflecting as having endorsed a quack medicine when the wording of the advertisement is so carefully managed as in this instance. They can only trust to the discernment of their professional brethren to see through the pretense and rely on them to deny implied endorsement among the laity or, better still, point out the difference between what the advertiser really says and what he seeks to make the reader believe he says. It is heartily to be wished that misrepresentation, even when, though intended, it is only apparent instead of real, might be stopped by legal process and the offender punished, but we fear that this cannot be done.

HOSPITAL VISITING REGULATIONS.

"I was sick, and ye visited be." What could better express the gratitude of the sick for the sympathy manifested in a visit? Except in the graver phases

of disease, the tedium of enforced idleness and seclusion is undoubtedly one of the weightiest of the evils that oppress the sick, and the relief afforded by a friendly visit, brief though it may be, not only palliates the burden of the sick, but, we cannot doubt, contributes powerfully to hasten convalescence. All the more marked is the benefit, in the case of the hospital patient deprived of his home surroundings, when the visitor is one of his own family. We cannot wonder, then, that considerable general interest has been roused by the announcement of a restriction of the number of visitors allowed to see a patient in Bellevue Hospital on Sunday, the only day of the week when the great majority of Bellevue patients' friends can visit them without a sacrifice that they are hardly able to make.

The regulation of friends' visits to patients is one of the major problems with which hospital administration has to deal. There must be some restriction for the individual patient's own sake, for too many visitors are likely to prove as detrimental to his progress as too few or none at all; and there are other good reasons for an additional limitation, such as the disturbing influence of visitors upon those inmates of the ward who need as near an approach as possible to absolute rest and silence and the inevitable interference of a throng with the work required to be carried on in the ward. These considerations, touching upon the greatest good to the greatest number, have to be borne in mind, and if the convalescent in a hospital ward finds it a hardship to be prevented from seeing more than a certain number of his friends on a visiting day, he and those who are dear to him should realize that the restriction is in the interest of other sufferers, if not to some extent in his own.

The reports have it that on Sunday no Bellevue patient is to be allowed to receive more than two visitors. Two, we are inclined to think, are as many as could be allowed consistently with the welfare of the inmates as a whole and with the satisfactory performance of the hospital work, but it does seem that some better plan might be devised than that of admitting the two who may chance to come first, to the exclusion of all subsequent claimants, even if the early comers are mere acquaintances and among those whom they shut out are close friends or near relatives. This is the plan that is reported to have been decided upon in the case of Bellevue, but we feel confident that a more satisfactory one will ere long be found.

THE DOG NUISANCE IN NEW YORK.

The attempt to abate in some measure the part played by dogs in spreading disease and adding to the difficulty of keeping the streets clean is in our opinion a move in the right direction. Curiously enough, it meets with opposition from those who profess great solicitude for the comfort of the lower animals, as if a dog, left to his own preference, would choose to be quartered in a crowded city; also from those who see in the proposed abolition of tenement house dogs a discrimination in favor of the rich and to the disadvantage of the poor—a discrimination which, in fact, is in no wise intended, so far as we have been able to make out.

THE BALLOON TREATMENT OF ANÆMIA.

News from Paris states that Dr. Naugier has found that a balloon voyage in the upper air strata for an hour or two results in a very notable increase in the number of red blood corpuscles, which increase persists for a quite considerable time. There is, so far as we can see, nothing antecedently improbable in this assertion, and it seems likely that balloon ascents may, in the not distant future, prove of the utmost service in cases of severe anæmia. Should this prove to be the case, the provision of "hospital balloons," as suggested by Dr. Naugier, may prove an efficient and little expensive means of providing a literal "change of air" for those unfortunate denizens of cities who are unable to compass such a desirable result in any of the more usual ways.

THE DETERMINATION OF SEX.

In our issue for November 8th we referred in a minor editorial on the Control of Sex to some experiments by Dr. W. D. Turner, which tended to indicate that when either parent was tired, depressed, and much below par relating to the mate at the time of congress, that parent tended to reproduce its own sex; and we pointed out that many of the various theories that had been advanced seemed, on examination, to be applications of this principle from some particular point of view.

In the *Medical News* for November 22nd, Dr. L. Kolopinski has A Study of Sex-production in Man which is exceedingly interesting, both as embodying the results of a most painstaking investigation into the birth records of 192 families, all personally known to him, and as leading him to a diametrically opposite conclusion to that which seems to us to underlie most other theories. These investigations lead Dr. Kolipinski to the opinion that "the parent of stronger will reproduces his own sex first." By "stronger will" is meant decision, determination, "the degree of per-

sistency with which man adheres to his thoughts and ideals and acts thereupon." One of his propositions, however, seems distinctly to support what we have considered as so far the more general view, viz., that the relatively weaker parent reproduces its own sex. This proposition is that "male drunkards produce boys." To explain this observation according to his own principle, Dr. Kolipinski supposes either that it is "the result of the chronic alcoholic poisoning of the fathers, which, unless he means to assert that alcoholism is an invigorating and will-strengthening influence, seems to us to support exactly the opposite view; or that it is due to the "cowed and miserable state of the mothers," thus, by implication, rendering the father of relatively stronger will. This, however, is far from being a universal condition in families with alcoholic fathers. In three cases within our knowledge, in which the congress of conception could be certainly traced to a time when the father was under the influence of liquor, the offspring was a boy; but with the father in such a condition and the mother "cowed and miserable" one must be surprised to find three such healthy, vigorous boys, sound in mind and body, as those in question have proved to be.

The subject is one of great interest, and we think that Dr. Kolipinski strikes a right note when he says that "animate nature, throughout the high and low organization, has been examined and compared; but it is strange to observe that man has been studied collectively and in the industrial hardly at all."

Obituary.

MAJOR WALTER REED.

MAJOR WALTER REED, the senior major in the Medical Department of the United States Army, died at Washington on November 23rd, at the age of fifty-one years, after an operation for appendicular inflammation, performed on November 17th. Major Reed was best known through his work in connection with the investigation of yellow fever at Havana, which resulted in the discovery of the fact that this disease is conveyed by a certain variety of mosquito. His work on this commission was in line with his studies in bacteriology and pathology to which he paid particular attention for some years, and in which he had won an enviable reputation. Major Reed was born in Gloucester County, Virginia, and graduated at the medical department of the University of Virginia, and at Bellevue Hospital Medical College, New York. He was appointed assistant surgeon in the army in 1875. In 1893 he was appointed curator of the Army Medical Museum, at Washington, and since that time has devoted himself exclusively to scientific research in conjunction with his duties as curator, and it was largely due to his efforts that the ætiology of yellow fever was so thoroughly and satisfactorily worked out by the United States Army Board, of which he was a member.

News Items.

Society Meetings for the Coming Week.

MONDAY, December 1st.—New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morissania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., Medical Society; South Pittsburgh, Pa., Medical Society; Chicago Medical Society.

TUESDAY, December 2d.—New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, December 3d.—New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (New Brighton); Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

THURSDAY, December 4th.—New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, December 5th.—Practitioners' Society of New York (private); Clinical Society of the New York Post-Graduate Medicine School and Hospital; Baltimore Clinical Society.

SATURDAY, December 6th.—Manhattan Medical and Surgical Society, New York (private); Miller's River, Mass., Medical Society.

The Richmond, Va., Academy of Medicine and Surgery.—At the last regular meeting, held on Tuesday, November 25th, the subject for discussion was Some Phases of Albuminuria, which was introduced by Dr. William S. Gordon.

The New York State Medical Association: Erratum.—In our issue for November 22nd, p. 916, the heading of the report under Proceedings of Societies was the subject of a printer's error. It should have been: New York State Medical Association, New York County Branch.

Eight Million Dollars for Rush Medical College.—President Harper, of the University of Chicago, is quoted as authority for the statement that if the sum of \$1,000,000 be raised by the trustees of the Rush Medical College prior to July 1st that institution will become a part of the University of Chicago and the sum of \$8,000,000 will be expended by the University in building up the medical school. The consolidation is looked upon as being an assured thing.

Increasing Appropriations for the Board of Coroners.—The expenses of the coroners' office do not decrease as the demand for the abolition of the

office as unnecessary becomes more general. This year's appropriation for the coroner's office in Manhattan is \$61,200, in Brooklyn \$32,900, in the Bronx \$31,900, in Queens \$23,000 and in Richmond \$16,150, a total of \$165,150, the largest share of which, proportionately to the amount of work done, goes to Richmond.

The New York Academy of Medicine.—A stated meeting will be held on Thursday evening, December 4th, at 8 o'clock. After the nomination of officers a paper will be presented on The Need of a Radical Reform in the Teaching of Medicine to Senior Students, by Dr. William Osler, Johns Hopkins University, Baltimore, Md.; the discussion of which will be participated in by Professor H. L. Burrell, of Harvard University, Dr. E. G. Janeway, Dr. W. B. James, Dr. E. B. Cragin, and others.

The New York Eye and Ear Infirmary has decided by a vote of the trustees to indefinitely suspend the throat department of the institution on account of a lack of funds and of room. The infirmary has been taxed to its utmost capacity of late with cases of trachoma, 871 have been treated between September 15th and October 23d of this year as against 79 cases for the corresponding period of the previous year. The officers of the institution think that some arrangement should be made by which the city would assume the expenses involved in the treatment of indigent patients.

Dr. Lorenz has arrived in Chicago on his way back from the Pacific Coast. He expects to remain there several days and to arrive here about December 6th as stated in our last issue. A large number of cases have been presented for treatment by him here, but so far only about fifty cases of true congenital dislocation of the femur have been presented. Applicants are still being examined daily at the Cornell University Medical College, by Dr. Shaffer and his assistants. It is stated that the degree of LL. D. is to be conferred upon Dr. Lorenz by the Northwestern University this week.

A Man's Nose Bursts Into Flames.—A man was walking along the Boulevard Saint-Michel, Paris, one day recently, and stopped to light a cigarette. Suddenly his nose burst into flames, which spread to his beard. A crowd assembled, while the unfortunate man danced with pain until a policeman took him to a pharmacist's shop, where his burns were treated. An examination of the nose showed that it was made of celluloid, the unscrupulous dealer who sold it having foisted it on his client instead of the horn nose, which had been prescribed.

The New York County Medical Society.—Dr. Frank Van Fleet the retiring president at the stated meeting held on November 24th advocated a stricter enforcement of the medical laws. Resolutions were adopted advocating the substitution of medical examiners for coroners. The newly elected president, Dr. Charles N. Dowd, in his inaugural address warned the members against impure drugs and urged them to send samples of what they got from the manufacturers and retail dealers to the Board of Health for free analysis. The County Medical Society, the

president said, is ready to punish any dealer whose goods are not what he represents them to be. President Dowd also suggested the appointment of a committee to confer with the surgeons of the National Guard for the purpose of securing a better medical service for the State military organization. The society adopted the suggestion and the president appointed Dr. James Ewing, Dr. William H. Park, Dr. L. K. Neff, Dr. George G. Ward and Dr. Albert Brugman to act as such a committee.

A Monument for Rudolf Virchow.—The German Committee in charge of the celebration in honor of Rudolf Virchow's eightieth birthday, of which Professor Waldeyer was chairman and Professor Posner, secretary, has begun collecting funds for the purpose of erecting a monument in his memory. The following committee will receive contributions to this fund from American physicians: Dr. Frank Billings, 100 State street, Chicago, Ill.; Dr. Thomas R. Coleman, 505 Greene street, Augusta, Ga.; Dr. A. Jacobi, 19 East Forty-seventh street, New York City; Dr. W. W. Keen, 1729 Chestnut street, Philadelphia, Pa.; and Dr. Wm. H. Welch, 935 St. Paul street, Baltimore.

The Congress of American Physicians and Surgeons will hold its sixth meeting at Washington on May 12th, 13th, and 14th, 1903. The preliminary program includes the following papers on the Pancreas and the Pancreatic Diseases which will be the topics for discussion on the first day. The Anatomy and Histology, by Dr. E. L. Opie, Baltimore; the Physiology and Physiological Chemistry, by Dr. R. H. Chittenden, New Haven; The Etiology and Pathological Anatomy, by Dr. Simon Flexner, Philadelphia; The Symptomatology and Diagnosis, by Dr. Reginald H. Fitz, Boston; The Surgery, by Dr. Roswell Park, Buffalo, and Dr. von Mikulicz, of Breslau, Germany. On the second day the Medical and Surgical Aspects of the Diseases of the Gall-bladder and Bile Ducts will be discussed, the following papers being presented: The Pathology and Therapy, by Prof. Ewald, Berlin, Germany; Dr. John H. Musser, Philadelphia, and Dr. C. A. Herter, New York City; A Review of Eight Hundred Cases of Gall Stone Operations, by Prof. Hans Kehr, Halberstadt, Germany; and The Surgery, by Dr. William J. Mayo, of Rochester, Minn., and Dr. George E. Brewer, New York City. The president of the Congress, Dr. W. W. Keen, will deliver an address on The Duties and Responsibilities of Trustees of Medical Institutions.

A Foreign Military Service Medical Corps.—The volunteer surgeons in the Philippines have sent to the surgeon general for presentation to Congress a bill for a foreign service medical corps, similar in many respects to the British East Indian service, and to the one established by France during the construction of the Suez Canal. The opening of the canal through the Isthmus of Panama, it is expected, will call for a thorough sanitary policing of the route if the results met in the construction of the railroad are to be avoided, and the possession of a body of men fresh from service in the tropics, would be of incalculable advantage. The men affected are volunteers and contract surgeons, to be mustered out of the service of the United States, many after four

years of valuable experience in the tropics. The bill provides for an increase of 145 in the personnel of the permanent medical corps of the army, without injustice to the present establishment. It will replace the present corps of volunteer medical officers at a smaller expense, and will in a large measure obviate the necessity for the contract surgeon system. The proposed additional corps is to consist of men of high moral, physical and professional attainments. Such a corps, it is said, is particularly needed as an accessory to the Philippine constabulary and other native forces, and in the management of epidemic diseases falling under the jurisdiction of civil governments. The pay and allowances are to be the same as in the regular service, but the retired pay is to vary from one-fourth to three-fourths of full pay, depending on the length of active service.

The Western Surgical and Gynecological Association will meet at St. Joseph, Mo., on December 29th and 30th. A preliminary programme has been issued announcing the titles of the following papers which are to be presented: Carcinoma of the Uterus, by Dr. H. C. Crowell, Kansas City, Mo.; Inguinal Hernia, by Dr. A. E. Benjamin, Minneapolis; Chemical Asepsis, by Dr. Lewis Schooler, Des Moines, Iowa; Evolution of the Treatment of Rectal Cancer, by Dr. C. H. Mayo, Rochester, Minn.; Sarcoma of Long Bones, by Dr. A. E. Halstead, Chicago; Report of Cases: (a) Rupture of Gall Bladder from Vomiting; (b) Perforation of Appendix; (c) Acute Yellow Atrophy of the Liver, by Dr. W. W. Grant, Denver; Tubercular Peritonitis, by Dr. J. B. Murphy, Chicago; Lung Surgery, illustrated by lantern slides, by Dr. B. Merrill Ricketts, Cincinnati; Operations for Appendicitis During the Acute and the Chronic Stages, Compared and Analyzed from a Pathological and Practical Standpoint, by Dr. A. C. Bernays, St. Louis, 612 Union Trust Building; Surgical Treatment of Tubercular Peritonitis, by Dr. Wm. Jepson, Sioux City, Iowa; Surgical Treatment of Tubercular Peritonitis, by Dr. D. S. Fairchild, Clinton, Iowa; Primary Intestinal Tuberculosis, by Dr. L. L. McArthur, Chicago; Diffuse Septic Peritonitis: Etiology, Pathology, Symptoms, Diagnosis and Treatment, by Dr. Daniel N. Eisendrath, Chicago; Report of Two Cases of Acute Intestinal Obstruction Following Contusion of the Abdominal Walls, by Dr. J. E. Summers, Jr., Omaha, Neb.

The International Medical Congress at Madrid.—The American Committee of the Fourteenth International Medical Congress announces that the following list of sections has been authorized: 1, Anatomy (anthropology, comparative anatomy, embryology, descriptive anatomy, normal histology, and teratology); 2, Physiology. Physics and Physiological Chemistry; 3, General Pathology, Pathological Anatomy and Bacteriology; 4, Therapeutics and Pharmacy; 5, Internal Pathology; 6, Nervous Diseases, Mental Diseases, and Criminal Anthropology; 7, Pediatrics; 8, Dermatology and Syphilis; 9, General Surgery; 10, Ophthalmology; 11, Otolaryngology, Rhinology and Laryngology; 12, Odontology and Stomatology; 13, Obstetrics and Gynecology; 14, Military and Naval Medicine and Hygiene; 15, Hy-

giene, Epidemiology, and Technical Sanitary Science; 16, Legal Medicine and Toxicology.

Subscriptions (twenty-five francs) must be paid before the opening of the congress to the general secretary, Faculty of Medicine, Madrid, and members should on paying the subscription state the section or sections to which they wish to belong. The Spanish Committee of Entertainment announces that the daily charge per person for lodging, service, light and three meals is in hotels from thirteen to thirty-five francs and in private houses from nine to twenty-two francs. These sums include transportation from the station to the lodging and from the lodging to the station. As it is expected that Madrid will be crowded those who are to attend the congress are advised to apply for rooms as soon as possible to the Bureau des Logements, Faculte de Medicine, Madrid. Blank forms for these applications may be obtained on request from the secretary of the American Committee. The Spanish Committee on Transportation makes no provision for trans-Atlantic travel. Their arrangements are made for receiving visitors at the port of entry and for transportation to Madrid. The French and Spanish Railroads have granted delegates a general reduction of 50 per cent. on the fares. In the United States the Trans-Continental Passenger Association advises delegates to use the regular nine months' rate from Pacific points to Missouri River points. A party is being arranged for by Dr. Raymond Guiteras, 75 West Fifty-fifth Street, New York City, to attend the congress in a body. The cost for the round trip including all expenses will be \$265. Full particulars of this party will be furnished by Dr. Guiteras. Information concerning the congress will be furnished by the secretary of the American Committee, Dr. J. H. Huddleston, 126 West Fifth-fifth Street, New York.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending November 22, 1902:

DISEASES.	Week end'g Nov. 15		Week end'g Nov. 22	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	109	28	115	28
Scarlet fever.....	109	6	113	9
Cerebro-spinal meningitis....	6	2	0	4
Measles.....	92	6	95	4
Diphtheria and Croup.....	354	43	360	37
Small-pox.....	2	0	1	0
Tuberculosis.....	241	136	258	149

Public Health and Marine-Hospital Service:

Official List of Changes of Station and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service for the Seven Days ending November 20, 1902:

WHITE, J. H., Assistant Surgeon General. Granted seven days' extension of leave of absence from November 24th.

COFER, L. W., Passed Assistant Surgeon. Department letter granting Passed Assistant Surgeon Cofer leave of absence, amended so that said leave shall be effective up to and including December 10th.

GRUBBS, S. B., Passed Assistant Surgeon. Granted leave of absence for one month from December 8th.

FRICKS, L. D., Assistant Surgeon. Relieved from duty at Savannah, Ga., and directed to proceed to Cape Fear Quarantine Station, and assume temporary command, relieving Assistant Surgeon T. B. MCCLINTIC.

HEISER, V. G., Assistant Surgeon. To report to Assistant Surgeon General L. L. WILLIAMS, Chairman of Board of Examiners, for examination to determine his fitness for promotion to the grade of passed assistant surgeon.

MCCLINTIC, T. B., Assistant Surgeon. Upon being relieved from duty at Cape Fear quarantine station, to proceed to Washington, D. C., and report to the Director of the Hygienic laboratory for duty.

KORN, W. A., Assistant Surgeon. Leave of absence granted Assistant Surgeon Korn for twenty-one days from November 18th, revoked.

BERRY, T. D., Assistant Surgeon. Department letter granting Assistant Surgeon Berry leave of absence on account of sickness, amended so that it shall be for one month and twenty-seven days.

FRANCIS, EDWARD, Assistant Surgeon. To proceed to New York, N. Y., for special temporary duty.

RUCKER, W. C., Assistant Surgeon. Relieved from duty at San Francisco, Cal., and directed to proceed to Reedy Island quarantine station and report to Medical Officer in Command for duty and assignment to quarters.

BARNESY, P. N., Acting Assistant Surgeon. Granted leave of absence for twenty-one days from November 10th.

GIBSON, L. P., Acting Assistant Surgeon. Granted leave of absence for ten days from November 12, 1902, on account of sickness.

Boards Convened.

Board convened to meet at Washington, D. C., November 18, 1902, for the examination of Assistant Surgeon V. G. HEISER, to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the Board—Assistant Surgeon General L. L. WILLIAMS, Chairman. Assistant Surgeon General G. T. VAUGHAN. Assistant Surgeon General H. D. GEDDINGS, Recorder.

Board convened to meet at the Marine Hospital, San Francisco, Cal., November 24th, 1902, for the physical examination of a candidate for appointment as Second Assistant Engineer, Revenue Cutter Service. Detail for the Board—Passed Assistant Surgeon W. G. STIMPSON, Chairman. Passed Assistant Surgeon A. R. THOMAS, Recorder.

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending November 22, 1902:

BUCHER, W. H., Passed Assistant Surgeon, granted sick leave for one month.

Du BOSE, W. R., Surgeon. Ordered to the Navy Yard, League Island, Pa., for duty in connection with fitting out of the *Maine*, and ordered to the *Maine* when that vessel is placed in commission.

HUNTINGTON, E. O., Passed Assistant Surgeon. Unexpired portion of sick leave revoked; ordered to the Naval Hospital, New York, for treatment.

McLARTY, C., Pharmacist. Reported at the Navy Yard, Norfolk, Va., October 7th.

RICHARDS, T. W., Passed Assistant Surgeon. Detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to the *Arkansas*.

SHIPP, E. M., Passed Assistant Surgeon. Detached from duty at Port Isabella, P. I., and ordered to the Naval Station, Cavite, P. I. (Orders received from Senior Squadron Commander of Asiatic Station).

OMAN, C. M., Assistant Surgeon. Detached from the Naval Station, Cavite, P. I., and ordered to duty at Port Isabella, P. I.

Public Health and Marine-Hospital Service

Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending November 22, 1902:

Smallpox—United States.

Location	Dates	Cases.	Deaths.
California—San Francisco	Nov. 2-9	2	
California—Stockton	Oct. 1-31	3	
California—Stockton	Nov. 1-13	1	
Colorado—Denver	Nov. 1-8	7	
Indiana—Indianapolis	Nov. 8-15	2	
Kansas—Wichita	Nov. 8-15	1	
Louisiana—New Orleans	Nov. 8-15	1	
Maine—Biddeford	Nov. 8-15	3	
Maine—Portland	Nov. 8-15	1	
Massachusetts—Boston	Nov. 8-15	20	2
Massachusetts—Cambridge	Nov. 8-15	1	
Massachusetts—Marlboro	Nov. 1-15	7	
Massachusetts—Taunton	Nov. 8-15	1	
Massachusetts—Weymouth	Nov. 8-15	1	
Massachusetts—Worcester	Nov. 7-14	1	
Michigan—Detroit	Nov. 8-15	31	
Michigan—Grand Rapids	Nov. 8-15	6	
New Hampshire—Manchester	Nov. 8-15	2	
New Hampshire—Nashua	Nov. 8-15	16	
New Jersey—Camden	Nov. 8-15	3	
New Jersey—Newark	Nov. 8-15	1	
New York—New York	Nov. 8-15	2	
Ohio—Cincinnati	Nov. 7-14	3	
Ohio—Cleveland	Nov. 8-15	21	4
Ohio—Dayton	Nov. 8-15	3	
Ohio—Youngstown	Nov. 1-8	1	
Pennsylvania—Altoona	Nov. 10-17	3	
Pennsylvania—Erie	Nov. 8-15	4	
Pennsylvania—Johnstown	Nov. 8-15	4	
Pennsylvania—McKeesport	Nov. 8-15	4	
Pennsylvania—Philadelphia	Nov. 8-15	3	
Pennsylvania—Pittsburg	Nov. 8-15	25	7
Utah—Salt Lake City	Nov. 8-15	1	
Wisconsin—Milwaukee	Nov. 8-15	10	

Smallpox—Foreign.

Barbados	Oct. 13-25	146	
Austria—Prague	Oct. 25-Nov. 1	14	
France—La Rochelle	Oct. 19-26	1	1
France—Rheims	Oct. 19-Nov. 2	1	1
France—Roubaix	Oct. 19-26	1	
Great Britain—Leeds	Oct. 25-Nov. 8	3	
Great Britain—Liverpool	Oct. 25-Nov. 1	3	
Great Britain—Manchester	Oct. 25-Nov. 1	6	
India—Bombay	Oct. 7-21	1	
India—Calcutta	Sept. 27-Oct. 18	1	
India—Madras	Oct. 4-10	1	1
Italy—Milan	Sept. 1-30	1	
Italy—Palermo	Oct. 18-30	2	
Russia—Moscow	Oct. 18-25	1	
Straits Settlements—Singapore	Sept. 20-27	6	
Turkey—Constantinople	Oct. 19-Nov. 2	2	

Yellow Fever.

Colombia—Panama	Nov. 3-10	4	
Mexico—Coatzacoalcas	Nov. 1-8	2	1
Mexico—Tampico	Oct. 1-8	7	
Mexico—Vera Cruz	Nov. 1-8	10	6

Cholera—Insular.

Philippine Islands—Manila	Sept. 21-27	43	36
Philippine Islands—Provinces	Sept. 21-27	5,583	3,560

Cholera—Foreign.

China—New Chwang	Sept. 13-20	25	25
India—Bombay	Oct. 7-21	2	
India—Calcutta	Sept. 27-Oct. 18	47	
Japan—Kobe	Oct. 11-18	24	12
Japan—Nagasaki	Oct. 11-30	61	41
Java—Batavia	Sept. 27-Oct. 4	42	38
Straits Settlements—Singapore	Sept. 21-27	22	

Plague—Foreign.

China—Hongkong	Oct. 4-11	1	1
India—Bombay	Oct. 7-21	142	
India—Calcutta	Sept. 27-Oct. 18	25	
India—Karachi	Oct. 12-19	13	9

Army Intelligence:

Official List of Changes in the Station and Duties of Officers serving in the Medical Department of the United States Army for the week ending November 22, 1902:

ARTHUR, WILLIAM H., Major and Surgeon, having reported his arrival at San Francisco, Cal., is ordered to proceed to Washington and report in person to the Surgeon-General of the Army for instructions.

DALE, FREDERICK A., First Lieutenant and Assistant Surgeon, is relieved from further duty in the Division of the Philippines, and from duty on the United States Army Transport *Sumner*, and ordered to report in person to the Commanding Officer of the United States General Hospital, Washington Barracks, D. C., for duty.

GLENNAN, JAMES D., Major and Surgeon. Granted leave of absence for one month to take effect upon his relief from duty at the United States Military Academy, West Point.

GRUBBS, R. B., First Lieutenant and Assistant Surgeon. Assigned to permanent duty at the United States Army General Hospital, San Francisco, Cal.

LINE, ARTHUR M., First Lieutenant and Assistant Surgeon. Resignation as an officer of the army has been accepted by the President, to take effect December 1, 1902, and he is granted leave of absence to that date.

LYNCH, CHARLES, Captain and Assistant Surgeon. Ordered to proceed from San Francisco, Cal., to Fort Porter, N. Y., for duty.

MCCAW, WALTER D., Major and Surgeon, is detailed to represent the Medical Department of the United States Army at the General Sanitary Convention of the American Republic in Washington, D. C., on December 2, 1902.

WINN, ROBERT N., First Lieutenant and Assistant Surgeon. Granted thirty days' leave of absence.

Births, Marriages, and Deaths.

Married.

CARNEY—WHYTE.—In Schenectady, N. Y., on Monday, November 17th, Dr. Thomas Carney and Miss Rose Whyte.

FUEHR—SMART.—In Tokio, Japan, on Thursday, October 18th, Dr. Carl Alexander Fuehr, of the German Legation at Kobe, Japan, and Miss Helen Marion Smart, of New York City.

MYERS—NOURSE.—In Alexandria, Va., on Tuesday, November 18th, Dr. Jesse Sidwell Myers, of Westminster, Maryland, and Miss Edythe Holmes Nourse.

POWERS—GROGAN.—In Baltimore, on Wednesday, November 19th, Dr. Frank J. Powers and Miss Annie T. Grogan.

PURDY—SHUBERT.—In Philadelphia, on Wednesday, November 12th, Dr. J. W. Purdy and Miss Grace Shubert.

SMALLWOOD—FOSTER.—In New York, on Wednesday, November 26th, Dr. Julian C. Smallwood and Miss Madeline C. Foster, daughter of Dr. Frank P. Foster.

SULZBACHER—MINOR.—In Chillicothe, Missouri, on Saturday, November 15th, Dr. Carl I. Sulzbacher, of Kansas City, and Miss Decimund L. Minor.

TAYLOR—TOWNSEND.—In Washington, D. C., on Tuesday, November 18th, Dr. Adelbert A. Taylor and Miss Marie Stuart Townsend.

WEST—JORDAN.—In Washington, D. C., on Wednesday, November 19th, Dr. I. Harry West and Miss Jenny I. Jordan.

WOOD—GRACE.—In Camden, N. J., on Tuesday, November 18th, Dr. Albert K. Wood and Miss Martha P. Grace.

Died.

GRANVILLE.—In Kansas City, Missouri, on Monday, November 24th, Dr. Edwin Granville, in the fifty-ninth year of his age.

LEONARD.—In Philadelphia, on Friday, November 21st, Dr. Charles P. Leonard, in the twenty-fourth year of his age.

LIVERMORE.—In New York City, on Tuesday, November 18th, Dr. Frank Livermore, in the sixty-second year of his age.

PALMER.—In Detroit, Michigan, on Wednesday, November 19th, Dr. J. W. Palmer, in the forty-second year of his age.

PHELAN.—In St. Louis, Missouri, on Friday, November 14th, Dr. Richard A. Phelan, in the sixty-sixth year of his age.

REED.—In Washington, D. C., on Sunday, November 23d, Dr. Walter Reed, of the United States Army, in the fifty-first year of his age.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Value of Blood-Counts in Abdominal Disease. By Dr. C. N. Longridge (*British Medical Journal*, November 8th).—In this article the author briefly describes the technics of counting the blood corpuscle, and also the morphology of the blood as seen in stained specimens. As regards the question of leucocytosis as indicative of an active inflammatory process, he concludes that such an increase in the number of the leucocytes cannot be regarded as an absolute and infallible indication of the presence of pus; but as an indication of toxæmia its value is very great. Although it is not possible to fix any definite relationship between the amount of the leucocytosis and the intensity of the toxæmia, yet an increasing leucocytosis is, other things being equal, the most scientific means for gauging the intensity of an appendicular infection. On the other hand a decreasing leucocytosis is evidence of decreasing virulence or walling off of toxic products.

Recovery from Pulmonary Tuberculosis. By Dr. Figari (*Gazzetta degli ospedali e delle cliniche*, September 4th).—The patient was a young woman aged eighteen years, who was admitted with a history of pulmonary tuberculosis of two years' standing. She was suffering from cough with purulent expectoration, dyspnoea, night sweats, fever and gastrointestinal disturbances. The usual drug treatment had been applied without avail. Her chest showed dullness above the clavicle and above the scapular spine on the right side, bronchial breathing and medium and fine râles over the same region, and no signs of disease on the left side. The sputum showed tubercle bacilli. Injections of one cc. of Maragliano's serum were given on alternate days, and from the first a noticeable improvement took place. The symptoms gradually disappeared and the patient gained in weight. Examined one year later, she showed no signs of lesions in the lungs, except a slight dullness in the apex, due to cicatricial formation about the tuberculous focus.

So-called Hypertrophic Tuberculosis of the Intestines. By H. F. Harris, M. D. (*Annals of Surgery*, November).—The author's article consists of three parts: First, a brief review of the history of the disease, which was first brought to the general attention of the profession by Hofmeister, in 1896. Secondly, the history of a case with the postmortem findings. Thirdly, a discussion of the ætiology, morbid anatomy, symptomatology, diagnosis, prognosis, and treatment of the affection. A bibliography concludes the article.

The first part of the article, as has been said, is very brief; it gives a mere outline of the history of the disease. The second part gives a very minute and technical record, with illustrations, of the gross and microscopical morbid changes found to exist at the autopsy of the case recorded. The third part is of special interest to the practising physician and we therefore abstract it very fully.

Ætiology.—So-called hypertrophic tuberculosis of the intestines affects both sexes with about equal frequency; it is most common between twenty and forty

years of age; it has never been seen before seven years, but occasionally after forty; the family and personal histories of the recovered cases have generally not been accurately taken, yet in quite a number of the recorded cases tuberculosis was noted as existing independently of the specific lesions under consideration.

Morbid Anatomy.—The pathological lesions resemble, on the whole, those of ordinary intestinal tuberculosis. The peritoneum usually contains many minute tubercles. These tubercles are most numerous in the subserous coat adjacent to the intestinal lesions. When the gut is opened its lumen is found more or less constricted, at times almost to the point of complete occlusion. Above the lesions the intestines are more or less dilated, and the accumulation of fæces above the strictures forms a considerable number of the tumors which are so commonly found during life. The muscular walls at points of dilatation are markedly hypertrophied.

Symptomatology.—The clinical symptoms are of irregular character and are best considered as (a) those relating to the acute attacks, and (b) those relating to the interval between attacks. (a) The symptoms relating to acute attacks are essentially those of intestinal obstruction plus those of an infection. Colicky pains, constipation at the onset, but this is quickly followed by diarrhœa; blood in the stool occasionally; borborygmi are the rule. At these times the movements of the intestines may be distinctly felt, and in many cases distinctly seen. Vomiting is common, at times it is faecal. The abdomen is swollen, and in a great majority of cases a tumor can be made out in the region of the ileocecal valve. Such tumors are fairly resistant on palpation, slightly movable, and usually quite tender. Without the tumor the clinical picture of this affection is not complete. The toxic symptoms are anorexia, rapid pulse, and irregular temperature. (b) In the interval between attacks the patient may be in fairly good health. In a majority of cases there are digestive disturbances, with or without vomiting, and colicky pains. These pains may be constant or intermittent and are usually worse as the time approaches for an attack. At these periods constipation is the rule, but it not infrequently alternates with diarrhœa. Just before a severe attack the abdominal tumor is quite pronounced. These symptoms may exist for a long time in a mild form. In a case recorded by König the disease had existed nine years before a physician was consulted.

Diagnosis.—The diagnosis is important, for operative intervention, the only possible method of cure has given encouraging results. The disease is not likely to be confounded with acute intestinal obstruction which it early resembles. The paper we abstract, however, goes quite fully into the differential diagnosis. It is of more importance to consider the diagnosis between so-called hypertrophic tuberculosis of the intestines and other forms of chronic obstruction. With the exception of hernia, according to Dr. Harris, who bases his opinion on the statistic of Eisenhardt, of Munich, this form of tuberculosis gives rise to more cases of chronic intestinal obstruction than any other disease, not excepting carcinoma. If this is really the case, the desirability of becoming more acquainted with this condition becomes at once evident.

Prognosis and Treatment.—Medical treatment is of no avail. Out of 83 cases operated on, 60 patients have been reported as cured and 4 as improved. An encouraging showing.

Angina (Angor).—M. P. Londe (*Revue de médecine*, October 10th) says that angina is a complex symptom, and may indicate either somatic or mental disease. When the cause of the symptom is organic, the bulb is directly involved or is reflexly irritated by way of the pneumogastric nerve. Angina may appear simply as an indefinable malaise; it may be of psychic origin and is then localized in the principal area of distribution of the triplanchnic nerve. It is always more or less paroxysmal. Cheyne-Stokes's breathing being a classical example of its manifestation. Its causes are extremely variable; it may have its origin in the cardio-aortic region, or occasionally in other parts of the chest. The diagnosis must include the recognition of the symptom in its various aspects, its site of origin, and the determination of its organic or functional character. The prognosis depends upon the diagnosis.

A Case of Tetanus Treated With Antitetanic Serum; Recovery. By Dr. W. E. Wynter. (*Lancet*, November 15th).—The author reports the case of a laborer, aged forty years, who ran a rusty nail in the ball of his left foot. There was moderate local inflammation, and on the tenth day symptoms of tetanus appeared. The tetanic spasms recurred during twenty-seven days, the patient not recovering completely for eighteen days more. Fever was noted for fourteen days, the highest observed being 102.6° F. on the eighth day from the appearance of symptoms. Antitetanic serum was given in doses of ten cubic centimetres every six hours for sixty doses until the spasms subsided. Extract of physostigma was administered in half grain doses every six hours, and was only omitted when all rigidity had gone. Morphine was relied upon to relieve the pain and to induce sleep during the acute period. Applications of hot water relieved local spasm, and evacuations of the bowels were always attended with benefit. Although a severe case of tetanus, it was not of the acute type which proves fatal within two or three days, and there was an absence of prolonged spasm or fixation of the respiratory muscles or glottis.

SURGERY AND ANATOMY.

Thirty Cases of Gastroenterostomy for Non-Malignant Affections of the Stomach. By Dr. T. K. Dalziel (*British Medical Journal*, November 8th).—The author reports a series of thirty operations undertaken for the cure of apparently incurable dyspepsia, many of them with evidence of marked pyloric obstruction. Sixteen of them had a definite history of ulceration. At the operation eighteen of the cases presented well-marked contraction of the pyloric orifice. Many of the patients were in a state of great emaciation from prolonged malnutrition. Careful stomach lavage was carried out in all cases for two days before the operation, plain water being used, and the stomach being thoroughly emptied just before operation. With the exception of four cases, all the operations were that of posterior gastroenterostomy, the anterior operation being performed in the other four. In no case was there any

shock, and rarely did the temperature rise to 100° F. Nausea and vomiting persisted for a few days in some cases. Only one patient died; at the autopsy an enormous simple ulcer of the stomach was found. With but two exceptions, all the other cases were greatly benefited by the operation.

Cure of Noma by Excision.—Professor H. von Ranke (*Münchener medicinische Wochenschrift*, October 28th) records a case of a three-year-old girl who was brought into the clinic suffering from noma, which appeared four days after an attack of measles. The genitalia, the rectal region, and the inner surfaces of the thighs were affected. A liberal excision of all the diseased tissues resulted in an ultimate cure. This is the fourth successive case of noma cured in von Ranke's clinic by excision.

Exposure of the Gall-bladder and Bile-ducts. By B. Pollard, F. R. C. S. (*Lancet*, November 15th).—The author reports five typical cases of biliary obstruction due to gall stones, in which he operated according to the method of Mayo Robson, with most satisfactory and gratifying results. Robson's modification of the usual gall stone operation consist in: (1) The placing of a large sand bag behind the hepatic region, in order to arch forward the spine and push the liver forward; and (2) the employment of a vertical incision opposite to the middle of the right rectus muscle and prolonging it upwards into the angle between the costal margin and the ensiform cartilage. The sand bag should be removed after the incisions in the gall ducts have been sutured, so as to enable the operator to judge of the amount of drainage material necessary, etc. As regards the incision, the liver protrudes through it, and its lower portion can be everted over the costal margin, so as to display the biliary passages most completely.

Virchow's Accident and Illness.—Professor Kœrte (*Berliner klinische Wochenschrift*, October 27th) records that Virchow's fall last spring resulted in an intertrochanteric fracture of the head of the left femur. A very large formation of callus resulted. Death resulted from a gradual failure of the heart's action.

An Operation for Gall Stones with the After-History of a Series of Cases Operated Upon. By Dr. R. Morison (*British Medical Journal*, November 8th).—The author reports a series of forty-three operations for gall stones, performed by his method, together with the after-history of the same. The object of the paper is to recommend strongly the use of the incision employed by him, to which his operation owes its distinctiveness. He recommends a long transverse incision, whereas most authorities are in favor of operation through an anterior vertical incision in the linea semilunaris. His skin incision begins one inch below the top of the twelfth rib and ends in front in the middle line, at the upper part of the middle one. Third of a line drawn from the ensiform cartilage to the umbilicus. It allows of free access to the gall bladder and its ducts with a minimum of disturbance of the abdominal viscera. It assures free drainage, and the chances of hernia of the scar are less than with the vertical incision.

Postoperative Grafting of Hydatids.—M. F. Dève (*Revue de chirurgie*, October 10th) records such a case, together with a number of experiments performed to substantiate his views. He concludes that the scolex and the proligerous capsules (the microscopic specific germs) can give rise to new hydatid cysts, just as the microscopic elements, the daughter cysts, can. Clinical facts and experiments show that this danger can be avoided in surgical operations upon hydatid cysts. One must be careful not to disseminate the contents of the cyst and to destroy the interior of the cyst with its specific germs. Experimentally, contact for two minutes or two minutes and a half with a solution of 1 to 1,000 bichloride of mercury or of one-half-per-cent. formaline solution, will destroy the vitality of the hydatid germs. A parasiticide injection of a one-half-per-cent. solution of formalin, left in contact for from two to three minutes with the mother cyst, should prevent postoperative grafting in the case of cysts not injured during the operation.

When and How to Operate for Appendicitis.—M. A. Gallet (*Gazette hebdomadaire de médecine et de chirurgie*, October 20th) sums up his paper on this subject in the following table:

Varieties of Appendicitis.	When to Intervene.	How to Intervene.
1. Appendicitis seen within twenty-four hours of its beginning.	Immediately.	(a) Laparotomy; resection of appendix; no drainage. (b) Laparotomy; if many adhesions from former attacks, no resection, tamponing, drainage.
2. Appendicitis with localized peritonitis (form most frequently seen).	(a) Wait until symptoms arise denoting a walled-off abscess or of a peritoneal irritation; then (b) immediate intervention.	(a) Favor the tendency to encystment and resolution by medical treatment. (b) Laparotomy, open the abscess. Do not search for appendix. Resect if it presents itself. Drainage.
3. Generalized peritonitis.	Immediately.	Open and drain various foci.
4. Diffuse septic peritonitis.	Immediately.	Multiple incisions in abdominal cavity. Drainage. Permanent lavage with oxygenated water.
5. Interval appendicitis.	Advise intervention without cessation.	Laparotomy; resection; no drainage. Sometimes difficult on account of old adhesions.

Nephrectomy for Calculous Pyelonephritis; Recovery. By Dr. Renato Pianori (*Gazzetta degli ospedali e delle cliniche*, September 14th).—The patient was a woman, aged thirty years, with a negative previous history, who had been suffering from cachexia and general debility for some time, together with a vague pain in the left side. These pains at times became acute, with radiations downward, and a scanty urine showing a sediment of mucus and salts but no blood. In the left lumbar region a fistula slowly discharging pus was found, and, on examining the abdomen, a fluctuating tumor which was extremely tender on palpation and extended on the left side down to the umbilicus, was discovered. The urine was of a specific gravity of 1014, contained albumin and peptone, and on microscopic examination no blood, a little pus and a few hyaline casts. The patient's condition grew worse and the diagnosis of left calculous pyelonephritis was made. Convinced that the right kidney was healthy,

as it had acted normally for some time the left kidney was removed, and was found the seat of an extensive pyelonephritis and pyonephrosis, the cause of these lesions being a calculus in the renal pelvis. The twelfth rib had to be resected in the operation, and in order to separate the dense adhesions uniting the kidney to the diaphragm, the latter was wounded, giving exit to pus from the pleural cavity. The empyema was found to be sacculated, and the edges of the pleura that were found to be involved were resected and sewn together with interrupted sutures, trying to render communication between the pleura and the renal cavity impossible. The patient made a good recovery.

Modified Vulliet's Nephropexy Simplified by the Use of a Swivel Tenotome. By J. L. Thomas, F. R. C. S. (*British Medical Journal*, November 8th).—The author's modification of Vulliet's nephropexy consists in splitting the strip of the tendon of the erector spinae, which is used to support the kidney, and in passing it through, not the parenchyma of the kidney, but only the capsule. In this way the renal secreting tissues are unharmed. In order to divide the tendon the author uses a small swivel on the end of a long delicate handle. When the fasciculus of tendon has been isolated and hooked up, the swivel is slipped on and forcibly pushed up until it reaches the muscle fibres, when a few turns divide the tendon. It is very desirable to close the wound carefully by layers of buried sutures, in order that the loin may be quite strong afterwards.

Rodent Ulcer; Its Pathology and Treatment. By J. D. McFeely, F. R. C. S. (*British Medical Journal*, November 8th).—Rodent ulcer differs from epithelioma in that it is essentially a local disease, and does not show metastases, either in contiguous lymphatic glands or elsewhere beyond the seat of the primary infection. Even when left untreated, it shows a marked tendency at some part to take on a separative process, while progressing slowly and steadily in another direction. During its progress it shows a marked tendency to avoid hair follicles. The deeper layers of the cuticle are attacked prior to the superficial epithelial layer. The exudate, which is so common as to be looked upon as almost pathognomonic of the disease, seems to have a tendency to produce a form of self-infection. All caustics stimulate true carcinomata, while in many cases of rodent ulcer they retard the growth. The rodent ulcer is as amenable to treatment without the probability of recurrence, as any other simple or specific ulcer. The author has had great success with formalin. If the ulcer is not large or easily accessible, pure formalin is applied; if a second or third application is necessary formalin glycerin is used. If the patient objects to being anesthetized, a local anæsthetic may be used, an injection of morphia being given ten minutes after the application, if the pain is severe. In severe cases of long standing the patient should be anesthetized, and all diseased tissue removed by knife or curette. Formalin is then used, the patient being kept fully under the anæsthetic for about five minutes afterward. The formalin should not be allowed to evaporate. The blackish slough which forms should be allowed to separate spontaneously. Formalin is practically non toxic. How it

stops all proliferation in diseased tissue or malignant growths, without destroying the vitality of normal cells, seems incomprehensible, yet the author is convinced that it does so. He has encouraging results from its use in the treatment of truly malignant growths.

Three Cases of Hour-Glass Contraction of the Stomach, Treated by Operation. By H. Gilford, F. R. C. S. (*British Medical Journal*, November 8th).—The ideal operation for the treatment of hour-glass contraction of the stomach is one which removes the deformity and restores the organ to its natural shape. This must, of course, be almost impossible, because the risk to the patient of carrying out such an extensive plastic operation would more than counterbalance the good to be obtained from it. Perhaps the nearest approach that is feasible towards this ideal is the simple effectual method of Heinike and Mikulicz. This was the operation which was successfully carried out in the three cases here reported. To ensure success, the transverse incision must be of such a length that when it is turned into a vertical one ample room is left, not only for the passage of stomach contents, but for future contraction. It is of equal importance that those two frequent complications of hour-glass contraction, gastric ulcer and stenosis of the pylorus, should also be dealt with.

Union of Intestine. By E. S. Bishop, F. R. C. S. (*British Medical Journal*, November 8th).—The methods by which divided intestine may be reunited, may be classified as follows: (1) Simple suturing. (2) Suture on instruments removable after the suture is almost complete. (3) Mechanical clamps and buttons, which are intended to remain. (4) Suture upon absorbable material, usually decalcified bone. Of these the last is the best. A good bone bobbin should be easy of introduction, perfectly simple, and require no elaborate technics. It should be resistant until union of the parts over it is complete, and when this has taken place it should be absorbable or capable of easy passage onward. The purse-strings sutures should approximate as well as fix the intestinal ends upon the bobbin. It should protect the line of suture during the stage of plastic union. The author has devised a series of bobbins which he thinks meet all these requirements. They have bevelled conical ends and a central groove. There are different forms for different operations—enterectomy, gastroenterostomy, pylorotomy.

Renal Decapsulation Versus Nephrotomy Resection of the Kidney, and Nephrectomy. By Dr. G. M. Edebohl (*British Medical Journal*, November 8th).—The object of this paper is to present a preliminary report of six cases in which renal decapsulation was performed for other conditions than chronic Bright's disease. The cases were: (1) Acute pyelonephritis and miliary abscesses of both kidneys, complicated with chronic Bright's disease; right nephrectomy and decapsulation of left kidney. The patient was greatly benefited by the operation. (2) Acute right pyelonephritis with miliary abscesses: decapsulation of right kidney. Marked improvement (in both of these cases the patient subsequently received urotropin over a long period. (3) Acute hæmorrhage nephritis; decapsulation of both kidneys. The patient's condition was greatly improved by the operation, but she died twenty-one days later

of œdema of the lungs. (4) Intermittent hydronephrosis of right kidney associated with chronic Bright's disease; decapsulation and fixation of right kidney. The patient did well, and no further attacks of hydronephrosis have occurred. (5) Intermittent right pyelonephrosis and chronic interstitial nephritis; decapsulation and fixation of right kidney. No change in patient's condition. (6) Polycystic degeneration of the kidney and chronic diffuse nephritis; decapsulation of both kidneys; improvement.

The Purse-String Suture in Gastrorrhaphy for Gunshot Wounds: an Experimental Contribution. By Dr. N. Senn (*British Medical Journal*, November 8th).—The author warmly recommends the use of the purse-string suture in gunshot wounds of the stomach. He advocates the suture of the wound in the posterior wall of the stomach by partial eversion of the stomach through the anterior wound. A grasping forceps is inserted through the anterior wound and the posterior wall is seized at the probable point of the posterior wound. It is drawn out through the anterior wound, sutured, and returned. This obviates unnecessary handling of the organ and the necessity of interfering with the vascular supply incident to the exposure of the posterior wound by the methods ordinarily employed. In doubtful cases inflation of the stomach should invariably be practised for the detection of a second and possibly a third perforation.

OBSTETRICS AND DISEASES OF WOMEN.

Analysis of Cases in Which Oophorectomy was Performed for Inoperable Carcinoma of the Breast. By A. Thomson, F. R. C. S. (*British Medical Journal*, November 8th).—The beneficial results following oophorectomy are sufficiently established to eliminate any question of coincidence or of errors in diagnosis. It is impossible to tell beforehand whether any benefit will result from the operation or not, its effects being quite uncertain. The beneficial influence of oophorectomy is limited to carcinoma of the breast. There is no age at which the operation is contraindicated; marked improvement has been observed in patients who have passed the menopause. The best results have been obtained in cancers of slow growth in which the local disease has been submitted to a "complete" operation, and in which recurrence has taken place in the form of isolated nodules in the neighborhood of the scar. Disease of the axillary or supraclavicular glands yields less rapidly after oophorectomy, but improvement does occur. The presence of metastases in the viscera or bones contraindicates the operation, such growths being uninfluenced by it, and, in cases where they are present, no improvement is observed in the recurrent nodules in the vicinity of the primary disease. In a considerable proportion of cases there is a marked relief from pain and improvement in the general health following oophorectomy. The beneficial results of the operation are transient in most cases, but in some the local disease has become capable of being removed by surgical measures when this was previously impossible. The administration of thyroid extract cannot be regarded as essential to success, inasmuch as some of the best results have been obtained without the use of the drug.

A Case of Gestation and Labor at Full Term in Uterus Didelphys By Dr. J. H. E. Brock (*Lancet*, November 15th).—The author reports the case of a woman, aged thirty-five years, who had been attended by him ten years previously at the birth of her first child. When first seen at that time, labor had so far progressed that the head of the child was nearing the outlet of the pelvis, and vaginal examination revealed nothing abnormal. Labor progressed normally and uneventfully, as did the puerperium, the child being a well-formed girl. Six months later, having occasion to make a vaginal examination because of a complaint of difficult coitus, it was found that the patient had a complete double uterus (*uterus didelphys*), the vulva and vagina being divided by a median septum. In each vagina there was a complete cervix, and on passing a sound the body of the uterus was found to be also double. The septum was removed by operation. Nine years later the patient again became pregnant, and was again delivered at term of a normal infant. The pregnancy took place in the left horn of the uterus, the non-pregnant horn being rotated anteriorly and rising up out of the pelvis.

Ovariectomy During Pregnancy.—Dr. M. Gräfe (*Münchener medicinische Wochenschrift*, October 28th) records three cases and reviews the literature of the subject. In all of his cases, ovarian cysts were present complicating pregnancy; in two cases the operation was undertaken in the sixth month, in one in the second. All the patients recovered well from the operation, and all of them carried their pregnancies to term. Gräfe advises the operation on the ground that it is conservative surgery. He also approves of removing ovarian growths during pregnancy when there are bleeding and labor pains, as after the operation the hæmorrhage and uterine contractions cease and the pregnancy continues; but even if a miscarriage takes place, the patient's chances of recovery are not damaged if she is in good hands.

DISEASES OF CHILDREN.

Microscopic Examination in a Case of Atelectasis of the Lungs in a Newly Born Child. By Professor Salvatore Ottolengui (*Gazzetta degli ospedali e delle cliniche*, September 14th).—It is a well-known fact that atelectasis may be found in the lungs of newly born infants who have breathed and lived for a short time before they died. Some believe that in such cases we have to deal simply with lungs that had never expanded, while others think that it is possible that the lungs returned to the foetal state after they had been expanded a few times by respiration. The present case is reported because in it the author for the first time made a microscopical examination of sections of the atelectatic lung, stained with Weigert's stain, in order to show the elastic fibres and to find whether or not expansion had taken place. Although there was no doubt in this case that the child had been born alive, and had died half an hour after birth, the lungs presented the foetal characters, and even the smallest pieces sank immediately in water. On microscopical examination it was found that the alveoli of the lung presented the collapsed condition of the foetal organ, and that they had never been distended. This lung, therefore, had either never breathed, or had just

begun to breathe. The lungs of this child were moreover, in a state of foetal development in which they could under no conditions have expanded, for there was not enough elastic tissue developed for this expansion. Although the child was heard to cry and seen to move, yet its attempts at respiration had been unsuccessful, and perhaps only the margins of the lungs were slightly expanded. This case is important from a medicolegal viewpoint, inasmuch as it is well to know that a child may have had atelectasis though it had cried and seemed to breathe. As regards the possibility of having foetal lungs and showing foetal alveoli on microscopical examination after the latter had actually expanded nothing definite can be said as yet.

OPHTHALMOLOGY.

One Thousand one Hundred Cataract Extractions. By Dr. A. G. Archangelsky (*Roussky Vrach*, October 12th).—The patients operated on by the author included 552 males and 401 females, the first operation having been performed in 1887. The ages varied, but in 92 per cent. of cases the cataracts were operated on in old people, and in 8 per cent. in young children. The patient was prepared for the operation in each case by an enema and a general bath on the previous day. The eyelids, brows, etc., were scrubbed carefully with soap, then irrigated with sterile salt solution; the rest of the head was wrapped in sterile gauze, or towels, and the eye was cocaineized. In 80 per cent. of cases the operation consisted in the peripheral linear extraction of von Graefe, the incision varying in size. The iridectomies were always made broad, as experience showed this to be of great advantage in facilitating the steps of the operation. The incision in the lens capsule was also wide. The lens was delivered by means of Critchett's loop, or by means of massage of the cornea from below upward by Daniel's spoon. The wound was then irrigated with salt solution, and the eye was dressed with sterile gauze, cotton, and bandages. In 114 cases the author made extractions without iridectomy, but experience showed that unless the cases were carefully selected for this operation, there followed prolapse of the iris with all its consequences. Therefore she now operates in this manner only when the active reaction of the eye to light shows that the iris is sufficiently elastic to retract after the extraction, and when the cataract is thin, fluid, with a small nucleus. In 12 per cent. of the extractions she noted prolapse of the vitreous body. In some cases this is productive of no harm, *i. e.*, when the eye is otherwise normal, but if there is also glaucoma, masked by the cataract, then the vitreous begins to ooze out before the eyes of the operator, and this is followed by hæmorrhage of the central artery, which destroys vision then and there. This occurrence is not the fault of the operator's technics, but we must be careful to diagnosticate the presence of glaucoma before the operation, if possible, which is not always the case in senile cataracts complicated with glaucoma. In three cases the lens disappeared into the vitreous body. This is a rare and disagreeable complication, the origin of which probably lies in technical errors. As a rule, the patients were allowed to rise on the second day and to walk about the room, the dressing being changed daily.

The rooms were not kept darkened, and the dressing was done in full daylight. The patient was discharged on the tenth day, the bandage having been finally removed on the ninth. Complications were observed in 29.5 per cent., and included the greatest variety of accidents, including deaths from external causes. In 2 per cent. there was glaucoma as a complication, in 10 per cent. there was iritis, and in 2.8 per cent. infection of the wound.

Scotomata and Migraine.—Professor F. Jolby (*Berliner klinische Wochenschrift*, October 27th) records his observations on himself, he having lost one eye early in life. He observed that occasionally the scotomata would reverse their usual appearance. From his studies, the author believes that the most common form of hemiopic scotomata does not originate in the cerebrum, certainly not in the cortex, but probably in the primary optic tract and especially in the region of the external geniculate bodies. He concludes that the binocular scotomata which appear centrally and those which extend beyond the middle line, arise in more peripheral portions of the optic tract, probably in the neighborhood of the chiasm. The purely monocular scotomata arise in the optic nerve or the retina of the affected eye.

CUTANEOUS MEDICINE AND SURGERY.

The Present Status of Radiotherapy in Cutaneous Diseases and Cancer. By Charles W. Allen, M. D. (*Medical Record*, November 15th).—In this paper the author reviews the results of treatment in fifty personal cases of cancerous disease treated by the x ray. The tabulated results are as follows:

	Cases.	Per cent.
Ending fatally	5	10
Discharged as unimproved, or ceased treatment unimproved.....	3	6
Referred for surgical operation.....	2	4
Ceased treatment improved.....	4	8
Improved and still under treatment..	10	20
Discharged as clinically cured.....	26	52
	50	100

The effect of the ray treatment in deep seated, extensive cancers is at times to cause so great and rapid a disintegration of tissue that the system is overloaded with waste products. The treatment should, therefore, always be applied by a skilled physician and not left to an electrician.

Dr. Allen has also applied the ray treatment in conjunction with other methods to lupus, lupus erythematosus, psoriasis, eczema, acne, sycosis, etc., and considers that, on the whole, the ray is of decided aid in combating rebellious cases.

GENITO-URINARY DISEASES.

Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ. By Dr. P. J. Freyer (*British Medical Journal*, November 8th).—The author reports a fourth series of cases, six in number, of total extirpation of the prostate. He has now abandoned the employment of any cutting instrument for incising the mucous membrane over the prostate in the bladder, preparatory to its enucleation. The mucous membrane is incised with

the sharpened finger nail, and the prostate is then shelled out from its sheath, being held steady and prominent meanwhile by a finger inserted in the rectum. He has now performed this operation on twenty-one patients, varying in age from fifty-eight to seventy-nine years. All had entered upon catheter life, and except two or three, complete catheter life. All were in broken health, suffering from cystitis, pyelitis, or kidney disease. In nineteen of these cases an absolute and complete cure has ensued. In one instance the patient succumbed to acute mania on the twenty-fourth day; in the other heat-stroke proved fatal on the ninth day. The operation is comparable to none other in surgery, owing to the advanced age to which it is necessarily confined.

Two Cases of Urethrectomy for Traumatic Stricture. By J. L. Thomas, F. R. C. S. (*British Medical Journal*, November 8th).—The author recommends that, in cases of traumatic stricture, the healthy corpus spongiosum urethræ be completely severed on each side of the stricture, the excised stricture and its mucous membrane being thoroughly removed. The edges of the dorsal surface of the corpus spongiosum are then to be brought together by means of interrupted catgut sutures passed right down to the mucous membrane, so that the knots are on the periphery of the canal. This diminishes the risk of extravasation and the infection of the suture holes by urine. The anastomosis of the corpus spongiosum urethræ is then completed, the fascial layers laid over it by buried sutures, the skin approximated by its own sutures, and a collodion dressing applied. No drainage or instrumentation of the bladder is afterwards performed. The operation corresponds to one of resection and anastomosis of the intestine. The author reports two cases in which the operation was performed with most successful results.

LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

A Case of Malarial Ulcer of the Throat.—Dr. P. K. Haller (*Roussky Vrach*, October 5th) says that malarial ulcers may occur in the throat, and that the textbooks, with the exception of one of the larger works, that of Rosenberg, totally ignore this occurrence. The author reports a case of malarial ulcer of the larynx which occurred in a physician aged forty-five years, who had been suffering from hereditary hemicrania, articular rheumatism, and chronic catarrh of the throat. He was seized with malaria in the summer of 1898, and then had a series of attacks during the spring and the winter. The chronic catarrh of the larynx gradually grew worse, the expectoration became purulent and at times bloody. The posterior wall of the larynx was found to be the seat of excoriations, then of small ulcerations, which gradually became larger and coalesced to form larger ulcers. The latter were flat, with undermined edges, not very painful, but still impeding deglutition. Several syphilologists who examined the patient denied the syphilitic nature of the ulcers, and the lesions were not tuberculous because no bacilli were found at any of the numerous examinations that were made for that purpose. The treatment finally decided on consisted of applications of parachlorophenol, exposure of the larynx to blue light, and hypodermic in-

jections of quinine, together with moderate doses of potassium iodide to provide for the possibility of the ulcer being gummatous after all. The patient had to be fed by a stomach tube, as his deglutition was considerably impaired at the height of the disease. Under this treatment, however, the ulcer gradually healed, and the symptoms disappeared. The author believes that he had to deal with a malarial ulcer which did not heal until the malarial element had been destroyed.

LEGAL MEDICINE.

The Criminal Responsibility of the Epileptic. By John Punton, M. D. (*Medical Record*, November, 15th).—After reviewing the development that has taken place in the past forty years in the science of cerebral localization, and indicating its influence on the better understanding of cerebral lesions, the author takes up the specific consideration of epilepsy in its relationship to crime and especially to the crime of murder. With regard to epilepsy itself, he holds that both clinically and pathologically it is shown conclusively to be a symptom of brain disease, whose lesion is chiefly, if not altogether, confined to the cortical cells of the cerebrum. Epilepsy being a symptom, the causes of the underlying lesion becomes important. These causes are various; they are both congenital and acquired. The chief ætiological cause is some hereditary defect. The various forms in which epilepsy presents itself, render it subject to classification. Idiopathic, or ordinary epilepsy, is seen clinically, to fall into three chief classes: (1) The less severe attacks, constituting *petit mal*. (2) The more severe ones, *grand mal*. (3) The larvated form, or psychical epilepsy, which is characterized by various mental and physical automatic states. In addition to these there is Jacksonian epilepsy, in which the convulsions are primarily of a local nature, and during which consciousness is frequently retained.

Symptomatic epilepsy is a form due to gross brain lesions, which give rise to convulsive attacks. While epilepsy may be due to hystero-epilepsy, syphilis, alcohol, and the acute infections, yet in form such epilepsy does not differ from those already mentioned. The most frequent result of epilepsy is mental deterioration, which sometimes amounts to true insanity. The amount of mental failure is variable and does not always depend on the duration of the epilepsy.

The complicated nature of epilepsy makes it a common and convenient plea of defense in crime, hence the mental responsibility of the epileptic becomes an important medicolegal question. From this point of view it is most important to determine, not only the mental deterioration of an epileptic, but also his mental responsibility. It is held to be as illogical to acquit a man of crime simply because he was the subject of convulsions, as it would be to convict him simply because symptoms of epileptic insanity had not been observed or proved. It is therefore important to recognize the extent to which mind control has been impaired by the epilepsy as well as the existence of epileptic insanity. The legal aspect of insanity, whether epileptic or not, is not logically tenable from a medical point of view. As it stands to-day, the test of criminal responsibility before our courts lies in the proof of possession of reason and free will; if either is absent there is no responsibility. But competent medical men to-day are agreed that many an

insane criminal knows right from wrong, can plan and premeditate a crime, and seek to evade the consequence, and still be irresponsible for his action. This complicated question has moved Mr. Justice Stephens, of London, to propose a modification of the legal code, so that a man shall be held responsible only if the mental incapacity was caused by his own act. As, for example, if the epileptic disability had been brought on by syphilis or the abuse of alcohol. All authorities recognize that homicide is the legitimate product of epileptic insanity, and much leniency should be allowed in every case in which murder is committed by one who is known to be subject to true epileptic paroxysm. The following deductions are drawn by the author from his paper, and some suggestions added to overcome if possible some of the present evils of expert testimony: (1) That epilepsy is a symptom of some brain disease. (2) That its continual presence tends toward mental deterioration. (3) That the mental responsibility of the epileptic depends upon the extent to which mind or self control has been impaired by the epilepsy. (4) That a legal test of insanity is not sufficient, as mental irresponsibility is not incompatible with a knowledge of right from wrong. (5) That epileptics are, to some degree at least, responsible for criminal acts, more especially when the epilepsy is produced by their own fault. (6) That criminal acts of epileptics appeal to medicine rather than to law for their proper adjudication. (7) That in all cases of murder in which epilepsy is proved the law should be amended to allow of like commitment to an insane hospital rather than to the penitentiary. (8) That the mental responsibility of the epileptic in case of murder should be referred to a medical commission, appointed by the court, which again may be referred to local or county medical societies to name its members.

PHYSIOLOGY AND PATHOLOGY.

Chorionepithelioma, the so-called Deciduoma Malignum of Some Authors.—Dr. L. R. Krever (*Roussky Vatch*, October 12th) reports two cases of epithelioma of the chorion, thus adding to the literature of this rare affection. The first patient was a domestic servant, single, aged thirty-three years, who had borne a child six years previously and had had two miscarriages since. She denied syphilis. Admitted with a left hemiplegia, which had come on suddenly with other signs of brain embolism, she was found to have no heart lesion, and nothing to account for the embolus, except the possibility of syphilis. Anti-syphilitic remedies did not have any effect, however, and the woman died after a period of progressive cachexia and anæmia. The autopsy showed a hæmorrhage in the brain and a tumor in the uterus, which caused this organ to be considerably enlarged, and the growth protruded in the form of a polypoid structure into the cavity thereof. On microscopical examination it was found to be a deciduoma. In the second case the diagnosis was clinical, the patient, a woman aged twenty-eight years, also having entered with the symptoms of brain embolism. She was supposed to have been pregnant, but on examination the uterus was found to be but very slightly enlarged, and firm. She had passed through the secondary stage of syphilis sometime before. Gradually her condition grew worse, she became very markedly

cachectic, and finally died of exhaustion. At the autopsy the uterus did not present any special features, being of fairly normal size and shape. On section it did not show any marked changes, the organ being pale and soft. Only the mucous membrane of the uterus was considerably thickened and in a limited area on its posterior surface changes of chronic character, in the shape of a cicatrix were seen. Near the right cornu, however, the author found a small growth which projected among the normal excrescences of the uterine mucosa. On examination the author did not find any decidual cells in this growth, but found two classes of cells: (1) Large, brightly staining, but not well defined, with one or more bright large nuclei; and (2) small less well staining, with one nucleus which often contained mitotic figures, and which were devoid of intercellular substance. (*Vratch*, October 19th). He found that the same cells existed in the growth in the first case, and concluded that these two cases were instances of so-called deciduoma, or more properly sarcoma of the decidua. Recent pathological studies in these cases showed that it was not necessary to find decidual cells in such growths to make a diagnosis of decidual sarcoma as such cells might be absent. The author's conclusions are as follows: (1) Chorionepithelioma represents an epithelial malignant growth which develops from the epithelial coverings of the villi of the chorion, and consists of the two types of cells which normally cover these structures. (2) These cells normally even possess the characters of the cells of epithelial malignant growths, and they become part of the malignant growth only when they encroach in their proliferation to the decidua serotina. (3) The mutual relation of these two classes of cells in the new growth corresponds to that existing between them normally in the villi. (4) These cells preserve in the new growth the property of eating through into the blood vessels, but in a more marked degree than in the villi, thus giving rise to more copious hæmorrhages in the cases reported. Metastases occur from these tumors by the circulatory route.

The Problems of Comparative Pathology (Inaugural Lecture Delivered before the Students of the Military Medical Academy, St. Petersburg). By Professor N. N. Mari (*Roussky Vratch*, October 12th.).—The author is the first professor of comparative pathology in Russia, and defines comparative pathology as a method of treating pathology in general, and not as an independent science. It is not enough in studying comparative pathology to know human pathology and the science of disease in the domestic animals, *i. e.*, veterinary pathology, but in order to get the full benefit of comparative facts it is necessary to study the pathology of the lower animals, down to the simplest organisms. In the simpler organisms the pathological processes are comparatively elemental in their simplicity, while in man and in domestic animals they are very complex. Therefore the pathology of disease in simpler forms can be more readily understood. Metchnikoff, speaking of the value of the study of pathological processes in lower animals, says very aptly that the difficulty of distinguishing the causes and the various effects of a disease in man or other complex organisms may be compared to the bewilderment of an inhabitant from another planet who is thrown into a large city on

earth at the moment when a fire has broken out. He sees enormous crowds, signals, firemen and engines, flames, smoke, etc., but in all this tumult it is very difficult for him, who has never observed these phenomena, to tell whether the cause of the trouble is the crowd, the firemen, the water, the engines, the smoke or the fire. On the other hand, if he were thrown into a small village he would see at once that the fire was the origin of the commotion and of the efforts to extinguish it. Thus the general pathologist, in studying the phenomena of inflammation thought that the whole process lay in the blood vessels, but since he has studied the effects of irritation and inflammation in lower forms he has found that it is the results of a combat between the irritating or injuring factors, *e. g.*, the bacteria, and the cells of the tissues and blood which are put on the defensive the minute an injury occurs. The ætiology of tumors is another subject that may be cleared up some day by the study of comparative pathology. Statistics of primary cancer in the lower animals show that these growths occur in 63 per cent. of cases on the outer coverings of the animal, thus suggesting the possibility of infection from without. Cancer is least frequent in the mammae of the cow, while in the same glands in the dog, the cat, etc., it is far more often met with. This directly contradicts our theory that cancer is more frequent in the breast of women on account of the traumatism of lactation, for in the cow such a traumatism occurs all the year around. Even botany gives us hints as to the nature of new growths. Twenty-five years ago, when no one dreamt of the possibility of parasitic causes in cancer, Voronine described a new growth in cabbage caused by a parasite, *Plasmodiophora brassicae* (*Voronine*), and suggested that in man new growths might be due to similar causes.

A Series of Cases Illustrating the Complications of Gall Stone Disease. By B. G. A. Moynihan, F. R. C. S. (*British Medical Journal*, November 8th).—Complications are met with in about twenty-five per cent. of all cases of gallstone disease. They may be classified as follows: (1) Impaction of stone in the cystic duct, followed by hydrops, empyema, and cystoduodenal fistula. (2) Sloughing of the gall bladder from phlegmonous cholecystitis. (3) Perforation of the gall bladder and formation of a fistula between it and the stomach. (4) Impaction of stones in the hepatic and common ducts. (5) Impaction of stones in the common duct. (6) Impaction of stones in the ampulla of Vater. (7) Primary carcinoma of the gall bladder. Cases of 1, 2, 3, and 4 are all rare. Primary carcinoma of the gall bladder is a rare surgical affection. In the great majority of cases the liver or the cystic duct, or both, are found involved in the growth. Primary carcinoma may be squamous, columnar, or spheroidal-celled. Secondary carcinoma may be the result of metastasis or of direct extension, most frequently from the pylorus. The association of primary carcinoma with gall stones has been frequently remarked. In the cases in which the gall bladder and liver are both affected, the disease has usually started in the former. Women are affected more frequently than men in the proportion of five to one.

Our Subscribers' Discussions.

A SERIES OF MONTHLY PRIZE ESSAYS.

[Questions for discussion in this department are announced once a month. So far as they have been decided upon, the further questions are as follows:

XIX.—How do you treat frostbite? (Answers due not later than December 10, 1902.)

XX.—How do you treat buboes that threaten to suppurate? (Answers due not later than January 10, 1903.)

XXI.—How do you treat infantile convulsions? (Answers due not later than February 10, 1903.)

XXII.—How do you manage occipitoposterior positions of the presenting head? (Answers due not later than March 10, 1903.)

Whoever among our subscribers (with the limitations mentioned below) answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but NOT REQUIRED) that the answers be short, if practicable, no one answer to contain more than six hundred words. So far as our space will allow, we shall publish the substance or such of the answers as seem to us most likely to prove interesting to our readers, and we reserve the right to publish any of the answers in any department of the JOURNAL.

Only subscribers to the NEW YORK MEDICAL JOURNAL (including regular and volunteer officers of the medical corps of the United States Army, Navy, and Marine-Hospital Service, commissioned or under contract) will be entitled to compete, and all persons known to be engaged in medical journalism are disqualified. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish.]

The prize of \$25 for the best essay submitted in November has been awarded to Dr. Hugh T. Nelson, of Charlottesville, Va., whose paper appeared in our issue for November 22nd, p. 979.

PRIZE QUESTION NO. XVIII.

THE PREVENTION OF MAMMARY ABSCESS.

(Concluded from page 921.)

After treating briefly of mammary abscess in infancy and at puberty, Dr. Alfred C. King, of Algiers, La., writes:

Treatment should really begin during the latter months of pregnancy. The nipples require careful watching; drawn out with the finger tips or breast pump if short or flat; bathed in alcohol or borax water to harden the epithelium and make them more erectile. Cracks rarely occur before nursing.

The breasts sometimes become distended and painful and should be supported by bandages properly applied, being gently started, with the patient in the recumbent position, when a change is being made or pain is unusual. Often it is well to withdraw a portion of the fluid before applying pressure.

Cracks or fissures occurring as a result of nursing require the most careful attention on the part of the physician and nurse, as here lies the danger and here is the most frequent point of entrance of germs. The *Staphylococcus pyogenes aureus* and *albus* have

been found in the milk, and staphylococci have been found in the glandular structure. Germs may also reach the breasts through the blood as a conveying medium.

Cracks are decidedly more rebellious to treatment than simple erosions. If of any extent, the crack should be opened sufficiently by separating the edges and then touched with the solid silver nitrate stick. As the action is intended to be local, it must be applied dry, the lymph furnished by the denuded surface affording sufficient moisture. For erosions silver nitrate solution, ten to twenty per cent., painted on once every day or two is the best method of restoring normal epithelium. Absolute cleanliness is requisite; frequent washings of the nipples with soap and water followed with a saturated solution of boric acid are proper, keeping gauze pads, sterile if possible, saturated with this solution wrapped around the nipples during the day, and sterilized vaseline or carbolized vaseline applied during sleeping hours. Gauze drying and adhering removes epithelium previously formed during the day. Another good application applied constantly and one that has given me good results is:

R Tannic glycerite 2 drachms;
Alcohol 1 ounce;
Rose water..... enough to make 3 ounces.

This should be applied constantly on large sterile gauze pads. If the child is troubled with sprue, its mouth must be given special attention—frequent washings with solutions of boric acid or sodium sulphate are good. I have used dilute solutions of hydrogen peroxide with excellent results. Fissures may require abandonment of nursing, even with a shield, for a time. If they crack and bleed at each nursing, healing is not to be hoped for and infection is a constant threat. In threatened abscess the first important point is to take the child from the breast. If this is done early, a large number of cases will recover without advancing to suppuration. Pain is usually a marked symptom and should be relieved by gentle mammary expression, done by the physician or a nurse fully competent to accomplish the desired result without doing further damage. Stroking gently from periphery to nipple, using vaseline, sweet oil, or lanolin to prevent friction, with sterilized hands, giving a rest frequently if pain is severe. Rough handling or the rubbing given by the expert old woman with filthy hands is to be strictly avoided. Often a good breast pump is serviceable; the nurse can sometimes be induced to draw out the milk with the mouth (if no sore nipples are present), a puppy is often used, but gentle and intelligent massage is best. For pain, give opium; morphine hypodermically if pain is unbearable, or codeine in doses of a quarter of a grain. An anodyne may be given in the usual dose, and lead and opium wash

applied locally. Quinine or quinine and phenacetine may be given for the fever, two grains and a half of each every three hours. Saline cathartics act as a derivative and lessen the hyperæmia of the breasts. Comfort is often afforded by inunctions of belladonna ointment. Ice bags are all important at this day and should be employed; they allay pain and inflammation, thereby giving great relief and preventing pus formation.

Last but not least is *support by bandages*. I find the most serviceable bandage to be the figure of eight in combination with the "straight around" chest bandage, or one sufficiently long can be applied in just the same way. Support and gentle compression are the idea. First place a pad of gauze between the glands, over them a soft substance like thin cotton batting, then apply your bandage in such a way as to both raise and compress the breasts against the ribs firmly and gently. In closing I must mention Bacon's latest idea in massage. Early in engorgement or painful breasts at the beginning of lactation, there is usually very little milk, and pain and tension are not due to retained secretion, but to a temporary overfilling of the blood and lymph vessels. The effect of massage should be to cause an emptying of the vessels and so to relieve the tension and resulting pain. Bacon considers the arrangement of these vessels, and advises that the rubbing be begun in the axilla and under the clavicle, using but little pressure at first and gradually increasing it. The purpose of massage is to facilitate the flow of fluids *from* the breast, and this is accomplished by accelerating the flow in the efferent vessels. The gland itself may sometimes be massaged, but pain should not be caused.

This is a new theory to me, and, having had no experience along this line, I am not prepared to either recommend or condemn it.

Dr. Chauncey G. Hubbard, of Hornellsville, N. Y., writes:

Antiseptic midwifery will prevent mammary abscess, as well as other forms of puerperal infection. The prospective lying-in room should be made as aseptic as a modern hospital operating room. All unnecessary and upholstered furniture, carpets, draperies should be removed. The floor, ceiling, walls, and all furniture should be washed with a one to one thousand solution of bichloride, a new mattress provided for the bed, and all bedding immersed in the bichloride solution before being sent to the laundry. At the commencement of labor the patient should be given an antiseptic bath with a vaginal injection of a two-per-cent. solution of creolin. The nurse and medical attendant should be free from skin eruptions, coryza, or other evidences of infection. All their clothing, and the instruments and

accessories of the sick room should be made thoroughly aseptic. Vaginal examinations should be as few as is compatible with safety, and made only with aseptic hands dipped into the bichloride solution. After the birth of the child, the placenta should be removed by Crede's method without the introduction of the hand. An intrauterine injection of the creolin solution should follow the expulsion of the placenta. After an antiseptic bath of the patient, her vulva, perineum, and anus should be covered with a pad of lint dipped into the sublimate solution and covered with oiled silk, and kept in place with a binder. This dressing should be worn during convalescence, and only renewed under antiseptic precautions, to allow of movements of the bowels and the passage of the urine. If it is necessary, the nipples should be developed previous to labor by gently pulling them a few minutes every day. When the milk comes, a muslin jacket with shoulder straps should be made to surround the whole chest, and pinned evenly over the breasts, after they have been raised upward and brought inward as far as is possible, so as to produce equable pressure over their entire surface, loosening it only to allow the child to nurse. The nipples and the mouth of the child should be washed with an antiseptic liquid before and after nursing. The nipples should be carefully watched for any erosions or signs of eczema, and upon the first indications of either the nipples should be dusted with pulverized tannin, the breast covered with an antiseptic dressing, and milking substituted for nursing until all evidences of trouble have ceased. The breasts should never be allowed to become overfull, and upon the first symptoms of their becoming inflamed, an ice bag should be applied to the inflamed portions and maintained until all pain and hardness have passed. Should the ice bag be insufficient, phytolacca, both externally and internally, is an excellent aid. The contention is made that mastitis is due to a bacterial invasion of the breast, from the mouth of the child through erosions of the nipple, causing fermentation of the milk, and that without a wound of the nipple there can be no mastitis. Although there are many evidences of the truth of this theory, yet the fact remains that mastitis is almost entirely unknown where overdistention of the breasts is not permitted, and an equable compression of them is maintained in the manner aforesaid. Under rigid antiseptic management, normal labor is completed and convalescence established without any elevation of the temperature or any unpleasant or untoward symptom.

Dr. Charles B. Reynolds, of Philadelphia, writes:

As mammary abscess is always due to some infection, either within or external to the gland, our best

tion, either within or external to the gland, our best preventive treatment lies in absolute cleanliness. This can be accomplished by keeping the woman's general health in the best condition, by daily bathing followed by the application of a clean, snug fitting mammary binder, fresh air, good food, and exercise. The causes within the gland are congestion, overdistended milk ducts, abrasions, inflammation of glands of Montgomery, fissured nipples, and localized tuberculosis deposits. The treatment consists in keeping the binder on constantly for the congestion, massage of the breasts under strict antiseptic precautions, and if necessary withdrawal of surplus milk by a sterile glass breast pump. Fissured nipples may be touched with compound tincture of benzoin or silver nitrate solution, a drachm to the ounce. Causes from without are usually infection from mouth, nose, or hands of the nursing child, also contact with soiled clothing. The child should be bathed daily, and its mouth and nose washed with solution of boric acid (three per cent.) before and after each nursing, the nipple and breast being similarly treated. If the child is suffering from some diseased condition of the mouth or nose or infectious disease, it should be fed artificially until cured. By placing the child to each breast alternately every second or third hour during the day congestion and overdistention of the ducts may be prevented. For the fissured nipples a shield should be used. The binder should be worn constantly except when the child is nursing.

At the first sign of inflammation within the gland the child should cease nursing, cold lead water and laudanum compresses be applied, and liquid diet and free catharsis employed. If an abscess develops, incise in the line of the milk ducts, wash with bichloride (1 to 1,000) or peroxide, and drain. Repeat the treatment daily. In an abscess beneath the gland, incise at the most dependent portion, wash thoroughly, and drain. Constitutional diseases, such as tuberculosis, syphilis, diabetes, and the acute fevers, predispose by lessening the resisting powers of the patient and should receive appropriate treatment.

Dr. Joseph N. Weller, of Akron, Ohio, writes:

To prevent the formation of pus in the mammary gland is a task imposed upon every physician who has to do with women during pregnancy and lactation. The task is not always an easy one and sometimes failure is the result. However, the condition would not exist so often if the physician were careful and watchful, recognizing the possibility of abscess in every nursing woman.

In considering the treatment directed to the prevention of mammary abscess one must investigate the ætiological factors. The formation of pus is

directly due to the entrance of pus organisms—in these cases usually to the *Staphylococcus albus*. Streptococci and even gonococci are present in persons of extremely filthy habits. The staphylococci are always present in small numbers about the nipple and in the milk ducts. They only require favorable conditions to cause mischief.

Engorgement of the milk ducts, or caked breasts, is a condition which lowers the resistance of the gland and affords a suitable pabulum for the growth of bacteria. Neglect to support and empty the breasts is usually the cause of this complication. It should be detected early, and a suitable bandage applied. Gentle massage should be made upward and outward in the direction of the shoulder joint, for this is the course of the blood vessels and lymphatics which drain the gland. The breast pump, carefully adjusted, will be found useful.

Cracks and fissures of the nipple and slight lacerations of the epithelium produced by nursing are often the open portals for the entrance of pus organisms. These should be carefully watched for, and when they occur the breast should be washed with soap and water, followed by a 1-5,000 solution of bichloride of mercury and sterile water. The nipple should be washed, before and after nursing, with a saturated solution of boric acid, and boric acid ointment applied during the intervals. The baby's mouth must be kept clean. Nipple shields may be used with advantage. Anything unclean should not be allowed to come in contact with the nipple or surrounding breast. The patient should be so instructed, and the physician should render his hands surgically clean before coming in contact with the affected parts.

Thus by carefully watching and treating those conditions which promote infection mammary abscess may be averted.

Inflammation of the gland is recognized by pain, slight redness, and possibly some induration. The surface temperature is increased, and the skin may appear glazed. We know now that infection has taken place, and endeavor to prevent the formation of pus.

From half an ounce to an ounce of magnesium sulphate should be given, and the patient put to bed if not already there. The breast should be supported and placed at rest, and an ice bag, covered with flannel and not too heavy, applied. A mixture of ichthyol ointment (25 per cent.), mercurial ointment, and belladonna ointment, equal parts, has been used with indifferent success. It is dirty and troublesome and has never, in my hands, been of much avail. The application of heat, while it may relieve pain, often seems to increase the tendency to suppuration.

The child should not be allowed to nurse that breast, but the gland must be emptied by means of a pump. Gentle massage may be made in the direction of the vessels and lymphatics.

In order to prevent mammary abscess careful attention should be paid to the causative factors as enumerated above. If infection does occur, the best method of combating pus formation is that of rest, the application of cold, and thorough purgation.

Book Notices.

Nothnagel's Encyclopedia of Practical Medicine. Diphtheria. By WILLIAM P. NORTHRUP, M. D. Measles, Scarletina, and German Measles. By THEODOR VON JÜRGENSEN, M. D., Professor of Medicine at the University of Tübingen. Edited with Additions, by Dr. WILLIAM P. NORTHRUP, M. D., Professor of Paediatrics in the University and Bellevue Hospital Medical College, New York, etc. Authorized Translation from the German under the Editorial Supervision of ALFRED STENGEL, M. D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 5 to 672. (Price, \$5.)

This volume contains an American substitution for the article on diphtheria in the original. It is the opinion of the reviewer that in the scope, detail, and manner of the presentation of the facts the value of Dr. Northrup's work compares more than favorably with that of Dr. Baginsky, who wrote on the subject for the original German edition. In fact, the reviewer regards the consideration of treatment as far superior in the American to that in the German edition.

Jürgensen's classic descriptions of the acute exanthemata, measles, scarlatina, and röteln (German measles) may now be read in English. Dr. Northrup in his translation has to a great extent preserved the spirit of the original writer, if he has failed in the style. Jürgensen's work is so well known that it is needless to review it here.

Diseases of the Nose, Pharynx, and Ear. By HENRY GRADLE, M. D., Professor of Ophthalmology and Otology in the Northwestern University Medical School, Chicago. Illustrated. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 11 to 547. (Price, \$3.50.)

In these days of a multitude of special journals in every field of medicine it is not to be expected that a textbook will bring out anything specially new or startling. The systematic expression, however, of the views of any well known teacher is always welcome, and, judged from this standpoint, Dr. Gradle has reason to be well satisfied with this manual, for it is attractive from beginning to end. No attempt is made to dwell on the purely literary or historical side of matters, but rather to present to the reader the pertinent facts in logical order. Special attention has been paid to topographical anatomy, a point in which many books of this kind are sadly deficient.

The classic works of Politzer and Zuckerkandl have been freely drawn on for illustrations.

The different paragraphs of the book are numbered consecutively from beginning to end, so that the work of cross reference is comparatively easy. It is printed on good paper and in clear type.

Medical Lectures and Aphorisms. By SAMUEL GEE, M. D., Fellow of the Royal College of Physicians, etc. London: Smith, Elder & Company, 1902. Pp. viii-296. (Price, 6 shillings.)

The day of the medical essay which is both scientific and literary is not yet over, and if one wishes some summer medical reading, easy, interesting, and yet instructive, he can hardly do better than to take Dr. Gee's book in hand. Among the subjects suggestively discussed in it are apoplexy, aphasia, bronchitis, asthma in adults, and large hearts and large spleens in children. There is in the book also a collection of medical aphorisms which embody in a pithy way the keen observation of a physician known to have had long and large experience in many of the conditions most frequently met with in general practice.

The Practical Medicine Series of Year Books, comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-graduate Medical School. Volume IX. Physiology, Pathology, Bacteriology, Anatomy. August, 1902. Chicago: The Year Book Publishers, 1902. Pp. 3 to 212.

Much of the important work accomplished in these branches of medicine during the past year is mentioned in this volume. The various articles are of necessity but briefly reviewed in a book of this size, but the reader is kept abreast with the progress made in these subjects, and may conveniently use the book as a work of reference. The occasional editorial remarks are of much service and aid in giving the work a personal character. With the succeeding volume the first year of the series will be completed.

Diseases of the Digestive Organs in Infancy and Childhood. With Chapters on the Diet and General Management of Children, and Massage in Pædiatrics. By LOUIS STARR, M. D., Consulting Pædiatrist to the Maternity Hospital, Philadelphia, etc. Third Edition, rewritten and enlarged. Illustrated. Philadelphia: P. Blakiston's Son & Company, 1901. Pp. ix-17 to 448.

In the new edition the author has omitted about forty pages of introductory matter relating to the investigation of disease in children. New articles are added upon rickets, scurvy, lithæmia, stomatitis, adenoids, proctitis, and worms. The chapter upon scurvy is especially good, and abundant evidence is adduced to show that the sterilization of milk at 212° F. is a potent cause of that disease. The other new chapters are good, but contain nothing noteworthy.

In his discussion of the subject of infant feeding Dr. Starr adheres to his former view in preferring

home modification to any other method of preparing milk. He condemns rather sweepingly the methods of the milk laboratories without sufficient grounds, it appears to us.

The author's style is simple and clear and his views as to treatment are those generally adopted by American writers upon the diseases which he describes. While one does not find in this book the completeness of discussion which might naturally be looked for in a monograph, the essential points are well brought out. The book will be found a useful one to those seeking for information upon this important class of infantile diseases.

Einführung in die Farbstoffchemie für Histologen.

Von Dr. L. MICHAELIS, Assistenzarzt an städtischen Krankenhause Gitschinerstrasse in Berlin. Berlin: S. Karger, 1902. Pp. 156

This book explains in detail the action of various coloring matters upon different tissues, and is of special value to that large body of histologists who do their staining by mere rule of thumb, with a total disregard, probably through lack of special training, of the chemical reactions which enter into the processes involved. The author having spent four years in Ehrlich's laboratory, his methods and their classification should be of considerable interest and value to those occupying themselves in this branch of clinical diagnosis.

The first part of the book deals with a concise outline of the chemistry of the principal dyes employed, and the remainder is devoted to the special methods of staining and counterstaining the various tissues. A short historical sketch of the development of the chemistry of dyes and an index to the whole work complete this valuable little volume.

The Operations of Surgery. Intended especially for the use of those recently appointed on a Hospital Staff and for those preparing for the Higher Examinations. By W. H. A. JACOBSON, M. Ch., Oxon., F. R. C. S., Surgeon to Guy's Hospital; and F. J. STEWARD, M. S., London, F. R. C. S., Assistant Surgeon to Guy's Hospital, etc. Fourth Edition. Volume I. Upper Extremity—Head and Neck—Thorax. Pp. xi-727. Volume II. Abdomen—Lower Extremity—Spine. Philadelphia; P. Blakiston's Sons & Company, 1902. Pp. vii-776. (Price, \$10.)

The fourth edition sees this work divided into two volumes, a step made necessary by reason of the numerous additions. Though intended for senior students and hospital internes, it is a mine of wealth in surgical matters and compares favorably with any previously published treatise along the same lines.

Quotations are very often given *in extenso*, and the enthusiasm of the author for the accomplishments of surgeons of the old school has led him to introduce much that must be called obsolete. One fails to recognize any "system" peculiar to the methods of operating, and while we are mindful of the prefatory remarks that the technics of one author is endorsed, yet there is only too manifest the greatest diversity of authors' methods, with a strong tendency toward the original methods of antiseptics.

We must also take exception to the teaching of methods based on records of the War of the Rebellion or on data extending back to the dawn of the antiseptic era. On the other hand, the clinical value of these data is incontrovertible. The wide scope of the work is apparent in the author's broad-mindedness in introducing the controversial aspect of subjects on the slightest provocation and always giving due credit. It is the style of book which is apt to engender a literary taste, a feature woefully wanting in most of our domestic surgeries.

The book is not in the least deficient in practical requirements. The illustrations are abundant and the newer accepted operations we find well represented. The author has admirably brought his extensive experience and diligent study into play in this storehouse of operative surgery. It is so replete with good things in its new garb that we do not hesitate to extend its field of usefulness to the practising surgeon and physician as a most valuable book of study and reference.

Intubation du larynx. Instruments—Technique—Advantages. Par le Docteur PEREZ-AVENDANO, Ancien interne des hôpitaux de Buenos-Aires, etc. Préface du Docteur MARFAN, Professor agrégé à la Faculté de médecine, etc. Avec 67 figures et 10 tableaux synoptiques dans le texte et un tableau clinique hors texte. Paris: C. Naud, 1902. Pp. xx-274. (Price, 4 francs.)

This manual is a complete exposition of the history, development, and present status of intubation. While it contains nothing new it displays a broad conception of the subject and mentions many points of technical detail that have arisen in the writer's experience.

The Surgery of the Rectum. By CHARLES B. KELSEY, A. M., M. D., Late Professor of Pelvic and Abdominal Surgery at the New York Post-graduate Hospital, etc. Sixth Edition. Illustrated by Two Hundred and Fifteen Engravings. New York: William Wood & Company, 1902. Pp. ix-402.

This sixth edition of Dr. Kelsey's excellent work is an improvement on its forerunner by virtue of the innovations that it contains. The author's twenty-five years' experience lends authority to a work written with exceptional clearness and dealing with far more in the way of abdominal surgery than is indicated on the title page.

The Roller Bandage. By WILLIAM BARTON HOPKINS, M. D., Surgeon to the Pennsylvania Hospital and to the Orthopædic Hospital and Infirmary for Nervous Diseases. With Illustrations. Fifth Edition, Revised. Philadelphia: J. B. Lippincott Company, 1902. Pp. xvi-9 to 162. (Price, \$1.50.)

This fifth edition of a familiar book is, as far as illustrations are concerned, wholly new, the original figures having been destroyed by fire. The illustrations graphically tell the tale of the roller bandage, yet we think a nearer approach to the actual state

of affairs would have been a series of photographs illustrating the bandages applied with the dressings beneath *in situ*. However, we congratulate the author and publishers alike on their enterprise in reproducing this most useful book.

The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. ABBOTT, M. D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Sixth Edition, Enlarged and thoroughly Revised. With 111 Illustrations, of which 26 are Colored. Philadelphia: Lea Brothers & Company, 1902. Pp. xi-17 to 641.

The present edition of Abbott's popular work on bacteriology is the sixth within twelve years. The value of the book was recognized early, and has increased with each edition. Among the more important additions to the present volume are the descriptions of the *Diplococcus intracellularis meningitidis* and the *Bacillus dysenteriae* of Shiga and Flexner. The cultural peculiarities of the ever increasing group of acid-resisting bacilli are given in detail, to assist in the diagnosis of the *Bacillus tuberculosis*. To most laboratory workers, and especially to the clinical microscopist, the diagnosis of this group by means of peculiarities in staining will prove a blessing when discovered. The chapter on immunity has been revised, and in fact the whole work is brought well up to date. As a manual for students it is in all respects satisfactory, and we are glad to welcome each successive edition.

The Practitioner's Manual. A Condensed System of General Medical Diagnosis and Treatment. By CHARLES WARRENNE ALLEN, M. D., Consulting Genito-urinary Surgeon to the city (Charity) Hospital, New York, etc. Second Edition. Revised and Enlarged. New York: William Wood & Company, 1902. Pp. iv-889. (Price, \$6.)

This is a useful collection of therapeutic measures compiled from recent standard books and articles. There is also included a large number of prescriptions, written by physicians of reputation. Diseases, symptoms, and the appropriate treatment are arranged in alphabetical order, and reference is easy. This second edition will no doubt meet with the same favor as its predecessor.

BOOKS, ETC., RECEIVED.

The Practice of Surgery: A Treatise on Surgery for the Use of Practitioners and Students. By Henry R. Wharton, M. D., Clinical Professor of Surgery, Woman's Medical College of Pennsylvania, etc., and B. Farquhar Curtis, M. D., Professor of Clinical Surgery and Adjunct Professor of the Principles of Surgery in the University and Bellevue Medical College of New York, etc. Profusely Illustrated. Third Edition. Philadelphia and London: J. B. Lippincott Company, 1902. Pp. viii-1241.

A Text-book of the Science and Art of Obstetrics. By Henry J. Garrigue, A. M., M. D., Consulting Obstetric Surgeon to the New York Maternity Hospital, etc. With Five Hundred and Four Illustrations. Philadelphia and London: J. B. Lippincott Company, 1902. Pp. xxx-844.

International Clinics: A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pædiatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose,

and Throat, and other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession throughout the World. Edited by Henry W. Catell, A. M., M. D. Volume III. Twelfth Series. Philadelphia: J. B. Lippincott Company, 1902. Pp. viii-306.

A Treatise on Massage; its History, Mode of Application, and Effects. Indications and Contraindications. By Douglas Graham, M. D., Boston. Third Edition. Revised, Enlarged and Illustrated. Philadelphia and London: J. B. Lippincott Company, 1902. Pp. 9 to 462. (Price, \$4.)

An Introduction to Dermatology. By Norman Walker, M. D., Assistant Physician for Diseases of the Skin to the Royal Edinburgh Infirmary, etc. With 43 Full-page Plates and 47 Illustrations in the Text. Second Edition, Revised and Enlarged. New York: William Wood & Company, 1902. Pp. xvi-301. (Price, \$3.)

Text-book of Medical Jurisprudence and Toxicology. By John J. Reese, M. D., Late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. Sixth Edition, Revised by Henry Leffmann, A. M., M. D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania, etc. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xvi-17 to 660. (Price, \$3.)

Human Anatomy. A Complete Systematic Treatise by Various Authors, including a Special Section on Surgical and Topographical Anatomy. Edited by Henry Morris, M. A., M. B. Lond., F. R. C. S. Eng., Member of the Council of the Royal College of Surgeons of England, etc. Illustrated by Eight Hundred and Forty-six Woodcuts. Third Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xxxiv-1328. (Price, \$6.)

A Treatise on Diseases of the Eye, Nose, Throat, and Ear. For Students and Practitioners. By Various Authors. Edited by William Campbell Posey, A. B., M. D., Professor of Ophthalmology in the Philadelphia Polyclinic, etc.; and Jonathan Wright, M. D., Attending Laryngologist to Kings County Hospital, etc. Illustrated with 650 Engravings and 35 Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. xiv-19 to 1238.

A Handbook of Materia Medica, Pharmacy, and Therapeutics, including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription-writing. By Samuel O. L. Potter, A. M., M. D., M. R. C. P. Lond., formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco, etc. Ninth Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xiii-17 to 951. (Price, \$5.)

Miscellany.

An Act to Establish a Foreign Service Medical Corps in the Medical Department of the Army of the United States.—The following draft of a bill has been prepared to be submitted to Congress:

SEC. I. Be it enacted by the Senate and the House of Representatives of the United States of America in Congress assembled, that the Foreign Service Medical Corps of the Medical Department of the Army of the United States shall be constituted as follows:

One assistant surgeon general with the rank of colonel, four deputy surgeons general with the rank of lieutenant colonel, forty surgeons, with the rank of major, one hundred assistant surgeons, with the rank of captain and first lieutenant mounted, as hereinafter provided. The pay and allowances of these officers to be the same as for officers of like grades in the United States Army serving in insular possessions.

After the original vacancies are filled as hereinafter provided, promotion by seniority shall apply in all grades.

SEC. II. That the one original vacancy in the grade of colonel, two original vacancies in the grade of lieutenant colonel, ten original vacancies in the grade of major, and thirty original vacancies in the grade of captain, be filled by transfer by the President of the United States, from the Medical Department of the Army, of such medical officers as make application to the Secretary of War, and who have had at least one year of actual foreign service, as provided in Sec. III. *Provided*, that the new rank to which the applicant is appointed shall be but one grade higher than that held at the time of application; *Except* that of the assistant surgeon general, who, in order to fill this original vacancy, shall be appointed by the President of the United States, the selection to be made from officers of field grades, and who are not under forty-five (45) years of age, and who have had one year's actual foreign service.

Provided that the transfers from the present medical corps of the army to the Foreign Service Medical Corps shall be permanent, and that there shall be no exchanges of officers from the one body to the other. That the promotions in each body shall be by seniority and entirely distinct and separate.

Provided further that if sufficient applications are not received by the Secretary of War within six months after the date this bill becomes a law, the remainder of the vacancies will be filled as provided for in Sec. III.

SEC. III. That all the original vacancies not filled as provided for in Sec. II shall be filled by appointment of regularly graduated physicians who have served in the armies of the United States; and not less than one year of actual service shall have been, at some period, in the Philippine Islands, Cuba, Puerto Rico, Hawaiian Islands, or China, either singly or collectively, and who have held commissions as medical officers of volunteers, or who have acted as contract surgeons, U. S. army. *Provided* that no person shall be appointed until he shall have passed an examination by a board of five (5) medical officers composed of two (2) lieutenant colonels, appointed under the provisions of Sec. II, of this act, and three (3) commissioned medical officers holding the rank of field officers, who upon the advice of the surgeon-general of the United States army have been selected by the Secretary of War for appointment into this service, for the purpose of taking part in this first examination, from those referred to above in this Sec. III. *Provided* that such examination for appointment shall be held in the same manner, and to be of the same scope, as now pertains to the medical department of the army, for promotion, as provided for in the Army Medical Manual. *Provided* that the previous record, character, and length of service on the part of the candidate shall receive due credit in this examination. *Provided* that no person shall be appointed to the grade of a field officer unless he shall have attained the age of thirty-five years and does not exceed that of forty-five years. No person shall be appointed to the grade of captain unless he shall have attained the age of twenty-five (25) years and does not exceed that of thirty-five (35) years.

Provided that the President may remove the upper age limit, and appoint to the grade of field officer and

captain, subject to the prescribed examination, such persons as have capably served over two years as medical officers of volunteers or contract surgeons and are otherwise eligible under this section.

SEC. IV. That all original vacancies remaining twelve months after this bill becomes a law (except those provided for in Secs. II and III), and those thereafter occurring, shall be filled by appointment of regularly graduated physicians, between twenty-two (22) and twenty-nine (29) years of age, who have passed an examination by a board composed of such officers of the Foreign Service Medical Corps as the surgeon general may select. Such examinations to be held in the same manner and to be of the same scope as that held for candidates for appointment into the medical department of the United States army as provided for in the Army Medical Manual. *Provided* that all persons appointed under the provisions of this section shall have the rank, pay, and allowance of first lieutenants mounted, until promoted in accordance with the provisions of Sec. V of this act.

SEC. V. Promotions in all grades shall be, as now provided for in law for the officers of the medical department of the army, *Provided* those persons appointed under provisions of Sec. II and III of this act, shall at once receive the grade of a field officer or captain. *Provided* that before final appointment of such persons entering the service under the provisions of Sec. IV of this act, each approved candidate shall pass a satisfactory course of instruction in the Army Medical School in such subjects as the surgeon-general of the army may determine, and that the record of the candidate in this school, combined with his entrance examination, shall determine his relative military rank.

SEC. VI. That on account of possible deterioration of health from continuous service in the tropics, each officer of this service may be allowed eight (8) months of ordinary leave of absence after every four years of service, on full pay, with transportation to and from the United States, such leaves to commence and end upon arrival in and departure from the United States. These foreign service leaves may accumulate at the rate of two months per year as long as the officer desires.

Officers of the Foreign Service Medical Corps shall also be entitled to all leaves, except ordinary leaves, provided for by existing law for officers of the United States Army.

SEC. VII. That after ten years of actual service in the tropical zone, as a commissioned officer in the military service of the United States, officers of the Foreign Service Medical Corps shall be entitled, upon their own request, to be placed on the retired list of the United States Army on one-fourth pay, after fifteen years' service, three-eighths pay, after twenty years' service, half pay, after twenty-five years' service, five-eighths pay, after thirty years' service, three-quarters pay, after thirty-five years' service, seven-eighths pay, after forty years' service, full pay. *Provided further* that all retirements from whatsoever cause shall be made in the same manner as now provided for by law for officers of the United States army. The retired list of the army, as established by law, shall be increased as herein provided.

SEC. VIII. The assistant surgeon general of the Foreign Service Medical Corps, of the medical department of the United States army, shall serve at the

headquarters of the army, in the office of the surgeon-general, U. S. army, as well as such other officers of this corps, as necessity may demand. For the purpose of retirement, this service shall count as foreign service.

SEC. IX. Be it further enacted that when, in the opinion of the Secretary of War, necessity therefor exists, the medical officers of the military services of the United States shall act under the direction of the civil government in the controlling of epidemic diseases and such other public health functions as the necessities of the case demand.

When serving under direction of civil governments, the duties of medical officers shall be as follows: To render medical and surgical services to the civil officials and their families and such others as the civil authorities may determine are entitled to this service, and to perform such public health duties as may be required. When detailed to serve under the direction of United States civil authorities, medical officers shall, for the period thus detailed, be removed from all military jurisdiction, and subject only to the orders of the proper civil authorities and the Secretary of War.

SEC. X. Be it further enacted that the duties of the officers of the medical department of the military services of the United States, not provided for in Sec. IX of this act, shall be as follows:

1.—The direction of measures for the prevention of disease among the troops of the army, and of sanitary faults in location, construction (and management) of posts and camps.

2.—The medical and surgical care of diseased and injured officers and soldiers of the army of the United States: the physical examination of all officers and soldiers entering and leaving the United States army.

3.—The care (of) and accountability for all transportation pertaining to the movement of men and supplies of the medical department and (of) sick and injured of the army.

4.—The preparation and preservation of the records of transactions taking place under the three preceding paragraphs.

5.—It shall be the duty of the senior officer of the (army) corps, division, brigade (territorial division, or department) in which an actual outbreak of disease shall have arisen, to at once take steps and investigate and determine the reason therefor.

Should this investigation show any carelessness or inattention to duty, either upon the part of the medical officer or of the officer in command at the infected point, he shall at once make report (of the facts) to the officer in command of the (army) corps, division, or brigade (territorial division, or department), whose duty it shall then be to bring the offending officer or officers before a court martial for such punishment, upon conviction, as the court may deem proper, and the revising authorities concur in. *Provided* that the membership of the courts martial for the trial of an officer of the staff departments of the army shall consist of at least 20 per cent. of officers taken from the staff department to which the accused officer belongs.

SEC. XI. The officers of the medical department of the military services of the army of the United States shall also perform such other duties as the President or the Secretary of War may deem for the best interests of the army.

The Secretary of War is hereby authorized and directed to prepare suitable regulations for the enforcement of the provisions of this act.

All acts and portions of acts in conflict with the above are hereby repealed.

Nugæ Medicæ Veterum.—For the physician there is a special significance in the verse *Tempora mutantur nos et mutamur in illis*:

God and the doctor we alike adore,
But only when in danger, not before;
The dangers o'er, both are alike repealed,
God is forgotten and the doctor slighted.

Reading in the Dark.—Dr. Douglas Graham (*Edinburgh Medical Journal*, May), in an article on *Massage and Movements in Hemiplegia*, describes a case of hemiplegia, in a woman, thirty-six years of age, who was prior to her attack a somnambulist. He says "One night during the three months that she was confined to bed, she read a long article aloud in the dark, and made uncomplimentary but thoughtful remarks upon it. Her husband and the nurse who heard her thought it was something that she had committed to memory and was reciting." And again, he says: "She was also subject to nervous spells, which occurred from once a day to once in two weeks. . . . If she did not succeed in getting asleep soon in one of these spells, her headache would increase, and she would read and write in the dark, though she had no recollection of what she had done."

Charaka-Samhita on the Determination of Sex.

—In the *Charaka-Samhita*, or collection of writings of Charaka (according to the Chinese translation of the Buddhist *Tripitaka*, the official physician of King Kanishka in the first century A. D.) translated and published by A. C. Kaviratna, of Calcutta, we find (p. 700) the following on the question on the determination of sex: "Agniveṣa asked, Why (O illustrious one), does a woman give birth to a daughter? Why to a son? Why to a son and daughter together? Why to one of a particular sex separately? Why to twin sons? Why to twin daughters? Why to many at a time?"

"Punarvasu said, If blood predominates (in the seed), the result is a girl; if semen predominates, the result is a boy. If the seed becomes divided into two portions (through the action of the wind), the result is a twin of opposite sexes according as blood or semen may predominate in each portion. She who gets (injected into her womb) seed divided into two portions in each of which semen predominates, brings forth a twin consisting of males only. She, on the other hand, who gets seed divided into two portions in each of which blood predominates, brings forth a twin consisting of females only. If the wind, exceedingly excited, entering (into the womb), divides the seed, which always consists of semen and the menstrual blood, into several portions, then as many children, each governed by his or her acts in previous lives and irrespective of his or her own will, are brought forth as the number of such portions."

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Special Articles.

THE TREATMENT OF VASCULAR NEOPLASMS BY THE INJECTION OF WATER AT A HIGH TEMPERATURE.

By JOHN A. WYETH, M. D., LL. D.,
NEW YORK.

For the last two years I have treated a number of cases of vascular neoplasms (angiomas) by the direct injection into their substance of water at a high temperature, 190° to 212° F., and over.

The tumors so treated belonged to the three varieties, viz.: the arterial angioma (cirroid aneurysm), capillary angioma, or "mother's mark," and the venous angioma (cavernous naevus). No accident has occurred in any of these operations, and the results have been such as to justify the recommendation of the method to the profession. I shall report these cases in detail at the next meeting of the American Medical Association, in New Orleans, in May, 1903.

I employ a syringe with a metal cylinder and adjustable piston, with needles of varying size; and under the ordinary aseptic precautions boiling water taken directly from a cauldron is injected into the substance of the tumor. The quantity of water employed and the temperature should vary with the size and character of the neoplasm. In the arterial and venous tumors of large size the needle is thrust deeply into the mass, and from thirty to sixty minims of water are forced out. It is then withdrawn from one half of an inch to an inch, and this operation is repeated until the entire tumor is solidified. The water should be hot enough immediately to coagulate the blood and the albuminoids of the tissues, but it should not be forced in so extremely hot and under such pressure as to scald and produce a necrosis of the skin. When the tension is sufficiently great to cause a slight bleaching of the integument the injection should be discontinued in that area.

In treating the capillary naevi, or "mother's marks," situated upon important structures such as the eyelid, nostril, and margins of the lip, a small instrument with a delicate needle should be employed, and water a little below the boiling point (about 190° F.) is preferable. Not over two to six minims should be injected in a single puncture, and the

treatment should start from various points at the periphery, the operator watching closely the effect of the first injections, and after a week or ten days repeating them as may be indicated. Water at a very high temperature is apt to produce slough in the capillary variety.

In cirroid aneurysm and the large cavernous naevi the water should be boiling and kept at the boiling point while the instrument is being used. For this purpose I have devised a long metal instrument, beneath the barrel of which a Bunsen burner is held



while the operation is being done. In this way the high temperature of the water is maintained within the barrel of the syringe.

The operations are performed under complete narcosis, and in no instance has any painful symptom or septic reaction ensued, with the exception of a single case which passed from under my observation a few days after injection, and later became infected from a superficial eschar. Suppuration ensued but the beneficial results of the treatment were the same as in the other cases.

The accompanying photograph represents one of the cases, a very large venous angioma which, in

the beginning of the treatment, covered the entire area indicated by the dark line shown in the photograph. The scar is the result of an attempt made to remove this neoplasm by operation several years before the patient came under my care, which operation resulted in hemorrhage that was nearly fatal at the time and was only controlled by packing and compression.

I would advise especial caution in treating angiomas of the scalp and neck, on account of œdema. Not more than five or six ounces should be in one case of cirroid aneurysm of large size situated upon the parietal bone.

THE FUNCTIONAL WEIGHT-BEARING
METHOD OF TREATING CONGENITAL
DISLOCATION OF THE HIP, AS
ORIGINATED AND PRACTISED BY PROFESSOR
ADOLF LORENZ.*

By DEXTER D. ASHLEY, M. D.,
NEW YORK.

At this moment, when the laity and profession are evincing so much interest in the work of Professor Lorenz, it may be appropriate to add my experience and the lessons learned at his hands to the constantly accumulating material upon this subject.

In this paper I make no comparisons, nor do I attempt to answer the numerous questions and criticisms. I endeavor to give a fair idea of the details of the operation, as I have seen it and performed it. I shall only say, I never saw it performed as herein described until I saw Professor Lorenz operate. I have made notes upon one hundred and twenty-eight operations, seen and participated in, and I hope later to adduce some statistics from the digest of these cases, and at that time endeavor to clear up some unanswered questions.

As our medical journals are frequently consulted by intelligent laymen, I deem it proper to explain our subject briefly. The functional weight-bearing method consists in a series of manipulations by which the head of the dislocated femur is reduced into the acetabulum, the dislocating muscles and ligaments stretched, and the acetabulum deepened. The limb is then encased in plaster of Paris, standing in the position, generally, of abduction 90° and flexion 90°, to so remain for six to nine months, until Nature has deepened the acetabulum and contracted the capsule around the neck, securing the stability of the head in the old acetabulum. This is followed, usually, after the removal of the plaster of Paris, by such exercises and massage as will stimulate the muscles giving stability, and prevent those muscles from contraction which would tend to produce relaxation.

The younger the patient the more easily the anatomical reposition can be effected, since all deformities become more marked, and some are produced by the abnormal position and use of the limb. The age most appropriate for this bloodless operation, in clinical cases, is from three to five years, when Professor Lorenz thinks he can get 90 per cent. to 95 per cent. of anatomical repositions. At this age the dressings can be kept clean, the limbs are so developed as to be easily held by the plaster of Paris, and no great shortening or deformity of parts has resulted by long walking. Operations have been performed upon patients from one to thirty-five years of age, with anatomical repositions in 50 per cent. of his practice, and functional amelioration in nearly all. The oldest patient in whose case he has produced an anatomical reposition was twenty-three years of age.

A unilateral dislocation can be reduced in a much older patient than if the dislocation is bilateral. A bilateral dislocation in a muscular child of eight years, with a shortening of two inches, should not be attempted without preparatory treatment consisting of extension and active and passive motions tending to stretch the resisting tissues. On the other hand, a unilateral dislocation in a person of the same age and muscular development will not give rise to so much shortening. A unilateral dislocation may be reduced even up to eleven years, without previous treatment; but in every case, we must consider the shortening, the muscular development, and the deformity as revealed by the x rays.

When operating in ideal cases, no elaborate instruments are required. There should be a good solid table, about 30 inches high, 26 inches wide, and 7 feet long, being rather low in order to permit the operator to stand well over his patient, not working at arm's length, and narrow so that his assistants may be able to hold the pelvis firmly from the opposite side.

Under the pelvis should be placed a firm cushion or sand bag, about 3½ by 6 by 14 inches, and you should have an oak wedge, ¾-inch base, ¾ inches high and 9 inches long, with rounded, leather-covered edge, this to be used as a fulcrum for the trochanter major after stretching of shortened muscles and at the time of endeavor to reduce the head through the contraction in the capsule. A pelvic support and back rest should be provided, to facilitate the application of the plaster while the limb is held in the stable position.

The following dressings should be at hand: Seamless stockinet (German trico), under which the rubbing bandage is adjusted, sheet wadding, common muslin bandages, and plaster-of-Paris bandages. These plaster-of-Paris bandages, made of strong, wide-meshed crinoline, should be five inches wide by six yards long. They should be so rolled as not to contain too much plaster of Paris, so that they can be

* Illustrations reproduced by permission from the *American X*
J.

saturated immediately upon submerging in water.

For older children, when extension is necessary, a few other things will be required—a new, strong sheet, a rubber pad $\frac{1}{2}$ by 6 by 8 inches (to be adjusted between the legs), with which to make counterextension, and a soft woolen roll to loop over the foot, by which to make traction.

The five-year-old child having been anaesthetized, her pelvis is held firmly by the assistants, by applying pressure over the symphysis pubis, the anterior superior spine, and the non-deformed limb in flexion or superextension. The operator flexes the limb quite to 80° , and then strongly abducts, with pressure and massage over the origin of the abductors, and with alternate relaxation and application of force in abduction, the limb is forced to 70° to 90° of abduction, and flexion 90° . By this manoeuvre the head is forced downward, opposite the contraction of the capsule.

At this point, should the reduction not have taken place before, the wedge is adjusted under the great trochanter, and the operator proceeds to hunt for the contraction and try to introduce the head through it into the acetabulum. In this endeavor, the limb being abducted to 70° to 80° and flexed to 80° , he slowly forces the limb toward superextension and flexion to 110° to 115° . Then, slightly adducting from this position, the limb is again brought to flexion 80° and abduction 70° to 80° , applying pressure upon the downward and backward sweep, the limb being rotated inward and downward, according to the deformity of the neck, and again abducted to almost superextension and flexion 115° .

In any of these excursions you may hear the characteristic click of the reduction. Finding it still resistant, the tissues are further stretched by strong flexion, by superextension, and by applying extension. Frequently the limb is grasped at the knee and lifted, flexed, and abducted, much as in traumatic hip dislocation, the operator applying pressure upon the great trochanter by wedge or thumb. Again, strong extension has to be applied, as in old cases, with internal or external rotation and abduction, the operator making strong pressure upon the great trochanter, in which position it may be reduced after the manner of Paci and Schade. Or it may be necessary, after having thus stretched all the shortened muscles, to perform the reduction with the leg in the right angle position to the body, as first tried.

The limb having been reduced, you may find it in flexion 90° , abduction 65° to 75° , the knee bent at right angles, hamstrings standing out like bow cords

and adductors tense, with an acetabulum so shallow that a slight attempt to bring the limb by its fellow will produce a relaxation. Too frequently, I fear, has the limb been encased in plaster of Paris in this position—a position that is very unstable and most excruciatingly painful.

It is at this point when the true moulding comes in. The limb being held in reduction, with one hand on the great trochanter, it is further abducted to superextension. Then, by thoroughly stretching the adductors and anterior part of the capsule, the acetabulum is deepened. The leg is extended on the thigh, stretching the hamstring muscles, which again stretches the anterior part of the capsule and deepens the acetabulum. The acetabulum's depth is again tested by gradually bringing down the dislocated limb alongside its fellow. The nearer they can be approx-



FIG. 1. Position in which the child is held by assistant and operator just after reduction, before the anterior portion of capsule is dilated.

imated to each other without luxating, the more stable the position.

Should the position be found unstable, the acetabulum is further deepened by placing the patient on her side and stretching the anterior portion of the capsule by strong superextension and abduction at 90° , and then gradually and forcibly extending the leg, maintaining 60° to 70° of abduction. This manoeuvre also dilates the upper and internal portion of the capsule. This is continued frequently until the head appears anteriorly as a distinct elevation under the skin, and threatening an anterior luxation.

All contracting ligaments and muscles must be stretched, especially those tending to dislocate, as the comfort of the patient, as well as the stability of the reduction, depends very much upon their being put out of action. This is very well illustrated by the histories of the after-effect in earlier and later opera-

tions. At first, the operator was satisfied with a reduction and obtaining the right angle position, without overcoming the contraction of all the muscles. At that time, the patients suffered excruciating pain. Varying from three days to three weeks. At present, after every resistance has been overcome, they frequently make no complaints after the third day.

A bilateral dislocation is reduced by the same manipulations as a unilateral. There being no contrary indications, both limbs are reduced at one sitting.

Now we are ready to apply our dressings. Having selected stockinet of the required size, it is applied to the reduced limb and pelvis. Do not forget your rubbing cloth at this point, since it is a comfort

Lorenz. This position is maintained by an assistant holding the sound limb in extension and superextension, with his hand upon the thigh, and holding the previously dislocated limb with one hand encircling the calf. The assistant must constantly keep in mind this primary position. This is the Lorenz position *per se*, without rotation inward or outward when the neck is not deformed, and without pressure over the great trochanter.

In a bilateral dislocation both limbs are put up in this primary position, the thighs and perinæum making a straight angle or more, by flexion and abduction.

Frequent mistakes are liable to be made by the surgeon finding a deep, stable acetabulum, and thinking that he is warranted, in this case, in at once placing the limb in the secondary, or comfortable walking, position, which is about 45° to 55° abduction and 135° flexion. Experience has proved that the primary position is the best.

Bandages of sheet wadding are now applied about four layers deep, with extra bolsters four to six layers deeper over the inner condyle, anterior, superior, and posterior superior spines. This sheet wadding is then secured by a thin, pliable muslin bandage, drawn smoothly and tightly over all, bringing out well the anterior superior spines. Over this is applied the plaster of Paris.

Commence at the anterior superior spine of the sound side, cross the pelvis at a right angle, cover the opposite anterior spine and the inner and front part of the limb, thence over the inner condyle, the flexed knee, the outer condyle, the outer surface of the limb, crossing the back of the pelvis, and up to the point of starting. Thus the entire first and part of the second bandage may be applied. Then, com-

mencing at the knee, include these two splintlike portions by a circular application, and continue upon the pelvis by applying the regular figure of eight bandage, making the plaster about $\frac{5}{8}$ to $\frac{3}{4}$ of an inch thick over the symphysis pubis and about $\frac{3}{8}$ of an inch thick over the thigh. This will require fifteen to twenty-five bandages, according to the size of the patient.

In applying plaster in the bilateral case, you proceed as in the unilateral. The first few bandages are applied from flexed knee to flexed knee, crossing the pelvis over the anterior superior spines, and returning over the posterior superior spines, this being secured,



FIG. 11. Position on pelvic rest while the plaster is being applied.

to the patient, to keep the skin clean while resting in the cast.

The patient, still under the anæsthetic, is now placed upon the pelvic rest, the back supported by a cushion or back rest, the previously dislocated thigh being held at right angles to the body or in a position of abduction 90° and flexion 90° , and the knee flexed at a right. In cases of great instability, the limb is further abducted and superextended, so that the knee extends posteriorly to a plane drawn through the transverse section of the pelvis and acetabula.

This is called the "primary position" by Professor

as in unilateral cases, by circular and figure of eight applications.

Having applied the plaster to the proper thickness, the edges are trimmed off as shown in the illustrations, leaving a bridge about two inches and a half wide over the symphysis pubis, cutting out well below to prevent soiling at stool, and removing all pressure from the bladder. On the sound side, the plaster is cut off below so that the limb may be flexed to a sitting position. Behind, cut out sufficiently to allow the patient to sit on the stool without soiling the dressing. At the knee, cut off the plaster at the lower end of the inner condyle, sloping backward, leaving

to prevent pressure from the cast. Under the bridge, behind and in front, a large linen handkerchief should be thrust, and brought out above and below the dressing; this is to prevent the sheet wadding and stockinet from becoming soiled and hard by perspiration. The outside of the cast, behind, should be protected by a folded towel, included under the ends of the handkerchief. When wishing to defecate or urinate, the patient should be placed upon a stool. The bed pan can hardly be used without soiling the dressings. The objection to operating upon young children is the utter impossibility of keeping them clean and preserving the dressings intact, holding the leg in the



FIG. III.—1. Professor Lorenz; 2. Dr. J. B. Murphy, Chicago; 3. First assistant Müller; 4. Second assistant Ashley.

the patella free and the outer condyle exposed, giving a free popliteal space. Now trim off your muslin bandage and sheet wadding all round flush with the plaster. Turn all sharp edges outward or cut them off. Turn the stockinet over the plaster of the limb and pelvis, approximating the edges, so that it covers the plaster neatly.

During the first three to five days after the operation, the child will be in considerable discomfort, depending upon the amount of trauma. The little patient should be put to bed, and the pelvis and knee elevated and so supported upon a pillow or cushion as

primary position while Nature does her work.

In this position the patient remains in the plaster of Paris, wearing a shoe with a cork elevation of $2\frac{1}{2}$ to 3 inches, for six to nine months, the time varying with the stability of the acetabulum at the time of the reduction. As soon as the sensitiveness of the joint has subsided (a time varying from five to fifteen days) she is encouraged to walk, and the leg should be extended daily to prevent contraction at the knee. During this six to nine months Nature contracts the capsule and deepens the acetabulum, which receives the weight of the body at every step.

Upon the functional weight-bearing of the limb depends much of the prognosis. The child that walks for nine months with the limb in a stable position, stimulated by use, will have a much better chance than one who refuses to walk. This is one of the reasons why the double congenital dislocation must be retained longer in the plaster, since the child cannot walk with both limbs in the primary position.

In a bilateral dislocation, the child sits astride a low rolling chair, the height of the seat corresponding to the length of the tibia. In this position the child can push herself around, propelling the chair by means of striking the toes upon the floor. She is thus bringing the limb into activity and transmitting some weight to the acetabula.

After six to nine months, the first plaster cast is removed, and the surgeon must use his judgment as to the requirements of the limb, whether it shall be replaced in the primary position or in the secondary, or walking, position of 45° abduction and flexion 115° to 135°, or left with no diurnal support. This will depend upon the stability of the position then found, taking into consideration the stability at the time of reduction. If the capsule is contracted, the head seemingly well fixed, and you can watch your patient, you can leave off all support except, during the daytime, a strap passing from knee to knee preventing abduction beyond 45°, and at night a mattress so constructed and worn between the legs as to hold the limb in the primary position while sleeping; commencing your after-treatment at once, seeing the child every day for two to six weeks and giving her active and passive motion and massage.

If not so stable, or the patient cannot be under daily supervision for the first six weeks, it is better to apply a second cast, in the secondary position, to remain for three to four months. Should the capsule be found loose, the knee contracted by neglect of treatment, the head prominent with a tendency to anterior dislocation or in suprapubic luxation, then she should be again placed in approximately the primary position, with such modifications as will correct the dislocating tendency, there to remain for three to six months longer, after which it is probable that the secondary position could be maintained, followed by the after-treatment, as indicated in the first case.

This important after-treatment I hope to fully describe at some future time.

62 EAST THIRTY-FOURTH STREET.

The Association of Medical Officers of the Army and Navy of the Confederacy will meet in New Orleans April 19, 1903, at the time of the United Confederate Veterans' reunion. This association is composed not only of Confederate medical officers, but also of doctors who served in any capacity in the Army and Navy of the Confederacy, and of doctors who are sons of Confederate veterans.

Original Communications.

THE DIAGNOSIS AND OPERATIVE TREATMENT OF FEMORAL HERNIA, INCLUDING A DESCRIPTION OF THE FABRICIUS OPERATION.*

By RUSSELL S. FOWLER, M. D.,

BROOKLYN,

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The diagnosis of femoral hernia is at times difficult. Taken in connection with symptoms of intestinal obstruction (strangulated hernia) no difficulty should be experienced in arriving at a correct diagnosis; nor should the diagnosis be difficult in those cases which are readily reducible; but in irreducible or partially reducible herniæ considerable difficulty may be experienced.

There are many conditions which may simulate femoral hernia in one or other of its forms. Prominent among these are incomplete inguinal hernia, femoral adenitis, either acute or chronic, psoas abscess, saphenous varix, and femoral lipoma. Other conditions which have been mistaken for femoral hernia are fibromata, bursæ, cysts, exostoses, aneurysm, and malignant tumors.

Symptoms of femoral hernia. Femoral hernia develops slowly, is more common in females than in males, rarely occurs before the age of puberty, and rarely attains a large size. It causes less disturbance than inguinal hernia and hence is more frequently overlooked by the patient. Indeed, it may happen that attention is only drawn to the femoral region when strangulation has occurred.

Let us study the clinical course of an untreated femoral hernia, remembering that the hernia emerges from the abdomen to the inner side of the femoral vein with Gimbernat's ligament to the inner side, Poupart's ligament anteriorly, and the pectineus muscle posteriorly. In extremely rare cases the hernia may descend to the outer side of the femoral vessels. At first it is readily reducible. Upon standing, the hernia presents an ovoid, soft, inelastic swelling at first quite small. Upon lying down, this swelling recedes and nothing is to be seen. Examination with the finger reveals a small orifice, through which the hernia can be reduced. As time goes on the hernia becomes larger. It may enlarge in several directions. It may pass downward upon the fascia lata, spreading out in the anterior surface of the thigh; it may ascend over Poupart's ligament, spreading out on the aponeurosis of the external oblique; or it may ascend in an oblique direction to the anterior superior iliac spine, thus markedly simu-

lating inguinal hernia. At first, reduction is readily accomplished, but later this is impossible owing to the formation of adhesions between the sac and its contents and between the sac and the surrounding tissues.

Reducible femoral hernia is characterized by a soft inelastic reducible tumor, lying to the inner side of the femoral vessels and possessing an expansile impulse. Its diagnosis from *incomplete reducible inguinal hernia* rests upon its relation to the surrounding parts and the direction in which it can be reduced. In femoral hernia, Poupart's ligament can be recognized above the tumor; in inguinal, the ligament is below the tumor. In fat persons it may be difficult to mark out the ligament. The pulsation of the femoral artery can be felt to the outer side of a femoral hernia, below in the case of an inguinal hernia. Femoral herniæ are reduced in a backward and upward direction, inguinal herniæ in an outward, upward, and backward direction. Reducible femoral hernia is distinguished from *saphenous varix* by the occurrence of varices in other parts of the limb in the latter lesion; by the position of the swelling, which, in varix, is always below Poupart's ligament, while in femoral hernia the swelling is often, not only below, but anterior to Poupart's ligament. Both disappear on assuming the recumbent position, but pressure exercised over the femoral opening will keep a hernia reduced if maintained when the patient stands up, while in the case of varix the swelling returns. The impulse of a reducible femoral hernia on coughing is expansile and well marked; in varix the impulse is slight and non-expansile. Frequently, the contents of a hernial sac may be felt, if omentum is present; in varix there is no feeling of contained solids. Varix yields a dull percussion note, while hernia will give a resonant note if intestine is present. If intestine is present reduction is effected in the case of hernia with a gurgling sound, while in varix reduction is noiseless.

Psoas abscess pointing in the femoral region offers several points of similarity to reducible femoral hernia. Both present below Poupart's ligament and give an impulse on coughing. At some stage the extension of the abscess into the groin is reducible by recumbency and pressure, but its disappearance is accomplished without gurgling and slowly, while, in hernia, if intestine is present, reduction is accompanied by gurgling, and in any event there is a decided and sudden slipping sensation as reduction is effected. In psoas abscess, there is a decided fluctuation, while in hernia the fluctuation is slight if present at all. In psoas abscess, if one hand is placed above, and the other below, Poupart's ligament, pressure below will cause an increase in the size of the main collection of pus and thus elevate the upper hand, and vice versa.

The impulse of hernia is marked and expansile; in abscess it is neither expansile nor marked. The previous history, in abscess, of gradually increasing pain in the back and loin along the course of the iliopectineus muscle, and the characteristic posture due to contraction of the iliopectineus are important aids. Most important, however, is the relation of the swelling to the femoral vessels. In hernia the vessels are to the outer side, in abscess they are to the inner side.

Irreducible femoral hernia. There is an irreducible ovoid, smooth swelling in the groin, usually about the size of a hen's egg, or somewhat smaller, and located at the inner side of the femoral vessels. On palpation it is semi-elastic, almost fluctuating. If omentum is present the percussion is dull; if intestine, resonant. There is an expansile impulse



SAPHENOUS VARIX.

on coughing. Persons with irreducible hernia are subject to sudden attacks of cramping colicky pain, usually relieved upon lying down. These attacks are due to the entrance of intestine into the sac. Aside from this pain, in cases where the omentum is adherent, there is pain of a dragging character which is more or less constant. This pain is also relieved by lying down. Unless inflamed, irreducible hernia is not tender; the tumor can be moved quite freely and this freedom of motion is increased by flexing on the abdomen.

Irreducible femoral hernia is diagnosticated from incomplete irreducible inguinal hernia by a careful examination of the anatomical landmarks in the neighborhood. In addition, the axis of inguinal hernia is oblique, following the course of the in-

guinal canal, while the axis of femoral hernia is transverse to the long axis of the thigh. A femoral hernia allows of considerable movement of the sac, especially if the thigh is flexed on the abdomen; in inguinal hernia there is not much mobility of the sac whatever the position of the parts. The best method of distinguishing femoral from inguinal hernia is to draw a line from the anterior superior iliac spine to the pubic spine. The first is easily identified, but the second is at times difficult to locate. This is particularly true in fat individuals. It may be determined in the male by invaginating the scrotum; in the female, by abducting the thigh, thus putting the abductor longus on the stretch, and following this muscle to its attachment just below the pubic spine. A simpler method, however, and one that can be relied upon, is to pass a tape around the body so as to lie upon both trochanters. The tape will cross the pelvis at the level of the pubic spine. Having drawn a line from the pubic spine to the anterior superior iliac spine, note whether the larger portion of the hernia lies above or below this line; if above, we have to deal with an inguinal, if below, with a femoral hernia. The one exception to this rule is scrotal hernia, which is easily recognized.

Irreducible femoral hernia need not be confounded with either *psaos abscess* or *saphenous varix*. In the latter case, the swelling can be made to disappear, as is also the case in *psaos abscess* at some stage of its development. The history of *psaos abscess*, its situation to the outer side of the femoral vessels, the finding of a mass underlying the ileo-*psaos*, and the characteristic attitude allow of easy differentiation.

From *femoral adenitis* the diagnosis is not so easy, as not infrequently an enlarged lymphatic gland occurs in conjunction with femoral hernia and, by overlying it, masks the hernia. In *acute adenitis* the swelling is painful, and the overlying skin is reddened and tender. The swelling is irregular and, being superficial, it is quite often possible to make out individual glands; even when chronic the mass is not very moveable. The femoral artery pulsates to the inner side of, or beneath the tumor.

Femoral lipoma is distinguished by its position, which is anterior, and in many cases external, to the femoral artery; by the absence of impulse on coughing; and by the ill defined outline of the tumor. Lipoma is more superficial than hernia, is doughy to the feel, and accessory lobules can frequently be made out.

Malignant tumors sometimes occupy the region of the groin and have been mistaken for hernia. The enlargement of the superficial veins in the neighborhood, particularly in sarcoma, the rapid growth of the tumor, its hardness, together with the anatomi-

cal relations, should be sufficient to establish a correct diagnosis.

Cysts developing in the superficial fascia overlying the femoral canal are rare. They may closely simulate irreducible femoral hernia. The impulse on coughing is slight, and usually the cyst is multilocular in character. The surface, while smooth, is not regular.

Radical Operative Treatment. I have had experience with but one variety of operation in the treatment of femoral hernia. This is known as the Fabricius operation, and has proved uniformly satisfactory. The operation, modified by Professor George R. Fowler, is as follows:

"1. The incision is planned so as to expose the insertion of that portion of the aponeurosis of the external oblique, known as Poupart's ligament, at the spine of the pubes, and the line where that structure blends with the fascial structures of the thigh, as well as the sheath of the vessels at the crural opening.

"2. The sac of the hernia is exposed and cleared to its neck.

"3. The sac is opened and emptied, after which it is ligated at its neck, and the latter, in suitable cases, is inverted toward the abdominal cavity.

"4. The edge of the aponeurosis of the external oblique is forced backward to the level of the upper margin of the horizontal ramus of the pubes, and there sutured to the periosteum and the origin of the pectineus muscle. By this means, the space between the bone and the downward projection of the aponeurosis, in which space a femoral hernia forms before making its appearance externally, is obliterated.

"The patient is placed in the Trendelenburg position, the intestines thus being caused to gravitate to the upper portion of the abdominal cavity, where they are out of harm's way during the steps of the manipulation subsequent to opening the sac. The incision commences at the spine of the pubic bone, and is carried parallel with Poupart's ligament for a distance of from four and a half to five inches, or sufficiently far to reach a point well to the outer side of the femoral vessels. The skin, fat, and superficial fascia are divided the superficial epigastric vein, as it passes in a vertical direction, being sometimes sufficiently large to come into sight before division, in which case it is divided between two ligatures.

"The hernial sac, in some instances, projects directly beneath the lesser falciiform process, in which case it comes into view with its coverings at this stage of the operation. In other cases, however, it lies beneath the superficial layer of the deep fascia of the thigh, or the fascia lata, as it is called because of its broad ramifications. Under these circum-

stances it will be found to be covered by the cribriform fascia, which must also be incised.

"The sac being exposed and isolated well down to its neck, it is opened and its contents reduced.

"In order to more fully expose the crural canal preparatory to its obliteration, the attachment of Poupart's ligament at the spine of the pubes is first detached, and the separation carried on in an outward direction until this structure is separated from the superficial layer of the fascia lata up to the crural sheath. At the latter point, although this layer of the deep fascia of the thigh is somewhat tense, yet it does not lie directly upon the vessels. With the index finger introduced to guard the vessels, the separation of the fascia lata from Poupart's ligament is completed with the scissors, and the former structures reflected in a downward direction. In a strangulated case this stage of the operation should precede the one last described, for the reason that relief of the constriction follows at once when Poupart's ligament and the remainder of the aponeurosis of the external oblique has been detached and freed.

"A funnel-shaped cavity, formed by the recession of the horizontal ramus of the pubic bone, is now revealed, constituting the femoral canal. This now contains the ligated neck of the sac, some fatty and areolar tissue, and a lymphatic gland or two. These latter are to be removed. In cases of old unreduced hernia, the peritonæum has become stretched and bulges forward considerably at this point. Grasping the neck of the sac, this is drawn forward, and a portion of the superfluous tissues, consisting of peritonæum and subperitoneal fat, removed, a transverse peritoneal section resulting.

"The gap thus made is now sutured. The edges are grasped with catch forceps and drawn forward so as to secure broad approximation of the peritoneal surfaces.

"The essential and important step of the operation is now to be taken. This consists in attaching Poupart's ligament to the point of origin of the pectineus muscle and the periosteum of the horizontal ramus of the pubes. By this manœuvre, Poupart's ligament is made to describe a backward curve, to follow the recession of the bone at this point, imitating in this respect that portion of this structure which is reflected obliquely outward and backward after its insertion into the spine of the pubes, and is known as Gimbernat's ligament. In this manner, the femoral canal, or space which normally lies between Poupart's ligament and the bone, is obliterated.

"In applying the suture the crural sheath and its contained vessels should be displaced well to the outer side and above the iliopectineal eminence, and there held with the operator's disengaged index finger, or with a blunt hook in the hands of an assistant. In this manner an increased area for the at-

tachment of Poupart's ligament to the horizontal ramus of the pubes is made available. The obturator artery and vein may come into view, and care should be taken not to injure these.

"A stout and strongly curved needle with a sharp point is armed with a strand of the kangaroo tendon, and passed through the aponeurosis of the external oblique about three eighths of an inch from its edge, so as to secure a good hold. It is then passed through the periosteum at the point of origin of the pectineus muscle, emerging about half an inch from the point of entrance upon the upper margin of the bone.

"This suturing is the most important step of the operation, and upon the care with which it is done depends the entire success of the procedure. If the periosteum and bony attachment of the pectineus are caught well up by the needle, a good hold will be secured upon these structures, and firm and solid attachment of Poupart's ligament in its new position effected. All the sutures are first laid, and, after cleansing the parts, each is separately and securely tied. As we proceed with the sutures toward the median line we must avoid injury to the deep epigastric artery and vein. Five or six sutures are usually required.

"This portion of the technics accomplishes for the femoral canal what suturing of the pillars does for the inguinal canal in the operation for the radical cure of inguinal hernia. To suture the margins of the crural ring to each other, or to Poupart's or Gimbernat's ligament, as in the older operations for the radical cure of femoral hernia, would be analogous to suturing the margins of the external ring in inguinal hernia after ligating the neck of the sac and leaving the latter in the inguinal canal, without attempting to obliterate the canal itself. This, as you can readily see, would be a serious error, and likely to lead to a recurrence.

"In order that the closure may be sufficiently solid, it is advisable, although not always necessary, to re-attach the superficial layer of the fascia by means of sutures to the aponeurosis of the external oblique.

"The remainder of the wound is now closed. If the superficial fascial structures reflected from the abdominal wall to those of the thigh present themselves with well-marked edges, these may be sutured separately with a continuous catgut suture. Usually, however, these may be disregarded and the skin wound closed at once. This may be done by any method which the operator may fancy."

No New Cases of Smallpox in Philadelphia were reported during the week ending November 1st. This was the first week since the outbreak of the epidemic in the summer of 1901 that there have been no new cases of smallpox reported.

THE WORKS OF EDWARD JENNER AND THEIR VALUE IN THE MODERN STUDY OF SMALLPOX.*

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(Concluded from page 931.)

As usual in Jenner's articles a number of interesting but not wholly relevant observations were introduced, such as cases of scarlatina and vaccination together and a case of measles with vaccination. He also suggested the time for checking the vaccine lesions, *i. e.*, about the tenth or eleventh day, if all had gone on regularly. He advised the application of a single drop of "aqua lythargyri acetati" for two or three minutes and the dressing of the efflorescence with "aqualythargyri comp." He reiterated his belief in the production of scrofula by smallpox, the greater safety in that respect of cowpox, and concluded the pamphlet by the statement,—now made so strongly for the first time, and destined to be a source of much difficulty—that in the cowpox we have "an antidote that is capable of extirpating from the earth a disease which is every hour devouring its victims; a disease that has ever been considered as the severest scourge of the human race."

By the year 1800, a new edition of the *Inquiry*, which had already been translated into Latin, French, and German, was called for. It was issued, and also sold in one volume with the second and third pamphlets, with continuous pagination. A colored engraving, showing the lesions of vaccination and smallpox on successive days, was issued at the same time, and sold with the pamphlets or separately. Many of these were early sent to the United States, where some inferior reproductions were made. One of the original plates is bound with the McGuire-Osler pamphlets. The colored illustrations met the very serious charge that in Jenner's publications he never gave a systematic description of the vaccine vesicle. Such a description was first given by Ballhorn and Stromeyer, in 1799.

About the same time Jenner published some *Instructions for Vaccine Inoculation*. In these he described with admirable clearness the details of the operation and the clinical features of the resulting lesion. The following points are especially interesting: The virus is to be taken from a pustule showing the true character, making regular progress, from the fifth to the eighth day, or a day or two later, provided the areola be not formed (This was the "Golden Rule of Vaccination"). "A single pustule is sufficient, but as we are not sure the puncture will take effect, it is prudent to inoculate in both arms, or in two places on the same arm, about an inch and a half apart, except

in early infancy, when there is great susceptibility to local irritation." The virus is to be inserted by means either of a scratch, not exceeding the eighth of an inch, or of a very small oblique puncture. The commonest causes of faulty vaccinations, and some of the resulting lesions, are described. "A little practice in vaccine inoculation, attentively conducted, impresses on the mind the perfect character of the vaccine pustule; therefore, when a deviation arises, common prudence points out the necessity of reinoculation, first with vaccine virus of the most active kind, and secondly, should this prove insufficient, with variolous virus." The general symptoms of vaccinia are described, but said not to occur in every case, and the later general symptoms are explained as due to the irritation of the pustule. Smallpox infection received before vaccination is said to be not always checked, although the pustule may advance without interruption. "The lancet used for inoculation should always be perfectly clean. After each puncture it is proper to dip it into water and wipe it dry. The practitioner should be particularly cautious in observing that its point be free from rust, either contracted by common means, or from the action of the vaccine virus." "The preservation of vaccine virus upon a lancet beyond the period of a few days should never be attempted; as it is so apt to produce rust which will decompose it."

If Jenner had died about this time his fame would have suffered no loss. He had given the world a discovery that had already produced extraordinary results. The future was necessarily beyond his power.

In May, 1801, he published a pamphlet on the *Origin of Vaccine Inoculation*. He explained that this was necessary on account of the confounding of casual cowpox with that excited by inoculation. He made a number of statements, some of which were new, some not. He spoke of the history of cowpox and of his early investigations. A curious statement is made with reference to some experiments which he made after those described in his *Inquiry* in 1798, experiments which he says he went over "not only with great attention, but with painful solicitude." But the experiments mentioned are nowhere fully described. He said that the distrust and skepticism that naturally arose after his first announcement had nearly disappeared; 100,000 persons had been inoculated, and it "now became too manifest to admit of controversy that the annihilation of smallpox must be the final result of this practice."

In one of his letters Jenner remarked that it was *infra dig.* to go into controversy, but not so to lay cheering and persuasive reports before the public through the widely flowing channels of the newspapers. This pamphlet seems based on such views, but it seems strange he did not follow the equally dignified method of communicating exact observations without controversy. It is possible, however,

* Read before the Buffalo Academy of Medicine, October 14, 1902.

the pamphlet was issued with a view to the parliamentary grant which was asked for a few months later. It is **unfortunate** that the historical and explanatory statements were not incorporated in the *Inquiry*, which would have been made more convincing than it was.

The grant of ten thousand pounds, given by Parliament to Jenner in 1802, is said to have assisted the spread of vaccination. There are many evidences that the action of parliament was used as if there had been an expert investigation of the facts, but this was not so at all. However, few remembered that the same body had given large sums before for alleged medical discoveries of the most worthless kind, as in the case of Stevens, who was given £5,000 for his "stone solvent."

In 1804, Jenner published an article On the Varieties and Modifications of the Vaccine Pustule occasioned by an Herpetic State of the Skin, in the *London Medical and Physical Journal*, and reprinted it as a pamphlet in 1806. In this he said that his inquiries had been much more extensive since the first publication of the article, and that he hoped to lay the results before the public (this he never did). He described how herpetic conditions, so common in children, often prevented vaccine virus from producing its correct action, although, on the other hand, the operation often subdued chronic skin diseases of the same kind. (Jenner has also shown in his correspondence how strongly he believed in the adverse influence of skin diseases over vaccine. Not only was the specific action destroyed, but even the best virus, under such circumstances, might produce purulent pustules.) He admitted that he had been wrong in his former article in speaking of the vaccine lesion as a "pustule." He thought "pock" or "vesicle" better, but did not change the term for fear of creating confusion. He went on to describe imperfect vaccine lesions, many of which can readily be recognized from his descriptions. He was aware that many imperfect vesicles can be propagated, producing their like, a fact that even now is not properly appreciated by many vaccinators. But he not only clearly recognized imperfect lesions,—he had an efficient and rational treatment for them. This consisted in the reduction of the process as soon as discovered, and in reinoculation. In conclusion, he pointed out the need of care on the part of vaccinators,—“who should be acquainted not only with the laws and agencies of the vaccine virus, but with those of the variolous also, as they often interfere with each other.” This latter part should not apply now, but the following will always be useful: “A general knowledge of the subject is not sufficient to enable or to warrant a person to practise Vaccine Inoculation: he should possess a particular knowledge, and that which I should wish strongly to inculcate, as the great foundation of the

whole, is an intimate acquaintance with the character of the true and genuine vaccine pustule. The spurious pustule would be readily detected, whatever form it might assume, and errors known no more.”

In 1808, a pamphlet on *Facts, for the Most Part Unobserved or Not Duly Noted, Respecting Variolous Contagion* was published by Jenner. This was made up largely of extracts from the earlier articles. It showed the possibility of repeated infection with smallpox, a fact not so entirely unquestioned before Jenner's time as since; some of the most experienced practitioners had never seen smallpox twice in the same patients. There are also interesting observations on infections of the fetus in immune mothers.

In 1818, a letter from Jenner to William Dyllwyn, Esq., on The Effects of Vaccination in Preserving from the Small-pox was published by the Philadelphia Vaccination Society. In this, Jenner discussed a number of problems relating to vaccination, including the herpetic state of the skin. The same subject was discussed in a Letter addressed to the Medical Profession generally, relative to Vaccination, in the *London Medical and Physical Journal*, Vol. 48, 1821. In this he again referred to the action of herpetic conditions, among which he included “dandriffe,” and he mentioned a case in which a small whitlow on the thumb altered the course of vaccine.

The last work, very interesting, but not bearing on vaccination, is a letter to Parry On the Influence of Artificial Eruptions in Certain Diseases incidental to the Human Body. London. 1822.

Jenner died soon after this on January, 26, 1823. One cannot but regret that he did not write more in the last twenty years of his life. It is difficult to ascertain what he really did in that time. Whenever he was accused, as he was more than once by friends and enemies, of indifference, or of having been spoiled by his grants from parliament—a second for £20,000 was given in 1807—his usual reply was that he had an enormous correspondence in all parts of the world regarding vaccination,—he was “vaccine clerk to the world.” In the early days of vaccination he was busy inoculating, and it is said that as many as 300 applicants waited upon him daily. But it is impossible to understand why most of the correspondence could not have been put off through the agency of medical journals, and the manual labor of vaccinating be done by one of his disciples. However, a discussion of these problems would be idle now, and it would be more useful to ask what the profession did with the discovery he gave them and what we are doing now with it.

Before leaving this part of the subject permit me to show some lantern slides that I think will be of interest. These are photographs from the title pages of some of the McGuire-Osler pamphlets, part of the dedication and text of the *Inquiry*, and the four plates

from the latter. The first of these, the cowpox on the hand of Sarah Nelmes, has been pronounced by many contemporaries an admirable representation; the next shows a vesicle, the second remove from a sore heel or grease case; the next the vesicle in a late stage on the arm of William Pead; and the last that on the arm of Hannah Excell, the last three being from the second experiments described in the *Inquiry*. I show also Jenner's set of pictures published in 1801, from drawings by William Cuff, who had colored Jenner's earlier plates and afterwards made some for other books. He stated before the parliamentary hearing that he had seen hundreds of vaccine vesicles, and the fidelity of his work has always been admitted. With this, a photograph of Jenner's *Instructions* will be interesting. Finally, by the kindness of Dr. J. H. McCollom, of Boston, I show the plate of Bousquet, published in 1836 (J. B. Bousquet, *Sur le Cowpox (Petite vérole des Vaches) découvert à Passy, etc.*, Paris, 1836.) showing the appearances of vaccine vesicles from a recent case of cowpox, and from the virus of 1800. The degeneration of the older virus is evident, yet I think few will affirm that it is not better than most of the material now available.

Let me recall in a summary way what Jenner did with vaccination. He recognized, and made others recognize, the protection given by cowpox against smallpox. The truth of this belief I do not consider it necessary to discuss. Any one willing to take the pains to make an extensive study of the matter, will, I think, draw no other conclusion. Isolated experiences can readily be met by equally striking counter claims.*

Jenner recognized the necessity of using virus only from typical and regularly progressing vesicles, in certain stages, free from complications.

He insisted on the greatest care in all steps of the operation, and on a cleanliness that even now, after twenty-five years of bacteriological teaching, is far from being general. Many of his contemporaries used saliva to moisten the virus.

He made a comparatively slight wound. Others after him often used blisters to make a raw surface, laid the virus on this, and turned or pressed the virus in the wound after an interval of a few days.

He recognized many cases of failure, and while his explanation of these was probably wrong, he not only was prepared for failure, complete or partial, but insisted on reinoculation or even variolation, in order to

run no risk. How often, even now, we find physicians who think that when vaccination fails to "take," no matter how carelessly done, the subject is immune to smallpox.

He also insisted on careful observation of all cases, and the possession of a full and critical knowledge of vaccine lesions by those who inoculated.

Jenner's only fault regarding his discovery was the tenacity with which he held to the idea of life-long immunity. His principal adherents held the same view with equal pertinacity. As many of Jenner's partisans deny that he was ever mistaken and in order to avoid an excess of dogmatism myself, I give some quotations. In a letter to Ingenhousz (Baron's *Life of Jenner*, Vol. 1, p. 294) he said: "At present I have not the most distant doubt that any person who has once felt the influence of perfect cowpox matter would ever be susceptible of that of the smallpox." His test of this perfection was variolation. In a letter to Dunning, quoted in the *London Medical and Physical Journal*, he wrote: "A person on whom the vaccine pustule has been excited by perfect matter, and which has completely gone through the progressive stages of inflammation, maturation and scabbing, is ever after secure from the smallpox." A favorite phrase with Jenner and his disciples regarding the question of permanence, was that doubt was refuted by "volumes of evidence and a cloud of witnesses." As a matter of fact, there were no such volumes, and the witnesses were incompetent because their period of observation was too short. Later, Jenner said that "vaccination duly and efficiently performed will protect the constitution from subsequent attacks of smallpox as much as that disease will." This is reasonable enough, but even much stronger claims might readily be excused in the originator of the method, while they would never release the profession from the duty of putting the claims to the practical test.

It would take too long to trace the history of smallpox and vaccination in detail from the time of Jenner. As I have already shown, vaccination was widely used all over the civilized world within a short time after Jenner's first publication. For a time smallpox became notably less common, and even ceased in many places, perhaps in most places with relatively fixed population and careful vaccination. Gradually the disease began to reappear. Sometimes it was very mild and caused great confusion in diagnosis; it was often mistaken for chickenpox, but finally, under the name of varioloid, given by John Thomson in 1820, it was recognized as mild smallpox, with all the dangers of infection of the more severe forms. In 1825 smallpox was nearly as prevalent in London as in any of the three great epidemics of the eighteenth century, and in very many parts of Europe it was equally serious. The causes of the recrudescences

* Among the number of recent books and articles useful to any one who wishes to begin such an investigation the following may be recommended: the article by Dr. Samuel W. Abbott, on Progress of Hygiene, *Boston Medical and Surgical Journal*, May 1, 8, and 15, 1902; *Legislation with reference to Smallpox and Vaccination*, by the same, Massachusetts Medical Society, 1902; *Facts about Smallpox and Vaccination and The Lesson of a hundred years of Vaccination in Europe, 1796-1896*. Published by the British Medical Association; *A Concise History of Smallpox and Vaccination in Europe*, by Edward J. Edwards, 1902; Kübler, *Geschichte der Pocken und der Impfung*, Berlin, 1901.

cence were more difficult for physicians of that time to discover than they are for us, with the experience of a century to guide us. Large numbers of people had been vaccinated so long before that their one-time immunity was partly or wholly lost. There were also many who had never been vaccinated, because the diminution of smallpox made the need of some protection less imperative than otherwise, and there were, of course, relatively few who were protected by smallpox. Smallpox virus still existed in many places. Not only were no efficient attempts made at the destruction of the cause, but it was actually kept alive by the practice of variolation. Jenner's efforts to prohibit that failed, and it was not until 1835 that it was stopped by law in Prussia, in England not until 1840. And so, the conditions necessary for an epidemic being present—the contagium and a number of unprotected people—the epidemic began. Wherever the disease was prevalent, some vaccinated people were sure to take it, but in almost all places it was clear to observers that most of those who got smallpox either were not vaccinated at all, or had been long before, or showed evidences of imperfection in the results of the operation. On the contrary, recently vaccinated people were as well protected as in the beginning. In the second quarter of the last century such observations led to a very active discussion, and the belief in the advantages and need of revaccination developed. This, however, grew slowly. It was opposed in England and France, and though suggested as early as the '30's in the United States did not lead to active measures. We owe our knowledge of revaccination to Germany. It was advised by the government of Württemberg in 1829, and made obligatory for all recruits in the army of that State in 1833. After a trial under Prince Wilhelm, afterwards Emperor Wilhelm I, it was ordered for the Prussian army in 1834. Other German States adopted the measure later, some of them not until the '60's, for their armies. The results in all the armies were unmistakable, but the knowledge thus gained was not acted upon by the general public, or even by a large number of physicians.

So smallpox continued to exist everywhere, although the mortality was lower than in the preceding century. Three facts appear conspicuously in the often obscure statistics of the middle of the nineteenth century: The lower absolute mortality from smallpox, the notably smaller morbidity in the years following the usual age of vaccination (smallpox was no longer "Kinderpocken"), and the particularly great prominence of these facts in countries having the most efficient vaccination. But there were many minor facts that weakened all of these, and the clearer recognition of the spread of syphilis by humanized vaccine, and of the nature of wound infection, led to much open or concealed objection to vac-

cination. The introduction of bovine virus did but little at first to overcome these objections.

The most striking object lesson on the value of vaccination was given by the Franco-German war of 1870-71. France had neglected systematic vaccination, though that country had been the seat of many valuable observations ever since the time of Jenner. By 1869, a large number of unprotected persons were living there, and in the following winter smallpox increased rapidly. By July, 1870, the monthly mortality had reached 983. In May, a congress of physicians met in Paris, to consider methods of meeting the epidemic, but before they could accomplish anything they were called upon to meet other enemies. When the army was mobilized in July, infected men were soon crowded in with others, in the usual conditions of a state of war. The troops already under arms were not so well and thoroughly vaccinated as they should have been, and the reserves could not be revaccinated for lack of time. Very soon smallpox had increased to such an extent that, as Thiers and his colleague reported, it was more frightful than the war itself.

The total loss of the French army from smallpox cannot be accurately stated. The figure 23,400 quoted by the War Office from a statement made at the Statistical Congress, in 1872, is probably too high. It was very large, however. This epidemic was only part of a greater one, affecting almost every country. In many places the increase had begun before the outbreak of hostilities in France, but during the war many examples of direct infection could be traced in the surrounding countries. This was especially true of those places in Germany where prisoners of war were quartered.

Among all the people affected by the epidemic one class was relatively spared. This was the German army. Exposed in a hostile country, undergoing the same fatigues and in many cases the same privations as the enemy, it showed an unmistakable immunity that the fortunes of war could not explain. During the whole war only 4,991 men, officers, surgeons, etc., had smallpox, and only 297 died. Not only was the mortality much smaller than that in the opposing army, but it was also smaller than in the civil population of Berlin during the same period, among men of the same age. The great point of difference was that the German soldiers under arms at the declaration of war had all been revaccinated within two years. Many reserves were also revaccinated on their mobilization, though many were not until after the lapse of several months.

The newly formed German Empire soon took up this lesson of the war, and in 1874, a law was passed providing for the vaccination of every child before the end of its second year, and every school-child in its twelfth year. The result of the operation was to

be a matter of record, and failure to produce a satisfactory vesicle required a repetition of the operation. The results of this justified the law. Both in the army and in the civil population the mortality from smallpox sank and remained permanently low, in marked contrast with countries in which revaccination was not required. In 1899 the deaths from smallpox in the whole empire numbered only 28. Most of these occurred near the boundaries of countries having a good deal of smallpox, and many were directly traceable to infection from those countries. The 28 deaths took place in 21 different places, giving striking evidence of the difficulty of the disease's spreading in Germany. As I remarked before, the death rate in the army has been lower since revaccination was made general. As the army was just as well vaccinated before, this shows the great value of widespread vaccination, and proves the truth of a statement made by the German commission in 1884; "Vaccination is beneficial not only to the individual, but generally."

While this has been done in Germany, and while several other continental nations have made great advances, two countries that boast the highest material prosperity and perfection and the most advanced interest in private or personal hygiene have not made any improvements, but in one case even, by the passage of the "Conscience Clause" in England, an actual retrogression. In England the epidemic followed the relaxation of the vaccination laws with customary promptness; in our own country, as I pointed out a year ago, the causes were complex. At present the epidemic in the United States seems to be declining, and although it may increase with the advance of winter, it should be over in a year or two more. But abundant experience proves that unless some radical changes are made in our method of dealing with the problem another epidemic will follow within a few years. The active and enforced vaccination of the last four years will cause a feeling of indifference that, with the decline of the epidemic, will be followed by neglect and the growth of another group of more or less unprotected people. The present epidemic has been mild; so mild that it has not caused as much inquiry as is desirable, but there is no reason for thinking another epidemic may not be much more severe. Some writers of eminence have even asserted that the present mildness is due to a partial inherited immunity from vaccination of the parents. I do not believe there is any safe ground for this view and it may prove very misleading.

I have spoken of the inadequacy of sanitation and of cleanliness in relation to smallpox, and it may be well to return to that aspect of the question. Thousands of examples prove that cleanliness alone will not protect either an individual or a locality from

smallpox. The virus is too elusive and too difficult to destroy, at least with our present ignorance of its exact nature, and has a too certain faculty for picking out unprotected persons. The example of Cleveland within the last year is one that should be remembered and its lesson taken to heart much more than seems to be the case. It was altogether natural that the apparent efficiency of sanitation in that city should have been loudly heralded. It is unfortunate that we have to introduce one disease in order to keep out another, but the reappearance of smallpox proved again, as it so often has before, that we cannot yet reckon without vaccination except at the risk of a heavy penalty.

Nothing but a return to Jennerian principles, improved by the knowledge of the need of revaccination, can be depended upon to preserve us from such visitations. To neglect the lesson is just as wrong as it would be to give up any one of our sanitary advances.

There must be a general vaccination, and equally general revaccination. The more widespread both these are, the less likelihood is there of smallpox spreading. We need not seek far to ascertain when the operations should be done. The experience of Germany furnishes a practical example that must be excelled or break down before it can be seriously asserted to be insufficient. At the same time the scientific question as to the duration of immunity should be investigated whenever suitable cases present themselves.

The first objection to general vaccination is that in a free country it could never be carried out. To this I think it can be fairly answered that it has never been tried: Perhaps it could not be carried out at the request or advice of a profession or part of a profession, or of a body of politicians, but if the governing power, *i. e.*, the people, understood the facts, it is more than likely that they would prefer an orderly, systematic, carefully planned vaccination rather than the hurried, panic-suggesting method, just as in the days before Jenner they preferred other despotic restrictions rather than risk smallpox. From the point of view of politics, general vaccination is an ideal democratic institution. The legal or constitutional aspects of the matter have not seemed to me necessary to discuss. Events in the last few years have shown that the desire for a thing by a powerful country has much to do with legal decisions and constitutional interpretation. Recognizing that vaccination is not done solely for the individual, but partly for the community, and that our neighbor's efficient vaccination helps to protect us, it would seem just as proper to pass laws requiring vaccination and revaccination as it is to compel property owners to make sewer connections, or to regulate the location of slaughter-houses or other possible nuisances.

An important, even essential, part of such an arrangement relates to the supply of safe and efficient vaccine virus. Regularity of vaccination would materially assist the production of such virus. As it is now, a sudden emergency may not only cause a temporary interruption in the supply of lymph, but, even worse, it may result in putting on the market, and in the hands of vaccinators, virus hastily prepared, imperfectly tested, and either dangerously inert or bearing the germs of fatal disease.

Even with a more regular demand for virus, it seems to me essential that the production of that be taken out of the ordinary lines of trade. If vaccination is a part of public hygiene, and not merely an operation for the security of the individual, it would seem that the State should either furnish, or at least test and control the material used. The laws of trade cannot easily regulate such a matter, for the rule, *caveat emptor*, cannot be applied at present to vaccine as it can to alkaloids and salts. It is possible to conceive a philanthropic trust of vaccine makers, partitioning territory and competing only by the final results of scientific tests, but I fear the makers at present would be the first to laugh at such a suggestion.

From the earliest days of vaccination to the present time commercialism, to use the common euphemism, has seriously interfered with the development and results of the practice. The wholesale development of tetanus in 1901, which Dr. McFarland's analysis clearly traces to vaccine virus and not, as we should prefer to believe, to accidental infection, seems to have been due to the same spirit that, a hundred years ago, sold strips of a shirt sleeve encrusted with pus for genuine virus. It has been said that it is impossible in this country to take the manufacture of vaccine virus out of the hands of commercial bodies. This is just as irrational as to say we cannot ever get systematic vaccination. It is also said that vaccine made in State institutions would be still less reliable than it is now. This is equally unnecessary. No one that I know of recommends that janitors in public buildings or political pensioners of any kind be put in charge of such matters. The experience of several European countries and of a number of departments of our own general and local governments makes it certain that equal talent, industry, and fidelity could be obtained by such bodies as by commercial houses. Even if the cost of retaining men of ability by public bodies were greater than in private corporations, the difference would be more than made up by the saving in the cost of smallpox epidemics. I have known of single cases of smallpox that cost cities or communities more than the salary of many a professor of bacteriology.

The failure of commercial virus within the last few years has made one of the most efficient health

officers in the country raise his voice in favor of a return to humanized virus. Strong as were the arguments of Dr. McCormack, however, I do not think that his suggestion could safely be followed without throwing the strongest restrictions around those permitted to vaccinate and without a training in vaccination such as few now have. Moreover, the proposal ignores the fact that better and safer virus than most of ours can be made.

Training and expertness on the part of operators was one of Jenner's particular aims. In this country most of the training seems to be derived from the publications of vaccine makers, and it is instructive to see that they recommend a method not only irrational but really dangerous, viz., by means of an extensive scraping or scarification, so deep that a scab forms before the virus begins to act. Such a wound must favor the development of accidental infections. It would not be used by a bacteriologist in an experimental inoculation; surgeons try to avoid it in operating; it is prohibited in Germany, and not used by the best vaccinators in England, yet so firmly has it been fixed in the minds of the vaccinators that pictures are published of lesions called "typical vaccinia" in which the chief feature is a large and wholly unnecessary scab.

The neglect of the early steps of vaccination finds its logical conclusion in more than ignoring the final stages. If any observation of the results of the vaccination are made they are rarely recorded. Since no objective record is kept, little attention is paid to the matter. If the operation fails the patient is often told he is immune to smallpox; if on the other hand he has a phlegmon he is comforted by being reminded how severely he would have had smallpox had he not been vaccinated.

Perhaps many of the ideas I have advanced may seem visionary. I do not myself expect a very rapid change in the attitude of the profession and the public. But there are some other thoughts that are suggested by a study of the history of vaccination. We must carefully distinguish between the physician as a health officer, as a citizen, and as a therapist advising his patient. The first usually has his duties prescribed for him, and I shall not allude further to him. As a citizen the physician should take an active part in furthering all matters tending to the physical welfare of his fellow-citizens. He should therefore inform himself upon the actual condition and possibilities of vaccination, as a matter of supreme importance, and endeavor to influence opinion toward the most accurate and far-reaching laws and practices.

As a therapist, he should encourage careful and thorough vaccination, with the best available virus, the most accurate surgical technics, and the aim of securing a perfect and reliable result. By choosing

the best season of the year and the most favorable state of the patient, he should avoid vaccinating at times when virus is likely to be hurriedly prepared, when infectious diseases are especially prevalent, and when general alarm and unrest fill the air. He should point out to persons able to understand the risks of the operation, why it is we run such risks, just as he would do in advising any other surgical operation. He should avoid giving a false sense of security, or an assurance of freedom from harm, for as the wise Prussians said a century ago, he cannot guarantee those things.

A CASE OF CANCER OF THE LARYNX CURED BY THE X RAYS.*

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The efficacy of the x rays in the treatment of malignant disease, when located on the surface so as to be directly influenced by the rays, has been so often attested that its benefit is no longer disputed. Such good results have been demonstrated by so many conservative sources that the x rays are now recognized as a valuable remedial agent in the treatment of such cases.

When the malignant disease is located below the surface, however, not only are the benefits of the x rays less marked, but many have even disputed their value in this connection. Undoubtedly, however, the treatment with the x rays has not been without some benefit in such cases, as many physicians have observed the relief from pain following these applications, even where no other effect could be observed. The actual improvement of such cases, however, has been of such rare occurrence even after long and patient treatment, that the outlook thus far has not been considered encouraging. Under the circumstances, the report of the following case of a laryngeal cancer, which had already reached marked proportions and which has been cured by the Röntgen rays alone, all other forms of treatment having been excluded, will not only be of interest, but will also be a source of encouragement to others in this line of treatment.

CASE.—On April 19, 1902, I was requested to go to the Hôtel Dieu of this city, to examine the throat of a patient who was too ill to come to my office. It appeared that the patient, who was a lawyer from the western part of the State, had been on his way to my office to consult me about his throat, when he was severely injured in a street accident, from which he

had sustained such severe injuries about the head and body that at first his life was considered in danger. A few days later, however, when he had recovered from the immediate effects of the shock, I was requested to examine his throat.

The patient was a man aged fifty-seven years, of robust build, and with the exception of the effects of his recent injuries, apparently in good health. The hereditary history was negative, and his general health had always been excellent. About six months ago, however, he had developed a hoarseness, which was gradually becoming worse and was beginning to interfere with the practice of his profession.

The examination of his throat showed the mouth and pharynx normal. The larynx, on the left side, was congested, and here I found the cause of the hoarseness, a tumor of the left wall and involving the left vocal cord. Another point of diagnostic importance was the left cricoarytenoid articulation, which was noticeably sluggish in its movements, and which had a corresponding effect on the left vocal cord.

The tumor of the larynx had the appearance of an irregular and undefined swelling, and was of a dirty gray color. It projected slightly into the glottic space but did not impede respiration. The paresis of the left vocal cord in connection with the tumor was quite marked in this case, an important feature which is considered by Lennox Browne as more important than a microscopical examination of a fragment in the diagnosis of malignant disease of this region.

The hoarseness of the patient had become more marked during the past month, and had during this time been accompanied with a slight cough and some expectoration of what appeared to be a slight excess of healthy mucus. The pain had been insignificant and was not present during deglutition, but was evidenced on pressure to the left side of the neck. There was no involvement of the lymphatic glands on either side.

The appearance of the growth, in connection with the age of the patient, left little doubt as to its malignant character. Tuberculosis was easily excluded, not only by the appearance of the larynx, but also by the absence of fever, the general good health of the patient, and the negative results of a physical examination of the chest and of the bacteriological examination of the sputum. Syphilis was improbable, as the patient showed no other stigmata of the disease and disclaimed any primary infection. In view, however, of the atypical forms in which luetic disease sometimes shows itself, the patient was afterward given the benefit of the therapeutic test, but with negative results.

The patient was suffering so much from the effects of the injuries which he had received, that it was deemed advisable for him to return home until he had fully recovered before the question of operative interference would be decided on. The character of the disease was frankly explained to him and to his attending physician, and the importance of an early treatment pointed out.

On June 9th, the patient called at my office with his family physician; he explained that his delay in returning was due to the slowness with which he had recovered from the effects of his recent injuries. A

* Read at the annual meeting of the American Electrotherapeutic Association, September 2, 3, and 4, 1902.

laryngeal examination now showed a typical cancerous mass in the larynx, the tumor having grown to such proportions that normal respiration was already impeded after any unusual exertion. The expectoration had changed in character and was now a rosy mucopus, difficult to expectorate and frequently tinged with blood. The characteristic odor of cancerous disease was now so marked that it was noticed by members of his family. The sluggishness of the cricoarytenoid articulation had advanced so much that there was almost immobility. The ulceration which had now set in, and which so rarely occurs in sarcoma, gave the typical picture of carcinoma of this region. The glands gave as yet no evidence of involvement; this, however, is not an unusual feature in malignant disease of the larynx when intrinsic in character, that is, when involving only the cavity of the larynx proper, in contradistinction to extrinsic laryngeal tumors which involve the epiglottis, the aryepiglottic folds, or the arytenoids. The voice was reduced to a husky whisper.

The examination having been completed, the aggravated character of the disease was fully explained to the patient. In regard to treatment the only hope of recovery that could be held out was a laryngotomy with complete excision, as far as possible, of the area involved by the malignant disease. The patient stated that he would consent to an operation only under the condition that a cure would be guaranteed, which, of course, was impossible.

We are all familiar with the tendency to recurrence in malignant disease, the prognosis in the larynx being even less favorable on account of its anatomical and physiological importance, and the fact that the extent of the involvement cannot be accurately determined by the laryngeal mirror.

The intralaryngeal operation, except as a palliative measure, could not be recommended, especially as there is always danger of autoinfection from an operation of this kind. So much is this the case that many experienced operators will remove a fragment of the growth for histological examination, only with the understanding that, if malignancy is determined, the patient consents to an immediate radical operation.

After the patient had declined operative interference, he desired to know if any less radical measure could not be used which might offer some hope of success. Having been impressed with the improvement which I had obtained in cases of laryngeal tuberculosis from the x rays, it occurred to me that the patient might be benefited by this form of treatment. I explained to him frankly, however, that as yet the x rays had been of benefit in malignant disease only in cases where the disease had been superficial so as to be directly exposed to their influence, and that cases in which the disease was situated below the surface had as yet not given very encouraging results. The patient, nevertheless, decided to try the effects of the treatment.

A few days later, the first exposure to the x rays was made, a high tension Tesla coil being used to generate the current. A tube with a medium vacuum was selected as most suitable for this case, as more penetration was required than that afforded by the low tubes generally preferred for treating superficial disease, but less than that exercised by the high tubes used for examination of the chest. The face

and chest of the patient were protected with specially prepared paraffin paper, no effort being made to limit the rays to the diseased area by means of lead foil. The object of this was to utilize the effects of the treatment on the neighboring tissues and on the lymphatic glands, in case these had been involved in the malignant process.

The patient was seated on a specially constructed chair, which allowed the head to be bent well back so as thoroughly to expose the neck to the x rays, the object being to project the rays directly through the skin and thyroid cartilage into the diseased tissues. No effective means has as yet been discovered to reflect or concentrate the x rays after leaving the tube, and the only hope of success lay in the transmission of the rays through the superficial tissues, which fortunately here offer but little resistance and the rays are therefore but little absorbed.

During the first treatment, the platinum reflector (anticathode) was placed at a distance of fifteen inches, this being afterwards reduced until it was brought to seven inches from the neck. The first exposure was made for ten minutes, and this duration was continued every day for twenty treatments. The skin was carefully watched for dermatitis, but this did not develop at any time. The platinum reflector was brought to a dull red heat and the vacuum maintained about the same from the beginning to the end of the treatment; and any tendency to a rise of the vacuum was carefully corrected.

At the end of the third week, the outlook did not appear encouraging. In fact, the congestion of the surrounding area appeared more marked, and the tumor showed no signs of diminution. The only feature which offered any encouragement up to this stage was the fact that the pain had disappeared after the second exposure and did not recur in spite of the appearance of greater congestion in the larynx. After the twentieth application, the patient was sent home with instructions to report ten days later, it being understood that unless some marked benefit from the treatment could be demonstrated by that time, no further effort would be made to continue the treatment by means of the x rays.

On the sixth day I received a letter from the wife of the patient, stating that her husband appeared to be considerably worse, that he had fever, that the expectoration had been much greater and was accompanied with clots of blood, and the pain was more acute. She desired to know if her husband should call at the appointed time. I immediately replied that the patient should not return for treatment until he was considered sufficiently well by his family physician.

A few days later, however, I received a letter from the patient himself, stating that he believed that he had been benefited, that he felt well enough to come to New Orleans, and that he would be at my office at the appointed time. On July 24th the patient called in company with his family physician. I had been so discouraged by the report which I had received of his condition that I expected to advise his returning home at once.

When I examined his throat, however, the laryngoscope gave such a changed picture of his larynx that it was almost incredible. The whole mass that had projected into the lumen of the larynx had disappeared, including also a large portion of the left

vocal cord, which had been involved in the malignant process. All difficulty of respiration had disappeared and also the pain. The expectoration was still present, but had lost its purulent character and was mucous and only occasionally streaked with blood. The temperature was again normal. The patient asserted that he felt decidedly better, which was easily borne out by his appearance. The excessive expectoration, the clots, and the fever had evidently been simply incident to the sloughing process of the tumor, which apparently had completely disappeared.

The treatment with the x rays was at once recommenced and continued for ten days longer, at which time the ulceration in the larynx had completely healed. The patient was requested to return again from time to time, to watch not only for recurrence of the growth, but also for infection through the lymphatic circulation, which might have taken place.

On August 29th, the patient was seen for the last time, there not having been any recurrence of the tumor or any change in the larynx indicating an incomplete recovery from the malignant disease.

Of course, the possibility of a recurrence cannot yet be excluded, but the manner in which the disease was cured offers much encouragement that the result will be permanent. In surgical procedures we can never be certain, in spite of the most radical operation, that absorption has not taken place into tissues not reached by the knife, and that recurrence may not originate from this source. In this case, however, the same agent which destroyed the vitality of the malignant growth and caused it to slough must have been equally effective in all the surrounding tissues exposed to the rays, so that there is every probability of a permanent cure.

The case here reported I believe to be the first of a malignant disease of the larynx cured through the agency of the x rays. It not only shows the efficacy of this remarkable agent, but is also strong presumptive proof of the bacterial character of malignant disease, as I believe that it is in this way that it effects its cures. Since the x rays were so efficient in this case of cancer, when they had to pass, not only through the skin, but also the cartilaginous covering of the laryngeal cavity, decided proof is afforded of the efficacy of this form of treatment, and hope held out that they may yet be a safe and effective method for the treatment of even more deep-seated disease.

Addendum, October 25, 1902.—The patient was again examined in my office October 23rd, and was found to be in such excellent condition that no treatment was deemed necessary. The aphonia, due to the loss of tissue of the left vocal cord, has been partially overcome by compensation by the remaining cord. I had advised the patient to adopt a low chest tone, which favored the adaptation of the vocal apparatus to its defective mechanism, but which the patient had at first found very difficult. By constant practice this has gradually improved, so that the voice has now recovered so far that the patient has resumed his practice of law.

Correspondence.

LETTER FROM MONTREAL.

The Campaign Against Tuberculous Disease.—The Question of a New Contagious Diseases Hospital. —The Montreal General Hospital's Financial Needs.—Notre Dame Hospital.

MONTREAL, November 24, 1902.

The citizens of Montreal are organizing to combat the dread disease, tuberculosis. A special meeting was held during the past week in the rooms of the Medico-chirurgical Society to consider what steps should be taken to counteract the progress of the disease in the city. Among prominent medical men who attended the meeting were: Dr. E. P. Lachapelle, Dr. James Stewart, Sir William Hingston, Dr. A. D. Blackader, Dr. G. E. Armstrong, and Dr. C. F. Martin. A strong committee was formed, with Dr. Lachapelle as chairman, to make arrangements for a public meeting. Professor Adami and Dr. A. J. Richer will act on this committee, and Lord Minto, the Governor-General, will preside at the public meeting.

Montreal is again considering the question of the erection of a new contagious diseases hospital. This is a question which has been cropping up periodically, but no real progress seems to be made from year to year. Perhaps this year, however, something of a tangible character will be done. Since the outbreak of smallpox last year, the city has had no regular hospital for the reception of scarlet fever and diphtheria patients, except a small house, which can accommodate only about twenty-five patients. Scarlet fever is now becoming pretty general in the city and it is of a very severe type. There are now some eighteen patients in the temporary hospital, and the question arises: What is to be done as soon as the hospital fills up? The Royal Victoria Hospital has recently completed a fine new wing for infectious diseases, and it is thought by some that if the other general hospitals in the city would follow its example, these cases might be taken care of by the general hospitals.

From the report of the quarterly meeting of the Montreal General Hospital, which was held last week, it would appear that the hospital is in sore financial straits. During the past quarter the receipts amounted to \$17,094.86, and the expenditure to \$23,250.23. Year by year the General Hospital reports deficits, and there is always the necessity of special appeals to the friends of the hospital at the close of each year. The institution is doing good work medically and deserves to receive more generous support from the citizens of Montreal than it has been getting of late. The medical report for the quarter showed that 743 patients had been treated in the wards for the past three months; in the out-

door departments there were 8,301 consultations. An anonymous contribution of \$3,000 to the endowment fund was recently received. That brings the endowment fund up to \$43,000.

It was announced at the recent annual meeting of Notre Dame Hospital, Montreal, that the governors intended to go on with the erection of a new hospital in Lafontaine Park in the spring. Dr. E. P. Lachapelle read the medical report. It showed that 2,132 cases had been treated in the wards during the past hospital year. Of this number of patients, 1,813 were discharged as cured or as improved. One hundred and eighty-five were discharged with their condition ameliorated. Forty-five wounded were brought into the hospital either dying or dead, who, with the number actually dying in the wards, 91, gave a percentage mortality of 6.10. At the dispensary there were 18,715 consultations. The total receipts for the year amount to \$36,054.62, and the disbursements to \$30,800.10. The price paid for the site of the new buildings was \$28,000. Dr. E. P. Lachapelle was reelected medical superintendent.

LETTER FROM TORONTO.

A Proposed Free Sanatorium for Consumptives.—A Misunderstanding as to Preliminary Education.—The Ross Memorial Hospital in Lindsay.—Charges of Improper Commitments to Lunatic Asylums.

TORONTO, November 24, 1902.

A few weeks ago the Anticonsumption League of Toronto presented a numerously signed petition to the local board of health praying that the Council would submit at the municipal elections in January a by-law to provide for the granting of \$50,000 for the purposes of a free consumption sanatorium. Dr. E. J. Barrick, who was largely instrumental in getting up this petition, stated that the league would undertake in addition to raise another \$50,000 by private subscription. The city solicitor and the medical health officer opposed the submission of any such by-law on the ground that a by-law could not very well be prepared to grant aid to an institution which did not as yet exist. Addressing the board, Dr. Sheard pointed out with regard to the treatment of consumptives in this city that Toronto was in a much better position than it was a year ago. At the present time no bedridden consumptive would be refused admission into any hospital in the city, whereas a year ago not a single one would be allowed in any ward in any of the hospitals. In addition to this, the medical health officer stated that since June last the free hospital at Gravenhurst had received and treated twenty-seven incipient cases on Toronto orders. The board of health therefore opposed the submission of the by-law. Following upon this ac-

tion, however, the board of control has instructed the city solicitor and the medical health officer to prepare the by-law.

The regulations of the Ontario Medical Council with regard to medical matriculation are causing the students in medicine in the city no little amount of concern. The standard required by the council is said by them to be too high, in fact to be so high as to be almost prohibitive. The whole trouble seems to have been caused by the indefinite wording of a clause in the new regulations which require that all candidates for medical matriculation must present certificates to the effect that they have passed the examination conducted by the Education Department of Ontario of the course prescribed for honor matriculation in arts, chemistry, and physics. There appear to be very few who take this high standing every year, and even those few do not go on into the study of medicine. In an endeavor to get the tangle straightened out the Medical Department of the University took the matter up recently with the Minister of Education, and it is understood that the latter will take steps toward settling the difficulty.

On the 20th of November several Toronto physicians, including Dr. Charles O'Reilly, Dr. J. F. W. Ross, Dr. George A. Bingham, Dr. G. Stirling Ryerson, and Dr. J. A. Temple, went down to the town of Lindsay to participate in the opening of the new Ross Memorial Hospital. Mr. James Ross, of Montreal, the donor of the hospital to the town of Lindsay and the county of Victoria, was present. He was formerly a resident of the town, and the hospital is dedicated to the memory of his mother, who resided for the greater part of her life in Lindsay. The medical men from Toronto declare that the hospital is one of the most complete and up-to-date buildings of the kind in Canada.

The Hon. J. R. Stratton, the Provincial Secretary of Ontario, affirms that within the past few months he has ordered the release of five persons who had been assigned to the asylums of the Province as insane. Although the certificates were in all instances signed by two medical men, their release has been ordered, as the asylum superintendents stated they were not insane. In a letter to the public press of a recent date Dr. A. McKinnon, of Guelph, a past president of the Ontario Medical Association, takes up the case on behalf of the medical profession and states that if the Provincial Secretary believes it to be true that ten medical men of the Province are guilty of the infamous and disgraceful conduct of committing people to the asylums who were not insane, it is his duty to bring the matter to the attention of the discipline committee of the Medical Council for investigation, when, if the charges are proved to be true, that body will soon deal with the practitioners in question.

The Dietetic Treatment of Pulmonary Tuberculosis. By Dr. N. D. Bardswell and J. E. Chapman, M. R. C. S. (*British Medical Journal*, November 1st).—In determining the proper diet for a consumptive, allowances must be made for the sex, age, weight, work, and weather. Further the additional factors due to the existence of tuberculosis must be considered. The presence of tuberculosis causes increased waste of all tissues, especially of fat. The indication is, therefore, an increase in all constituents of the physiological diet. The patient may be under normal weight, so that the diet should be sufficiently increased to restore the tissues as well as to meet the current requirements of the body. A diet rich in proteid and only slightly increased in fats and carbohydrates produces the best results in inducing arrest of tuberculous processes. Proteid can be given in larger quantities and more easily than either fat or carbohydrate, which latter are disliked by the consumptive. Weight is put on at a moderate rate, and the physiological balance of cardiorespiratory functions and body weight is not upset. Although overfeeding is frequently associated with very satisfactory progress in the lungs, yet the administration of what is practically only a small increase on the physiological diet is quite sufficient to ensure equally satisfactory improvement in the lung condition, with much less risk of injurious consequences, and with the minimum discomfort to the patient.

Quinine as an Internal Hæmstatic.—According to Marx (*Münchener medicinische Wochenschrift*, 1902, p. 660) quinine possesses marked hæmstatic virtues and may be used with advantage as an internal hæmstatic. This author finds that a 0.08 per cent. solution of quinine brings about the agglutination of erythrocytes, and that this agglutination increases in rapidity and distinctness with the strength of the solution. Applied locally, quinine solutions, according to the author, are capable of arresting all parenchymatous bleeding. For this purpose Marx uses the following solution: Quinine hydrochlorate 5.0 grammes, diluted alcohol, 15.0 grammes, and distilled water enough to make 500 grammes. Hecht (*Therapie der Gegenwart*, September, 1902) has employed three-per-cent. solutions of quinine, and finds that they act well in the bleeding from the nose which follows operations on the turbinated bones. The results are so satisfactory that the author has discarded all other hæmstatics in these operations. In internal hæmorrhages quinine probably does most of the work of the quinine and ergot combinations which Gerhardt and others used. The author has had noteworthy successes in a number of severe cases of hæmoptysis in which he has used this combination. He also suggests the application of this combination in diseases characterized by an abnormal tendency to bleeding, such as scurvy, etc. In obstetrics, quinine in combination with ergot should prove of great value after delivery, as it increases the uterine contractions, and thus tends to arrest the bleeding. It seems that these two drugs complement the action of each other, and that when used alone they are not so efficient as when combined.

Hydrotherapy in Pneumonia.—Brieger, (*Zeitschrift für diätetische und physikalische Therapie*, Vol. V, Heft. 1) says that a rational system of combating pneumonia by means of hydrotherapy can only be perfected by a knowledge of the biological characteristics of the bacterium which causes the disease. The theoretical action of hydrotherapy in pneumonia due to the invasion of various germs is the destruction of toxins, the promotion of the formation of antitoxines, the multiplication of leucocytes, and the presence of a greater amount of water in the blood—in other words a cure by the methods of Nature. The author says that, inasmuch as pneumococci and streptococci are found in the blood in severe cases, these should be regarded as instances of sepsis, and should, therefore, be treated accordingly, i. e., by means of baths, douches, alcohol, etc. Too cold baths, however, will drive the bacteria in the blood into the internal organs, and thus destroy the latter rapidly. In this way we may explain the symptoms of collapse following the very cold baths that are given by some clinicians. Yet, cold baths, in virtue of their stimulation to the processes of oxidation, destroy the toxic substances that thus circulate in the blood, provided, of course, that the inflammation has not involved a large portion of the lung. As the critical perspiration brings on the lowering of the temperature, it is well to promote this event by the use of mild hydrotherapeutic methods, such as the use of warm baths, and in children the dry pack is of great value and is well borne even by the weakest ones. In adults these procedures are not well applicable, as they are very uncomfortable under this treatment. In old persons they should be avoided, as they may be even dangerous. In such cases packs about the breast with room-temperature water are of benefit, and these are specially applicable in cases that complicate influenza. During the packs the patient should receive warm drinks and a moderate amount of alcohol.

Volatile Oils in the Therapeutics of Burns.—Lucas-Championnière (*Nouveaux Remèdes*, August 8th) says that essences, or volatile oils, are very efficient in the treatment of burns. He uses a mixture containing fifteen drops each of the volatile oils of geranium, vervain, thyme, and origanum, five grains of sodium naphtholate, and three ounces of white petrolatum.

Ethereal Tincture of Capsicum in Asthma.—Sir James Sawyer, according to *Nouveaux Remèdes* for October 24th recommends the non-alcoholic ethereal tincture of capsicum as a good remedy for local application in subacute and chronic gout, muscular and chronic rheumatism, and in certain forms of bronchitis. He believes that the ether, in consequence of its action upon the sebaceous secretion of the skin, is preferable to alcohol in every case where it is desired to act upon or through the skin. Moreover, ether is easily mixable with turpentine and other essential oils. He recommends the following mixture as an excellent rubefacient.

R	Ethereal tincture of capsicum.....	} Equal parts.
	Solution of ammonia.....	
	Turpentine.....	
	Linseed oil.....	
M		

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A BOARD OF HEALTH'S GOOD EXAMPLE.

We are very glad to learn by the *Bulletin of the Health Department* of Chicago for the week ending November 15th that the department is restricting its gratuitous laboratory work. The commissioner, Dr. Arthur R. Reynolds, deems it advisable to emphasize the fact that the city laboratory is neither authorized nor equipped to do work free for those who are able to pay for laboratory examinations. When, he says, the microscopical diagnosis of diphtheria was a novelty, he felt it to be a part of his duty to the public to demonstrate its value to physicians, but that duty has now been performed, for every medical college of good standing teaches this use of microscopy, and private laboratories are in operation to do the work for physicians who are too busy to do it themselves. He regards it as unjust for the city laboratory to continue to do free the work for which hundreds of physicians have, at much expense of time and money, fitted themselves. It is generally understood now, he continues, that when a physician is called to a case of sore throat, he is prepared to make any examination that may be required, or else to get it made by a competent person at his own expense, and prepared also to administer antitoxine that he has procured from some source which he has satisfied himself is trustworthy.

So much as regards diagnostic examinations. As to the production and purveying of antitoxine, those functions, too, may now well be left to individuals. The commissioner remarks that at the outset of the antitoxine treatment of diphtheria, when trustworthy serum was difficult to obtain and there was much worthless and dangerous material on the market, it was proper that the department should, as it did, assume the task of procuring and testing antitoxine

and furnish it at its actual cost; but, he continues, "the scientific world is now familiar with all the steps required to produce the best quality of diphtheria antitoxine, and almost every good druggist has a reliable product in stock." However, the department still furnishes antitoxine and makes diagnostic examinations for physicians and members of their families, and provides practitioners with culture media and such outfits as are necessary for the prompt diagnosis required by the public interest.

The Chicago Health Department's frank recognition that there must come a time when it would only cripple private enterprise by continuing an indiscriminate gratuitous service in such matters as the diagnosis and treatment of diphtheria, and its consequent decision not to persist in a course that was at first almost a necessity, but is now downright injustice, are most commendable. Would that they might serve as an example to the New York Health Department, which still keeps up its traffic in vaccine and furnishes free vaccination on a scale that we believe to be utterly unjustified.

A DISEASE RESEMBLING GLANDERS IN THE PHILIPPINES.

Already the new Bureau of Government Laboratories established by the Department of the Interior in the Philippine Islands is showing the utility to which it is susceptible of being turned. We are led to this remark by a perusal of a *Preliminary Report of the Appearance in the Philippine Islands of a Disease Clinically Resembling Glanders*, by Dr. Richard P. Strong, director of the Biological Laboratory. It seems that there has been observed among horses in the Philippines, and occasionally among cattle, a disease so closely resembling in its clinical aspect the form of glanders known as farcy that in the first case encountered a diagnosis of farcy had been made by three veterinarians. Microscopical study of the material contained in the "buds" has shown, however, that the disease is due to an entirely different organism from that of glanders, namely, to a parasite which for the present Dr. Strong is inclined to class as a blastomycetes.

The first manifestation of the disease is a nodule situated in the cutis, frequently in the neighborhood of some slight abrasion and usually on one of the limbs or on the neck or the abdomen, though it may be situated on the shoulder or chest. Thus far, the

primary nodule has not been observed in the nares, but the nasal mucous membrane may eventually be invaded in neglected cases, and in that event the resulting nasal discharge makes the case resemble glanders all the more closely. The infection spreads, apparently along the course of the lymphatics, and many "buds" may form, varying from a sixth of an inch to an inch in diameter. At first the nodules are hard, but as the disease progresses they usually soften and form large abscesses which, if left to themselves, finally open and give rise to ulcers of irregular outline. In the early stage the abscesses contain a bloody, purulent, tenacious material, but the contents of the older tumors are yellowish-white, gelatinous, and very tenacious. The neighboring lymphatic glands are not uncommonly swollen. In mild cases there may be hardly any fever; in severer cases there may be some such general disturbances as slight fever and loss of appetite; and in grave cases anæmia and cachexia appear in addition.

Though chronic in its course, lasting for many months, this new disease ends in recovery in the great majority of instances. This fact renders Dr. Strong's study of it of great value to owners of horses, especially as the laboratory diagnosis from true glanders is easy if recourse is had to the method pointed out by him. The disease has also to be distinguished from the "bursattee" of India, described as due to a mould fungus, and from the farcy of cattle (*farcin du bœuf*) observed in the West Indies. Dr. Strong thinks it is very closely allied to the variety of lymphangitis epizootica studied particularly by Fermi and Aruch and to a similar infection described by Tokishige as occurring in Japan, though in the Japanese affection the scrotum, testicles, and penis are particularly prone to be involved and metastases to the lungs may occur, whereas neither of these occurrences has thus far been observed in the Philippines.

SKIN MARKINGS AS A METHOD OF CLINICAL DIAGNOSIS.

In the *Intercolonial Medical Journal of Australasia* for June, Dr. Herman Lawrence describes a series of painstaking observations on the normal and pathological "markings" that appear on the skin, in health and disease, after a line has been drawn on it. We are all, of course, acquainted with the "tache cérébrale" that appears on the skin in tuberculous men-

ingitis; and Dr. Lawrence's "skin markings" are of that order, and seem to be merely an extension of the principle which first brought that phenomenon forward as a diagnostic aid.

Briefly, Dr. Lawrence, as the result of some hundred observations, notes the following facts: On drawing, with slight pressure, a smoothly rounded-off pen handle across the skin, there may be noticed a white line which quickly disappears, and is followed by the appearance of a red line, which disappears slowly, leaving the skin once more in its normal state. This first, or white line, he thinks, has probably not to do with the vasomotor system, but rather with the driving out of blood and lymph from the tissues immediately pressed upon. Line No. 2 is a red line, the normal vasodilator line, which fading away in a few moments leaves the skin in its normal state. These lines vary somewhat in intensity and persistence in different parts of the body, under different conditions of the circulation, at different seasons of the year, and at different ages. But in addition to these normal variations, which are slight in degree, Dr. Lawrence thinks that it is possible to establish variants of them, proper to certain diseases. The arrangement of these variants is in some sort parallel to the alterations of electrical sensibility, known as the reactions of degeneration. In addition to the two lines before described, the author notes five others. Line No. 3 is an exaggerated broad red vasodilator line, indicating abnormal irritability of the vasodilator nerves. No. 4 shows a narrow red vasodilator line with a broad white edge on either side. No. 5 is an all white line, due presumably to the vasoconstrictor nerves. The sixth and seventh are raised white lines, No. 6 being a slightly raised line following an exaggerated red line, probably due to serous exudation; and No. 7, a raised white line not always preceded by a vasodilator line, and possibly due to a lymph accumulation.

In addition to the lines themselves, the author marks exaggerated intensity by a + (plus), and deficient intensity by a — (minus) sign prefixed to the numeral indicating the line referred to. In like manner, the persistence is indicated by the affixing of plus and minus signs to the numbers. A normal "autogram," or skin marking, then, would be described by 1, 2, representing a normal white line, quickly followed by a red line which disappears some-

what more slowly. But, for instance, in eight cases of dementia, all but one of them showed marks indicated by —1, —2—, or 1, —2—; that is to say, in the first instance, a white line, —1 deficient in intensity, followed by a red line —2—, deficient both in intensity and persistence; in the second instance, a normal white line 1, followed by a red line —2— deficient both in intensity and persistence. The case not accounted for was one of general paralysis, and marked 1 a normal white line, followed by 3 an exaggerated red line. Other instances of the application of the method in various diseases are given by the author.

"Autographism" is of course a more or less well known phenomenon, but the application of these markings to clinical diagnosis, as suggested by the author, seems to us to be novel. How far further investigation will bear out the author's views on this point remains to be seen, but at any rate they deserve full investigation, especially at the hands of dermatologists and neurologists, to whom, if Dr. Lawrence's views are corroborated, the method should prove of special service. We have not, of course, been able to give Dr. Lawrence's results in detail, but it should not be difficult for those interested to make observations for themselves on the lines indicated.

The following is Dr. Lawrence's summary of his conclusions, the correctness of which must be the subject of wider investigation: "The irritability of tissues in general may possibly, in some diseases, be calculated by the irritability of the tissues of the skin; and, at any rate, that certain markings prognose the chronicity of certain diseases, and advise in some cases the near onset of a relapse of the disease, and that certain markings explain the exaggeration of the symptoms in some individuals, and that probably suitable treatment may be worked out by observing the effect of treatment upon the markings of the skin."

THE PHYSICIAN IN POLITICS.

Under this heading the Brooklyn *Eagle* prints a letter from a physician in which the writer calls upon his professional brethren to take a more active part in those duties of citizenship that can best be performed in the primary meeting and at the ballot box, and points to the example of the illustrious Virchow. The writer's feelings are those to which we have often given expression, and we trust that they will not pass unheeded.

EXPOSURE TO COLD AS A PATHOGENIC FACTOR.

If the scarcity of coal in the eastern part of the country continues much longer, we are likely to see upon a large scale a test of the old idea of the pathogenic influence of exposure to cold. While we do not believe that such exposure is to be regarded as often the sole cause of an attack of sickness, we must probably look upon it as a subsidiary factor playing its part by adding one more drain upon vital energy and thus facilitating the morbid action of more definite causes of disease.

PENSIONERS' MEDICAL CERTIFICATES.

There can be no doubt that many American citizens are drawing pensions on the flimsiest of pretexts, and we fear the commissioner of pensions is right when he says that such juries of the vicinage as are constituted by our present examiners are often open to influences against which they ought to be proof. He recommends boards appointed under civil service rules, to sit in other neighborhoods than those of their own residences, and we must say that perhaps such boards would guard the public interest better than the examiners that we have at present.

A HÆMATOMA SIMULATING APPENDICULAR DISEASE.

The closeness with which disease of the vermiform appendix may occasionally be counterfeited is well illustrated in a case reported at the recent French Congress of Surgery (*Gazette hebdomadaire de médecine et de chirurgie*, November 9th) by M. Braquehay, of Tunis. It was that of a boy who had acute pain and induration at McBurney's point, constipation, meteorism, a temperature of about 98° F., and a pulse of 112. The abdomen was opened, but no pus was found. A drainage tube was left in the incision, and a few days later a very large retroperitoneal hæmatoma emptied itself through the tube. It was then ascertained that the boy had been struck in the abdomen in a fight.

THE NEW SUPERINTENDENT OF THE BELLEVUE SYSTEM.

It is again announced that Dr. William Mabon has accepted the appointment as superintendent of the Bellevue and allied hospitals. The constant participation of a trained alienist in the administration of these hospitals cannot fail, we are convinced, to be of the greatest advantage, and it is to be expected that Dr. Mabon's long experience in the State hospitals for lunatics will enable him to be of rare service to the city's allied hospitals.

News Items.

Society Meetings for the Coming Week.

MONDAY, December 8th.—New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Medical Association of the Greater City of New York; Society of Medical Jurisprudence, New York; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, December 9th.—New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Rome, N. Y., Medical Society; Medical Society of the County of Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Ky.; Richmond, Va., Academy of Medicine and Surgery.

WEDNESDAY, December 10th.—New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Lenox Medical and Surgical Society (private); Society for Medical Progress, New York; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society.

THURSDAY, December 11th.—Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia; Church Hill Medical Society of Richmond, Va.

FRIDAY, December 12th.—New York Academy of Medicine (Section in Neurology); Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

SATURDAY, December 13th.—Obstetrical Society of Boston (private).

Change of Address.—Dr. E. P. Livingston to No 189 Convent avenue, New York.

To Enlarge the New York Hospital.—Two stories are to be added to the nurses' ward at the New York Hospital and the capacity of the Training School for Nurses increased to ninety.

The Brooklyn Medical Society, at a meeting held on November 25th, elected Dr. A. T. Bristow as president to fill the vacancy caused by the death of Dr. W. H. Haynes.

In Active Practice for Seventy-four Years.—Dr. Charles H. F. Wilgohs, of Akron, Ohio, who recently celebrated his ninety-ninth birthday, is said to have been actively engaged in the practice of medicine for seventy-four years.

The French Minister Lays a Corner Stone.—M. Cambon, the retiring Minister from France to the United States, laid the corner stone of the new French Hospital, at 450 West Thirty-fourth street, on November 18th. The plans for the structure call for an expenditure of about \$260,000.

The American Public Health Association will convene in New Orleans for its thirteenth annual meeting on December 8th.

Michigan Health Officers to Convene.—The sixth general conference of the officials connected with the various health departments throughout the State of Michigan will be held at the State Laboratory of Hygiene, at Ann Arbor, on Thursday and Friday, January 15th and 16th.

The Michigan Board of Health.—In referring to the election of the secretary of the local Board of Health of Grand Rapids, Mich., the error was made of speaking of it as the State Board of Health of Michigan. The secretary of the State Board is Dr. Henry B. Baker, of Lansing, who served in this capacity for a long time.

The Average Income of Physicians in Paris.—In Paris there are, according to the London *Lancet*, 2,600 medical practitioners; of these, 40 have a gross income of from \$40,000 to \$60,000, 50 of \$20,000, 50 from \$10,000 to \$20,000, 200 from \$6,000 to \$10,000, 200 from \$4,000 to \$6,000, and 1,700 earn on an average \$725 a year. In the whole of France there are 1,600 physicians who gain on an average \$550 a year gross.

Moving for the Abolition of Annual License Fees in Virginia.—At a meeting of the Richmond Academy of Medicine held on November 25th a committee was instructed to bring before the State Medical Association the subject of annual license fees with a view to securing their abolition. The physicians pay a fee on undergoing an examination, and pay a license fee to the State and to the city annually, and it is these annual license fees which the Academy seeks to have abolished.

A Medical Research Foundation at Johns Hopkins.—Dr. and Mrs. Christian A. Herter, of this city, have presented to Johns Hopkins University the sum of \$25,000 for the foundation of a memorial lectureship in the medical department designed to promote a more intimate knowledge of the researches of foreign investigators in the realm of medical science. Each year some eminent worker in either physiology or pathology is to be invited to deliver one or more lectures at Johns Hopkins University, receiving as an honorarium the income from the endowment fund.

Dr. John F. Fitzgerald Chosen Medical Superintendent to Succeed Dr. Duryea.—Dr. Jesse T. Duryea has resigned his position as general medical superintendent of the institution under the Department of Charities in the Boroughs of Brooklyn and Queens, which he has filled for some years. He has been succeeded by Dr. John F. Fitzgerald, formerly superintendent of the Rome State Custodial Asylum at Rome, N. Y., a transfer which is made possible by the State Civil Service rule which provides that transfers may be made from the State to the city service, and vice versa, when both positions are in the competitive class as is the case in the present instance. Dr. Fitzgerald is a graduate of the Albany Medical College and has been in the State service since 1886.

Deaths From Consumption.—The official returns for the last census year show consumption to have been the cause of 109,750 deaths, during the year. The death rate from consumption for whites was 187.3 in a hundred thousand in 1900, while in 1890 it was 245.4. The death rate for negroes was 490.6, almost three times that of the white population.

Rebuilding at Bellevue College.—Portions of the interior of the old Bellevue College Building are being torn out and will be remodeled. The exterior walls will remain untouched. The two upper floors are to be made into dormitories for the employees. The second floor will be a lecture hall. The first floor will contain, as in the past, a dispensary. On the same floor will be the hospital's offices, which are now in the main building. A special feature will be the providing of a reception room for visitors on this floor, with an entrance on Twenty-sixth Street.

Fined for Failure to Report a Case of a Contagious Disease.—In Long Island City a physician has been fined \$125 for failing to report a case suffering from a contagious disease, and an additional \$125 for issuing a false death certificate. The defendant claimed that he had issued this death certificate to protect an unlicensed physician who had charge of the case. This physician who spoke no English and was therefore unable to take the examination, though otherwise a qualified practitioner, was fined \$250, for practising without a license.

A Cattle Quarantine in New England.—An order has been issued by the Secretary of Agriculture placing an embargo on the shipment of cattle from the port of Boston, and declaring in quarantine cattle and swine from Vermont, Massachusetts, Rhode Island and Connecticut. The matter is quite a serious one from a commercial point of view since about 2,500 head of cattle a week are shipped from Boston to Europe. This step has been rendered necessary by the spread of a foot and mouth disease among cattle in that section.

Distance a Factor in a Doctor's Fee.—Dr. Jacob H. Asch and Charles Goldsmith were stopping at Arverne, L. I., during the summer, and Goldsmith being attacked by pneumonia, called in Dr. Asch. The doctor returning to the city before the patient recovered, continued to call on him twice daily. He rendered a bill at three dollars per visit while in Arverne, and at fifteen dollars per visit for those visits made after the doctor had returned to New York City. On a suit to recover the doctor won.

A Thousand Dollars Damages in a St. Louis Tetanus Case.—Jacob B. Ernst brought suit for \$5,000 damages against Dr. A. Ravold, the bacteriologist of the city of St. Louis, the mayor of the city, the health commissioner and the several members of the board of health on account of the death of a three-year-old child who died of tetanus following an injection of antitoxine. The Judge ruled that only the case against Dr. Ravold should go to the jury who thereupon brought in a verdict awarding damages in the sum of \$1,000. There are nine cases

pending in the Circuit Court arising from this tetanus poisoning, the aggregate sum demanded being \$72,000.

The Cartwright Lectures of the Alumni Association of the College of Physicians and Surgeons. (Medical Department of Columbia University) will be given in the hall of the Academy of Medicine, No. 17 West Forty-third street, on December 17th, 29th and 30th, at 8:15 p. m., by Dr. Richard C. Cabot, of Boston. First Lecture—A Study of the Urinary Analyses and post mortem findings in 500 cases of disease affecting the Kidneys. Second Lecture—A Clinical Study of the action of alcohol in disease with special reference to its effect on the circulatory system. Third Lecture—Truth and Falsehood in Medicine; an experimental study.

The New York State Association of Railway Surgeons will hold its tenth annual meeting at the Academy of Medicine, on November 20th and 21st. Papers will be presented by Mr. G. R. Brown, vice-president and general manager of the New York and Pennsylvania Railroad Co.; Dr. W. J. Herdman, of Ann Arbor, Mich.; Dr. H. P. Jack, of Canistota; Dr. Harvey W. Cushing, of Johns Hopkins University; Dr. Robt. Cowan, of Radford, Va.; Dr. Percy R. Bolton, and Dr. Jas. P. Tuttle, of New York City; Dr. J. G. Kelley and Dr. C. S. Parkhill, of Hornellsville; Dr. C. B. Herrick, of Troy; Dr. Henry Flood, of Elmira; Dr. A. P. Jackson, of Oakfield, and Dr. Wm. C. Wood, of Gloversville. On Friday morning at ten Dr. Lewis A. Stimson will deliver a clinical lecture on fractures and dislocations at the New York Hospital. In the afternoon at 2.30 Dr. Francis Murray will hold a clinic on general surgical operations at St. Luke's Hospital.

The Late Dr. A. M. Phelps.—At a meeting of a committee appointed by the President of the Medical Board of the City Hospital on November 22nd, 1902, the following resolutions were passed.

WHEREAS, the late Dr. A. M. Phelps served the City Hospital as visiting surgeon, in a faithful and unselfish way for upward of 13 years, thereby contributing to its renown and efficiency, and,

WHEREAS during these years of service Dr. Phelps endeared himself to the visiting staff of the hospital by virtue of his character, his energy and tirelessness in the work for the benefit of the hospital, and aroused in them an admiration of his skill and manifest ability.

BE IT RESOLVED, that the medical board of the City Hospital record an expression of its regret in the untimely death of Dr. Phelps at the zenith of a career of usefulness, and further

BE IT RESOLVED, that a copy of these minutes be sent to the family of the late Dr. Phelps, to the principal medical journals, and inscribed in the minutes of the meeting.

(Signed) JOSEPH COLLINS,
GEORGE E. BREWER,
EDWARD S. PECK.

Deaths in the Profession Abroad.—Mr. James Bankart, M. B. Lond. F. R. C. S., died at Exeter, England, on October 31st, at the age of 68. He was an excellent anatomist, an able operator, a surgical consultant of wide experience, a distinguished eye surgeon, as well as a shrewd observer of men and things, and a cautious and far-seeing adviser in the practical affairs of life. The following deaths among the prominent members of the medical profession abroad have recently been reported: Dr. Ferdinand Führ, Professor of Surgery in the University of Giessen; Dr. Wulffert, of Berlin, Founder and

President of the German Association of Medical Abstiners; Dr. Julius Spitzmüller, President of the Vienna Medical Association and Widows and Orphans Society, aged 68; and Dr. Bromislaw Spakowski, Medical Superintendent of the Psychiatric Department of the Municipal Hospital, Odessa, aged 58.

Hospital Buildings and Endowments.—The Massachusetts General Hospital has received \$10,000 under the will of Mary Louise Ruggles as a fund for the maintenance of free beds in the institution.—Mrs. Lydia Blueth has presented a building site in the heart of the city to Michigan City for the erection of a public hospital.—The corner-stone of the new St. Luke's Hospital at Delmar and Belt Avenues, St. Louis, was laid on November 11th. The buildings which at present are to be completed will cost \$300,000. These are to be finished, according to the contract, by December 20, 1903. Additions are to be made in time to come, to meet increased demands for greater facilities for hospital work, and the ultimate cost of the hospital, according to the scheme adopted, will reach the sum of probably \$500,000.—Plans have been filed with the Bureau of Buildings in this city for a three-story brick annex to the City Hospital on Blackwell's Island, size 128x25.6. The estimated cost is \$30,000. The Adams Memorial Home for Consumptives in North Denver, Colo., which affords accommodations for forty-five inmates was formally dedicated on November 24th. The Home is conducted under the auspices of the Episcopal Church.—An Italian Catholic hospital is to be erected at Orient Heights, Boston.—It is reported that a movement is on foot to found a Chinese hospital in this city conducted along strictly Oriental lines, at least in so far as therapeutics is concerned.—St. Michael's Hospital in Newark, N. J., has received a legacy of \$7,000 from Patrick Flannagan, who had been a patient there for two months.—On Thanksgiving day the new building of the out-patient department of the Carney Hospital, Boston, was formally opened. The building is located at the corner of Dorchester and Old Harbor streets, in South Boston, and has a frontage of 63 feet on Old Harbor street and of 47 feet on Dorchester street.—The Epworth Hospital, at South Bend, Ind., received \$50,000 from the Studebaker family on the anniversary of Clem Studebaker's death, making a total contribution of \$75,000 from this family.

The Suffolk County (L. I.) Medical Society held its semi-annual meeting at Patchogue on November 1st. Dr. John Benjamin, of Riverhead, president of the society, presided. Dr. P. F. Chambers, of Manhattan, read a paper on the relation of gynecology to general medicine. The well-known ability of Dr. Chambers, and the wide and deep research made possible by his long practice, at one of the largest hospitals in New York, made the paper and its important suggestions of unusual value. Dr. M. B. Heyman, of the Manhattan State Hospital for the Insane, at Central Islip, L. I., read a paper on insanity. The question of a schedule of rates was discussed and it came out that no schedule had been adopted by the society since 1866. A committee was appointed to prepare a schedule of rates and present it for adoption.

The committee consists of Dr. Lewis, of East Hampton; Dr. Ross, of Brentwood, and Dr. Terry, of Patchogue. The Suffolk County Medical Society is the oldest in the State, and one of the oldest in the country, antedating even the State Association. It was organized in 1806, and has at present between eighty and ninety members.

The Death Rate of Chicago.—Statement of Mortality for the week ending November 29, 1902, compared with the preceding week, and with the corresponding week of 1901: Death rates computed on estimated populations of 1,820,000 for 1902, of 1,758,000 for 1901:

	Nov. 29 1902	Nov. 22 1902	Nov. 26 1901
Total deaths: all causes	448	460	473
Death rate per annum, in 1,000..	12.83	13.17	14.01
By sexes:			
Males	241	266	246
Females	207	194	227
By ages:			
Under 1 year	81	91	70
Between 1 and 5 years	41	56	36
Over 60 years	96	82	118
Principal causes of death:			
Acute intestinal diseases	34	21	27
Apoplexy	11	12	19
Bright's disease	20	20	27
Bronchitis	22	21	21
Consumption	40	37	48
Cancer	27	23	23
Convulsions	11	9	6
Diphtheria	34	23	6
Heart diseases	34	35	52
Nervous diseases	19	21	18
Pneumonia	53	79	71
Typhoid fever	19	9	14
Scarlet fever	3	5	6
Suicide	11	5	6
Violence (other than suicide) ..	26	27	19
Measles	3	3	....
Whooping-cough	3	4	1
Influenza .....	..	1	1

The American Association for the Cure of Inebriety will hold its thirty-second annual meeting in the hall of the Washingtonian Home, Waltham street, Boston, Mass., December 18, 1902. The first session, beginning at 2 p. m., will be devoted to a symposium on the Treatment of Inebriety. Papers will be read by Dr. Cowles, of the MacLean Asylum; Dr. Drew, of the Asylum for Insane Criminals; Dr. Ellsworth, of the Washingtonian Home; Dr. Elliot, of Willard Hospital, Mass.; Dr. Rodebaugh, of Parkview Home, Ohio; Dr. Stearne, of Norway Sanitarium, Indianapolis; Dr. Shepard, of Brooklyn, N. Y., Sanitarium, and Dr. R. Osgood Mason, of the Retreat, New York City. In the evening session, beginning at 8 p. m., the president, Dr. L. D. Mason, of Brooklyn, will deliver the annual address. Dr. T. D. Crothers, of Hartford, Conn., will read a paper on Inebriety in Ancient and Modern Times, followed by addresses by Dr. Marcy, Dr. Madden, Dr. Didama, Dr. Kellogg and others.

Ambulance Arrangements at the Royal Procession.—According to the *British Medical Journal* there were 109 stretcher squads along the line of route of the royal procession on the occasion of the coronation of King Edward VII, the bearers being drawn from the Royal Army Medical Corps (22 squads), Royal Army Medical Corps (Volunteers) London and Woolwich (21 squads each), and the various brigade bearer companies in the Home District. The 16 ambulance stations, at each of which were two ambulance wagons with a medical officer and orderlies, were furnished by the Regulars (9).

and Volunteers (7). Field hospitals were located at the Cattle Market, Islington, the Surrey Sessions House, Olympia, and the Detention Hospital, Tower. Whilst seven large civil hospitals reserve a certain number of beds for severe casualties amongst the troops. The members of the St. John Ambulance Brigade: did ambulance duty at 113 stations on the line of route. The personnel on duty included 44 surgeons, 1,069 ambulance officers and men, and 196 nursing officers and sisters, making a total of 1,309 of all ranks, and composed of representatives from the metropolitan corps and from corps from other districts throughout the country. Of cases requiring first-aid, 1,159 were reported as having been treated, including 1,130 fainting fits. Only 9 cases required removal to the hospitals, and of these the worst was that of a man who fell off a building and sustained a bad fracture of the humerus and a sprained ankle.

In Memory of Major Reed.—The following minutes and resolutions were adopted at a special meeting of the faculty of the Medical Department of the Columbian University:

The sudden and unexpected demise of our esteemed friend and colleague, Major Walter Reed, U. S. A., Professor of Bacteriology and Pathology in the Medical School of Columbian University, is an event that brings to us the most acute regret and overwhelming sorrow.

Taken from us in the prime of manhood, and in the zenith of his professional usefulness, at a time when the medical profession and humanity at large were prepared to do him homage for his great work in demonstrating the method of exterminating yellow fever by protection from inoculating mosquitoes, and by which that fatal disease has been abolished from some of its most malignant haunts; at a time, too, when his relations with the faculty and students of Columbian University had become securely united by bonds of mutual affection and esteem; under these circumstances it is with a most earnest and sincere feeling that we the Medical Faculty of the Columbian University hereby desire to express our unreserved admiration for the work, life, and character of Prof. Reed, both as a physician, a teacher, a trusted friend, and a man of science; in testimony whereof it is hereby

Resolved: that the foregoing not be recorded in the permanent archives of the Faculty; that a copy of the same be given to the press for publication, and also forwarded to the family of Dr. Reed as an evidence of our sympathy for them in their great sorrow.

Resolved: that as a further mark of respect for our lamented colleague, the exercises of the Medical School be suspended, and that the students and Faculty attend in a body his funeral obsequies.

Dr. Adolph Lorenz has been made an LL. D. by the Northwestern University, the honorary degree having been conferred upon him last week. Dr. Lorenz is expected to hold a clinic at the New York Polyclinic School and Hospital in addition to the clinics already provided for at the Cornell University Medical School and the Hospital for Ruptured and Crippled Children. According to press dispatches J. Ogden Armour, father of the patient to operate upon whom Dr. Lorenz came to the United States, has announced that he has decided to erect and endow an institution or school of bloodless surgery in commemoration of the work of Dr. Lorenz on his daughter, and has invited Dr. Mueller, who has been for six years Dr. Lorenz's assistant in Vienna and has traveled with him during his tour in this country, to become the head of this institution. It is stated that Mr. Armour proposes to endow the institution so that it will have an income of \$100,000 annually. It

is to be devoted wholly to bloodless surgery, and the endowment will be sufficient to obviate the necessity of making any charge for the operations. An excellent portrait of Dr. Lorenz and a sketch of his work written by Dr. Virgil P. Gibney, appears in the December number of *Review of Reviews*, and a full biographical sketch written by Dr. Dexter D. Ashley, who acted as assistant to Dr. Lorenz in Chicago and who has studied with him recently in Vienna, is published in the *Outlook* for November 27th.

The latest news received from Dr. Lorenz is to the effect that his arrival in this city will be still further delayed. He leaves Chicago this week and is to stop at Washington, Baltimore and Philadelphia, arriving in New York City probably between the 14th and the 20th of this month.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending November 29, 1902:

DISEASES.	Week end'g Nov. 22		Week end'g Nov. 29	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	115	28	118	19
Scarlet fever.....	113	9	137	7
Cerebro-spinal meningitis.....	0	4	0	0
Measles.....	95	4	132	3
Diphtheria and Croup.....	369	37	354	38
Small-pox.....	1	0	5	0
Tuberculosis.....	258	149	213	136

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending November 29, 1902:

JENNES, B. F., Acting Assistant Surgeon. Appointed Assistant Surgeon, November 11, 1902.

LUMSDEN, G. P., Surgeon. Detached from the *New York* and ordered to the *Hancock*.

PEARSON, J. F., Pharmacist. Detached from the Naval Academy and ordered to the Naval Training Station, Newport, R. I.

SHIP, E. M., Passed Assistant Surgeon. Detached from the *New York* and ordered to the *Hancock*.

Army Intelligence:

Official List of Changes in the Station and Duties of Officers serving in the Medical Department of the United States Army for the week ending November 29, 1902:

BIRMINGHAM, H. P., Major and Surgeon. Relieved from duty at Fort Leavenworth, Kansas, and ordered to Washington Barracks, Washington, D. C., for duty.

CHAFFEE, JEROME, First Lieutenant and Assistant Surgeon. Relieved from duty at Army and Navy General Hospital, Hot Springs, Arkansas, and ordered to proceed to Plattsburg Barracks, N. Y., for duty.

STARK, A. N., Captain and Assistant Surgeon. Detailed to represent the Medical Department of the Army at the annual meeting of the American Public Health Association to meet in New Orleans, Louisiana, from December 8 to 12, 1902.

STONE, JOHN H., Captain and Assistant Surgeon. Relieved from duty at Washington Barracks, Washington, D. C., and ordered to proceed to Fort Leavenworth, Kansas, for duty.

STRONG, RICHARD P., First Lieutenant and Assistant Surgeon. Relieved from duty in the Division of the Philippines and ordered to report to the Surgeon General of the Army for duty in his office.

VAN POOLE, G. McD., First Lieutenant and Assistant Surgeon. Relieved from duty at the Army and Navy General Hospital, Hot Springs, Arkansas, and ordered to proceed to Fort Riley, Kansas, for duty.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending November 29, 1902:

Smallpox—United States.

	Dates.	Cases.	Deaths.
California—Sacramento	Nov. 8-15	2	
California—San Francisco	Nov. 9-10	3	
Colorado—Denver	Nov. 8-15	3	
Illinois—Chicago	Nov. 15-22	6	
Indiana—Indianapolis	Nov. 15-22	3	
Indiana—Kokomo	Nov. 15-22	1	
Kentucky—Lexington	Nov. 15-22	1	
Maine—Biddeford	Nov. 15-22	9	
Massachusetts—Boston	Nov. 15-22	36	4
Massachusetts—Clinton	Nov. 15-22	1	
Massachusetts—Weymouth	Nov. 15-22	1	
Michigan—Grand Rapids	Nov. 15-22	6	
New Hampshire—Nashua	Nov. 15-25	12	
New Jersey—Camden	Nov. 15-22	2	
New Jersey—Jersey City	Nov. 15-22	1	
New York—New York	Nov. 15-22	1	
Ohio—Cincinnati	Nov. 14-21	12	
Ohio—Cleveland	Nov. 15-22	6	4
Ohio—Dayton	Nov. 15-22	1	
Ohio—Hamilton	Nov. 15-22	4	
Ohio—Toledo	Nov. 8-22	15	
Pennsylvania—Altoona	Nov. 15-22	2	1
Pennsylvania—Erie	Nov. 15-22	23	1
Pennsylvania—Johnstown	Nov. 15-22	5	1
Pennsylvania—McKeesport	Nov. 15-22	4	1
Pennsylvania—Pittsburg	Nov. 15-22	46	7
Rhode Island—Providence	Nov. 15-22	1	
South Carolina—Charleston	Nov. 15-22	2	

Smallpox—Foreign.

Austria—Prague	Nov. 1-8	17	
Belgium—Ghent	Oct. 18-Nov. 8	10	
Brazil—Bahai	Oct. 19-Nov. 1	6	
Ecuador—Guayaquil	Nov. 1-8	2	
Great Britain—Dundee	Nov. 1-8	2	
Great Britain—London	Oct. 25-Nov. 8	6	
India—Bombay	Oct. 21-28	3	
India—Calcutta	Oct. 18-25	1	
Italy—Naples	Nov. 3-16	4	
Italy—Palermo	Nov. 1-8	2	
Mexico—Mexico	Nov. 2-16	1	2
Russia—Odessa	Oct. 18-26	1	
Russia—St. Petersburg	Oct. 24-Nov. 1	16	3
Straits Settlements—Singapore	Sept. 27-Oct. 11	3	

Yellow Fever.

Colombia—Panama	Oct. 10-17	5	
Costa Rica—Port Limon	Nov. 1-8	1	
Ecuador—Guayaquil	Oct. 26-Nov. 8	1	3
Mexico—Mexico	Nov. 2-16	2	1
Mexico—Veracruz	Nov. 8-15	16	2

Cholera—Insular.

Philippine Islands—Manila	Sept. 28-Oct. 5	32	24
Philippine Islands—Manila	Oct. 6-12	23	13
Philippine Islands—Provinces	Sept. 28-Oct. 5	9,265	5,276
Philippine Islands—Provinces	Oct. 6-12	5,658	3,274

Cholera—Foreign.

Egypt—Alexandria	Oct. 26-Nov. 1	29	32
India—Calcutta	Oct. 18-25	1	16

Plague—United States.

California—San Francisco	Nov. 15	1	1
California—San Francisco	Nov. 18	1	1

Plague—Foreign.

Australia—Queensland, Brisbane	July 1-31	1	
India—Bombay	Oct. 18-28	142	
India—Calcutta	Oct. 18-25	1	
India—Karachi	Oct. 19-26	14	9
India—Madras	Oct. 11-17	1	
Russia—Odessa	June 1-Oct. 26	49	17

Births, Marriages, and Deaths.

Married.

BIRD—FOGGE. In Philadelphia, on Thursday, November 27th, Dr. Gustavus C. Bird and Miss Ethel B. Fogg.

GIERE—PARR. In New York City, on Wednesday, November 26th, Dr. James Belden Gier and Miss Florence Beatrice Parr.

JANSON—OWEN. In New York City, on Tuesday, November 25th, Mr. Johann H. Janson, of Christiania, Norway, and Miss Susie B. Owen, daughter of Dr. Henry E. Owen.

LINTHICUM—BEALL. In Hyattsville, Maryland, on Wednesday, November 26th, Dr. Charles D. Linthicum and Miss Lizzie A. Beall.

MAGNESS—MULCRONE. In Washington, D. C., on Wednesday, November 26th, Dr. Thomas H. Magness and Miss Julia G. Mulcrone, both of Baltimore.

ROGERS—CHURCH. In New York City, on Wednesday, November 26th, Dr. C. T. Graham Rogers and Miss Mary C. Church, of Albany.

STAPLES—MARYON. In Biloxi, Mississippi, on Wednesday, November 19th, Dr. Samuel Granville Staples, of Washington, D. C., and Miss Douglas Maryon.

THACHER—LAKE. In New York City, on Tuesday November 25th, Dr. John Seymour Thacher and Miss Frances Lake.

WHITE—POE. In Baltimore, on Thursday, November 27th, Mr. Henry S. White and Miss Violet Poe, daughter of Dr. William C. Poe.

BOARDMAN—BENJAMIN. In Baltimore, on Monday, November 17th, Dr. Frank J. Boardman and Miss Etta B. Benjamin.

Died.

BENJAMIN. In Dunkirk, N. Y., on Thursday, November 27th, Dr. Mirza Nestor Benjamin, in the fifty-ninth year of his age.

BODINE. In New York City, on Saturday, November 29th, Dr. Alfred Bodine, in the fifty-fourth year of his age.

BUBIER. In Brookline, Mass., on Monday, November 24th, Dr. Joseph A. Bubier, in the sixty-third year of his age.

DUVAL. In Richmond, on Thursday, November 20th, Dr. P. P. Duval, in the seventy-fifth year of his age.

GARWOOD. In San Francisco, on Friday, November 21st, Dr. William Thomas Garwood, in the sixty-fifth year of his age.

OCHSNER. In Baltimore, on Tuesday, November 25th, Dr. Henry W. Ochsner, in the twenty-fifth year of his age.

PRICE. In Philadelphia, on Saturday, November 22d, Dr. Thomas H. Price, of Bridesburg, in the fiftieth year of his age.

SMITH. In South Orange, N. J., on Saturday, November 29th, Dr. H. Melville Smith, in the fiftieth year of his age.

OBITUARY NOTES.

MR. LENNOX BROWNE, F. R. C. S. Edin., died in London on November 2nd. He was the son of Mr. Isaac Baker Browne, a well-known gynecologist of unquestioned skill as an operator, and one of the pioneers in England of abdominal surgery, who, however, sustained great, and to some extent excessive, if not unjust antagonism, at the hands of the medical profession in England. Lennox Browne was a laryngologist of great ability, particularly skilled as a diagnostician, and was for a long time associated with the late Sir Morell (then Dr.) Mackenzie. He had an extensive practice in Bohemian circles, and it is to be feared that injudicious friends on the press by the well-meant efforts in his behalf, did much to arouse a professional antagonism to him. He had, however, many sterling qualities and great accomplishments, and there is little doubt that had he taken up painting as a profession he would have greatly distinguished himself at it. He was a voluminous writer and contributed greatly to the medical journals. Two of his best known works are *The Throat and Nose and Their Diseases*, which reached its fifth edition, and *Voice, Song and Speech*, in which he collaborated with Emil Behnke, the well-known vocal instructor. While he attracted considerable enmity among his professional brethren, he has also left many warm friends, and to the artistic world his loss will undoubtedly be very great.

Miscellaneous.

Postoperative Femoral Thrombophlebitis.—Dr. John G. Clark (*University of Pennsylvania Medical Bulletin*, July) as the result of study of a series of cases says that femoral thrombophlebitis is a very rare sequel of abdominal operations having occurred in only 35 out of 3,000 abdominal cases, and not once out of hundreds of plastic operations, save where the operation was combined with abdominal incision. From this he concludes that "there is some factor peculiar to the abdominal incision which is the provocative cause." The opinion that this complication is not due to infection is based upon the following facts: First, it is seldom if ever preceded or accompanied by a temperature significant of pyogenic infection. In many instances the temperature maintains a normal or approximately normal postoperative course, and seldom rises above 101° F., or, at the extreme, 102° F. Likewise, the pulse pursues an approximately normal course, without undue rapidity antedating the onset of symptoms of phlebitis.

It has been stated by Mahler, Wyder, and Singer that an increased frequency of the pulse may antedate the rise in temperature in phlebitis cases, and the pulse may remain rapid after the temperature falls. In fact, this peculiarity of the pulse is said by these writers to be a pathognomonic sign. This may be true of infectious cases, but it is certainly of little or no diagnostic value in the usual postoperative cases. If, therefore, this sign is a common one in infectious cases, the author's position as to the non-infectious nature of the usual postoperative cases is further strengthened, for there is no significant rise in the pulse line in these cases.

Second. The class of cases which are usually infected at the time of operation—pyosalpinx, pyometria, infected ectopic pregnancy products, pelvic abscess—and which should be followed by this sequel were the theory tenable, are represented in this list of 41 cases by only 2 cases of salpingo-oophoritis; while the surgically clean cases—such as myoma uteri (14 cases), cystoma ovarii (9 cases), and retroflexio uteri—overwhelmingly predominate.

Third. Even in infectious cases, either primary or arising after operation, there is no coincidence between the time of the infection and the appearance of the thrombophlebitis.

Fourth. It occurs with startling regularity after the eighth day, appearing most frequently about the fifteenth day after operation, showing that some slow acting and not an infectious factor is at work in its production.

Fifth. If of infectious origin, some of these patients should die, and yet in this list of cases there is not a single fatality.

With this theory eliminated he passes to the next—traumatism to the uterine vessels. But one point need be mentioned against this theory: femoral thrombosis occurs more frequently in cases in which the ovarian veins are involved than in those in which the uterine vessels are ligated or otherwise injured. As the ovarian veins empty into the renal vein on the left and into the vena cava on the right, at points high above the pelvic circulation, the injury to these vessels can in no way predispose to the formation of a femoral thrombosis.

Another very valuable point of evidence against

the ovarian or uterine vein being connected with the formation of the thrombus is that the operation may be confined solely to the appendages of one side, and yet the femoral thrombus may occur on the opposite side. Likewise this is against the theory that it is due to injury to the iliac vessels from traumatism.

As to direct traumatism to the common and external iliac veins by instrumental manipulation, the chief argument against this theory is that in cases of suspensio uteri little or no retraction may be made, so deeply at least as to touch these vessels; and yet this complication, compared with the other cases, is relatively frequent, occupying the third place in our statistics.

Finally, regarding the theory that femoral thrombosis is secondary to a propagating thrombus of the deep epigastric veins, the following substantiating points are drawn from the table of cases:

1. It occurs in cases where traumatism due to heavy retraction—as in the delivery and operation upon fibroid tumors, adherent cysts, and cancer of the uterus—may directly injure the epigastric vessels, especially by digging the end of the retractor into the under surface of the abdominal wall at a position where the deep epigastric vessels may directly be injured.

2. A relatively large proportion of cases occurs in the operation for suspension of the uterus where the peritoneum is drawn out and the ligatures passed out laterally in about the position to catch the epigastric vessels or make sufficient traction upon them to induce the formation of a thrombus.

3. The entrance of the epigastric vessels just above Poupart's ligament at right or obtuse angles to the main venous currents, along with the superficial epigastrics immediately below in the femoral, and the circumflex iliac, set up an extensive eddying or whirlpool movement essential to the propagation or formation of a thrombus.

4. The interval of from eight to fifteen days between the time of the operation and the appearance of symptoms of femoral thrombosis is accounted for by the slow growth of the thrombus in the deep epigastric, thus gradually extending until the advancing plug is thrust out into the venous whirlpool beneath Poupart's ligament.

5. The greater frequency of the occurrence of a left rather than a right-sided thrombus is doubtless due to the presence of the mechanical conditions on the left side, which still further slow and derange the femoral and iliac circulation, thus favoring the propagation of the thrombus downward into the femoral vessel.

6. Thrombi quite likely form in the epigastric vein after many abdominal operations, but only in the rare exceptions are they propagated beyond these vessels, hence the infrequency of femoral thrombi as a postoperative sequel.

7. The fact that there are on each side two deep epigastric veins which freely anastomose with one another also explains why the femoral vein is seldom reached by the propagating thrombus, for in the event of a segmental occlusion of one vein, the other, by compensation, may carry a freer blood current into the iliac vein.

8. Femoral thrombi are slow in formation, and likewise slow in disappearance, for when once formed they tend to perpetuate themselves, and only finally give way by slow liquefaction.

Pith of Current Literature.

PRACTICE OF MEDICINE.

A Case of General Pneumonic Infection in a Child of Seventeen Months; with Bacteriological Report. By Dr. H. R. D. Spitta (*British Medical Journal*, November 15th).—The author reports the case of a weakly, anæmic child, only seventeen months old, suffering from lobar pneumonia. On the tenth day the left elbow joint became tender and painful. On the seventeenth day the physical signs of empyema were noted, and pus was aspirated from the base of the lung. Culture showed the presence of the pneumococcus. The elbow joint became worse, the pleural cavity filled up again with pus, and on examination of the blood, the pneumococcus was found. On the forty-seventh day symptoms of meningeal involvement appeared—vomiting and retraction of the head—and death took place four days later. Examination of the cerebrospinal fluid also revealed the presence of pneumococci.

Concurrent Scarlet Fever and Measles in Children. By E. A. Dent, M. B. (*British Medical Journal*, November 15th).—The author reports a house-epidemic of measles and scarlet fever, in which two of the cases exhibited symptoms and signs of both diseases occurring concurrently. The rash was not typical of either scarlet fever or measles; there was no evidence of sore throat or of swollen glands. In five days desquamation set in, and large scales of epidermis peeled from his face and neck. If one disease is coexistent with another (for instance scarlet fever with measles, or scarlet fever with influenza), it is probable that the general character of the symptoms is so altered that the case is not typical of either disease, and a definite diagnosis may be impossible. A good deal has been written about the "fourth disease," which, as described, appears to have for its symptoms those which bear resemblance to both German measles and mild scarlet fever, and yet to be unlike either. The author suggests that such symptoms might be caused by the poisons of both these affections acting simultaneously.

Two Cases of Hyperpyrexia, with Recovery. By Dr. R. E. Lord (*British Medical Journal*, November 15th).—*Case 1.* A man, aged thirty-two years, exhibited when first seen the aspect of a case of severe influenza. He had previously suffered from extensive periosteitis of the humerus, which, however, had improved. His condition grew worse, and on the fourth day a mottled rash appeared on the skin. On the sixth day the patient had a convulsion and then became comatose; his temperature, which has previously ranged at 101° , rose to 111.5° F. He was put in a cold pack, and his temperature fell to 108° F. He was then put in a cold bath for forty-five minutes, and it fell still further to 101° F. Several hypodermic injections of strychnine were given during this time. The patient gradually improved, the temperature reaching normal at the end of the second week. On the eighth day the skin rash became scarlatiniform, and on the tenth day extensive peeling took place. The Widal reaction was negative. The diagnosis lay between influenza, osteomyelitis or abscess of the humerus, typhoid,

typhus, scarlet fever, and autotoxæmia. The author favored the first.

Case 2. A soldier, who had suffered from abscess of the liver, some of the pockets of which did not drain satisfactorily. Although he was feeling perfectly well, his temperature suddenly rose one night to 110° F. On being put into a cold bath, it fell to 100° F. He had no further rise of temperature and suffered no inconvenience from his hyperpyrexia. He died some months later of exhaustion.

Apparently the best, and in fact the only, chance for such cases is the prompt abstraction of heat by means of an ice pack or cold bath, and the exhibition of stimulants, of which a saline injection appears to be the best, in that it acts both as a diuretic and a diaphoretic.

The Diazo-Reaction in Pulmonary Tuberculosis. By R. de Boissière, L. R. C. P. (*British Medical Journal*, November 15th).—The author's paper is based upon a series of urine examinations made in the Victoria Hospital for Consumption, Edinburgh. He concludes that: (1) The diazo-reaction occurs in a comparatively small number of cases of pulmonary tuberculosis (18 out of 130 cases). (2) When present it is usually in cases with definite pyrexia (of 18 positive cases only one exception). (3) It is associated with an advanced stage of the disease. (4) While present in a large proportion of the very advanced cases, it is absent in a considerable number of such cases, even a very short time before death. The presence of the reaction renders the prognosis very grave. Of sixteen cases in which it was present, thirteen died. Of eighteen very advanced cases in which it was present, only four have died. It is accordingly in such advanced cases that the diazo-reaction is a valuable aid in prognosis. It affords a supplemental test of considerable value in discriminating prognostically between cases that in other respects are equally serious. Whilst the presence of the reaction is to be regarded as of grave significance, especially if it persists for any time, on the other hand its disappearance must be regarded as a distinctly happy omen.

Hypertrophic Pneumonic Osteoarthropathy. A description of this condition, as seen in a man thirty years of age, is presented by A. Mestre (*Revista Médica Cubana*, October 15th).—The prominent feature in the disease consisted in deformity of the hands and feet; the ends of the fingers being enlarged in such a way as to give them the appearance of a drumstick or clapper of a bell. The dimensions of the last phalanges were noticeably increased; and the nails, convex like a watchglass, were striated longitudinally; the nail upon the middle finger measuring an inch in its transverse diameter, and that of the thumb slightly more. A similar condition was seen in the feet. As to the general condition, eruptions upon the skin, polydipsia and polyphagia, were present. The urine was normal, but there was some decrease in the patellar reflex. The patient had suffered two attacks of pleuropneumonia; and in this respect the case bears out Marié's experience, that there is almost invariably a previous history of pleuropneumonia in this affection. Cases seen subsequently to this one have presented a like history, and the author therefore questions the propriety of relegating this affection to the domain of the neurologist;

but rather leans to the belief that the points of similarity between the Hippocratic deformity of the fingers seen in tuberculosis and that of osteoarthropathy, together with the antecedent history of pulmonary disease in the latter condition, may point to a like origin for both affections, the former being perhaps an attenuated form of osteoarthropathy.

Pure Urea in the Treatment of Chronic Pulmonary Tuberculosis. By Dr. S. V. Pearson. (*Lancet*, November 22nd).—The author has tested the urea treatment of pulmonary tuberculosis as advocated by Dr. Harper, in seven cases of chronic pulmonary tuberculosis. He summarizes the therapeutic effect of urea as follows: (1) Urea given by the mouth in patients with chronic pulmonary tuberculosis increases the output of urea; but the total increase in this output does not, as a rule, equal the total quantity administered. (2) Urea acts only to a slight extent as a diuretic; this action is variable and on the whole, untrustworthy. (3) In the output both of urea and of urine the effect produced by the administration of urea is more marked at first. After a time the body seems to accustom itself to the intake of urea and tends to return to the normal output. (4) Urea does not act as a cardiac stimulant.

A Case of Trypanosoma in a European. (*Journal of Tropical Medicine*, November 1st).—The first case of trypanosoma was reported by Dr. R. M. Forde, in the *Journal of Tropical Medicine* for September 1st. Besides the presence of trypanosomes in the blood, the patient had chronic irregular fever, enlargement of the spleen, edema of the face, and well-marked erythema multiforme. A patient presenting these same symptoms was seen in London by Dr. Manson, and trypanosoma was at once thought of. Careful and repeated blood examinations at last revealed the presence of the parasite. Thus, another distinct ailment is separated from the conglomerate mass of tropical "fevers."

Paratyphoid Fever. By N. E. Brill, A. M., M. D. (*Medical Record*, November 29th).—Paratyphoid fever is one of the comparatively new diseases, new in the sense that heretofore it has been mistaken for typhoid. Clinically, there is not much by which it can be distinguished from true typhoid. First brought to the attention of the profession in 1896, it has been gradually brought to the position of a fairly well recognized entity, there being now on record sixty-two presumptive cases. It is an infection due to a bacillus whose position is intermediate between the typhoid bacillus on the one hand and the colon bacillus on the other. Only three autopsies have so far been recorded, so that positive statements as to morbid anatomy can not be made. So far nothing has been shown that points to a specific localized infection. The morbid changes are those usually due to toxæmia and continuous pyrexia; the spleen is always enlarged. Two principal forms are to be distinguished clinically. (a) The typhoid form, (b) the gastrointestinal form. Both these forms resemble, however, what so far have been considered as cases of aberrant typhoid. Some of the chief differential points, so far as typical typhoid is concerned, are the following: No premonitory symptoms; intense early prostration; the temperature rises quite suddenly to its acme and may reach 104° or 105° F.

in four or five days; at the height of the diseases there are remissions of from two to three degrees Fahrenheit in the morning temperature; the fall of temperature is usually by crisis, or by a short lysis; the tongue is usually moist and covered with a white fur; there is less tympany and abdominal tenderness, emaciation is less, and the duration of the disease usually much shorter than in typhoid.

The Widal reaction is always absent. The diazo-reaction is at times present, at times absent. Positive diagnosis can only be made by the serum reaction and by culture. In typhoid we may have the Widal reaction, and the bacillus typhosus should be capable of demonstration, in either the stools, urine, blood, or spleen. In paratyphoid the Widal reaction will be absent, and some one of the various forms of paracolon bacilli should be capable of being demonstrated in the stools, urine, blood, or spleen. An agglutination test with the serum of the patient should also be possible if the specific paracolon culture is in stock.

Tetany in Gastric Disorders. By Lawrence W. Strong, M. D. (*Boston Medical and Surgical Journal*, November 20th and 27th).—The author records seven cases of possible tetany and then reviews the literature on the subject. The ætiology of the condition can scarcely be considered as understood; the whole subject, in fact, is in a rather chaotic condition. Dr. Strong gives the following summary of our present knowledge of the subject: (a) The condition is a symptom-complex, indicative of an increased nervous irritability, probably central in location. (b) The muscular spasm is a reflex phenomenon set loose by some mechanical stimulation such as vomiting or lavage, with possibly a direct action, in the case of pressure and electrical stimulation, of peripheral nerve trunks. The spasm, however, cannot be produced without the antecedent nervous irritability. (c) The chief factor in the diagnosis is the muscular spasm itself, affecting the arms in a characteristic manner. Other symptoms, while usually present, are not of absolute diagnostic value. (d) The ætiology of the underlying nervous excessive irritability is unknown. The theory of intoxication is the only one adequate to explain the condition.

SURGERY AND ANATOMY.

Transplantation by Exchange (A Sequel). By C. R. B. Keetley, F. R. C. S. (*Lancet*, November 22nd).—The author reports the case of a girl aged fifteen years, who had from birth suffered from a hairy mole on the left cheek. When she was but a few months old the author transferred this mole to the left arm by an operation which he calls "transplantation by exchange." The result was excellent and now, fifteen years later, nothing would point to the previous existence of the mole on the patient's face but the presence of the scar. In conclusion the author makes the following practical remarks: (1) Not only the outline of the flaps but the chief points of suture should be carefully marked before the flaps are cut. (2) The knife used to divide the skin should be sharp. (3) Twelve days are not too long to leave the arm and face in contact. (4) It is neither necessary nor desirable to cover the site of operation with plaster of Paris; on the contrary, the plaster bandages should be so applied as to leave it

freely accessible, and the dressings should be changed occasionally. (5) The stronger sutures should be of silkworm gut. (6) Care should be taken not to leave a fragment of mole behind. Cutting the flaps free is a difficult step in the operation, as they have to be cut where folded and it is in some cases difficult to get a good view. A very sharp knife should be used and a strong light should be thrown into the hollow. At the same time the skin should be carefully swabbed free from blood. (7) It should be made absolutely sure that both flaps are entirely cut through before the arm is allowed to move an inch from the face. (8) The strapping used should be old fashioned diachylon, and not the irritating plasters often sold on rollers. (9) The iodoform gauze should be well rinsed out in warm sublimate solution, 1 in 2,000. (10) No drain of any kind should be inserted between the flap and its bed; it is not necessary and may be mischievous.

Küstner's Suprapubic Transverse Incision.

—Dr. Karl Heil (*Münchener medizinische Wochenschrift*, November 11th) discusses the value of Küstner's transverse suprapubic incision for abdominal operations. Abdominal support after the operation is unnecessary and the cosmetic effect is admirable. The author believes that hernia, too, will be more easily avoided than by the usual abdominal incision. He is of the opinion that Olshausen's method of ventral fixation, combined with the Küstner incision, will prove a formidable rival to the Alexander-Adams operation. The occurrence of a postoperative hæmatoma may be avoided by the use of a sandbag after the operation.

Some Further Points Relating to Varicose Veins of the Lower Limbs. By Sir W. H. Bennett (*Lancet*, November 22nd).—Varix may be classed under three heads: (1) *Congenital varix*. The vast majority of cases of varix are congenital in origin. The prominent veins are usually first noticed at puberty, either accidentally or in the course of a physical examination. The veins are characterized by their tortuosity and irregularity of distribution, rather than by great size. The arrangement of the veins may vary from a single tortuous vessel to a nevus. True cysts are uncommon in congenital varix. The earlier a change amounting to varix is noted in the veins, the more likely is the case to be congenital. In some congenital cases the arteries are affected as well as the veins.

(2) *Acquired varix*. By this is meant a varicose condition developing in a vein which was primarily normal. It is doubtful whether a really normal vein can be made varicose by any ordinary strain which can be thrown upon it after adult life has been fully reached. Blocking of veins by thrombosis, traumatism, or pressure from a tumor, will produce large collaterals which are "varicose." The ordinary uncomplicated varix, which increases without obvious cause, is invariably due to changes in veins which are congenitally defective, or which have been subjected to unreasonable strain in early life. The most prolific cause of uncomplicated varix of the acquired type is unreasonable training or athletics at school. The changes thus brought about are often not apparent until some years subsequently, when the growth of the individual ceases.

(3) *Intermediate varix*. In these cases a congenital defect in the veins has been increased by injury or strain. Varix of this kind provides the largest number of cases giving rise to trouble. Setting aside isolated or well-defined patches of varicose veins disposed erratically about the limbs, the distribution of varix is primarily arranged over three main areas: (a) Along the line of the internal saphena vein, (b) along the line of the external saphena vein, and (c) along the outer side and back of the thigh. This last area of varix is of vast importance in reference to complications connected with pregnancy and pelvic troubles in women.

The main troubles arising from uncomplicated varicosity in the lower limbs are: (1) *Pain*. This is of two kinds: (a) a sharp pain along the line of the saphena veins, which comes on early in the day and becomes gradually worse, the cause being a neuralgia of the long or external saphenous nerves; it is met with only in increasing varix of the acquired variety; and (b) a dull, heavy pain, felt generally throughout the limb, and with an accompanying sensation of weight and tension, with general hardness and engorgement of the part; it commences in the foot and runs upward, and is commonest in congenital cases which are increasing in severity from accidental causes: there is no oedema. (2) *Tension and weight*. These are generally associated with the steady growth of the defect in congenital cases. There is no pain, but a sense of weariness, and some stiffness on arising in the morning, indicative of serious increase in the condition in the deeper parts of the limb. (3) *Oedema*. This is met with in two forms: (a) commencing in the foot, and gradually involving the whole limb; and (b) commencing in the thigh along the inner, posterior, and outer aspects may remain almost entirely limited to the limb above the knee. The former, which is more common, is associated with increasing general saphenous varix; the latter is connected with varix arising from pelvic causes in which the tributaries of the internal iliac vein are concerned. The former disappears rapidly on the patients assuming the recumbent posture, the latter does not. In varix the inclination to repair is very strong during growth, but is frequently suspended when growth is complete.

Varix rarely becomes obvious before puberty. In congenital cases the appearance of the varix is invariably prior to the occurrence of symptoms arising from it; in the acquired kind feelings of discomfort, such as pain, weight, and leg weariness, generally precede the manifestation of the altered veins and call attention to them. Varix making its first appearance after twenty-five years of age is invariably due to very exaggerated strain, to thrombosis, to laceration of vessels, etc.

Methods of treatment. (1) Non-operative.

(a) Hygienic; scrupulous avoidance of constipation, the use of tightly fitting linen drawers, and the avoidance of extremes in the temperature of the daily bath. (b) Manual: this means massage, which, if intelligently applied in early increasing varix in growing people, frequently entirely checks the progress of the defect. Rubbing the varicose part night and morning with alcohol frequently brings about remarkable improvement. Massage should be applied daily; only smooth rubbing is admissible along the line of the large varicose vessels; during part of the daily mas-

sage the limb should be horizontal, during the rest of the time vertical. (c) Mechanical supports: Stockings or bandages should never be used in cases that are giving no trouble; a well-applied porous bandage (*crêpe Velpeau*) is the best form of support; the unperforated rubber bandage should never be used. If stockings are used they should fit with absolute accuracy and not be too tight.

(2). *Operative treatment.* Localized masses of congenital varix, cystic dilatations, and aberrant varicose veins in exposed places, should be dissected out. In general saphenous varix the cure of the condition may be effected by the removal of a portion of the long saphenous vein high up in the thigh. In the external femoral set of varicose veins operative measures are only useful when the communication with the saphenous veins below is free.

OBSTETRICS AND DISEASES OF WOMEN.

The Importance of a More Careful Examination and Treatment of Women After Childbirth. By B. C. Hirst, M. D. (*American Medicine*, November 29th).—The author asserts that the medical profession itself is responsible for five-sixths of the diseases of women as we see them to-day. Most of those that are the consequences of childbirth can be prevented or cured before they affect the individual's health. Every woman should be subjected to three examinations after labor: the first, within forty-eight hours, to detect injuries to the parturient tract; the second, before she leaves her room, to determine the position of the uterus; the third, at the end of six weeks, to observe the condition of all the pelvic organs and structures of the abdominal walls and coccyx and the position of the kidneys. A woman should be left in as good condition after childbirth as she was before. In the maternity department of the Hospital of the University of Pennsylvania there is a perfect equipment for pelvic and abdominal surgery. Not one woman there delivered, if she takes the advice given her, leaves with any of the injuries of childbirth, such as subinvolution, uterine displacements, diastasis of the recti muscles, injury of the coccyx, etc. The ordinary injuries due to lacerations are repaired after the first examination (within forty-eight hours). Special attention is called to the following: "All injuries of the cervix have been repaired without exception in the University Maternity for several years past. We find forty-eight hours should elapse after labor before closing the lacerations of the cervix. We can then secure a successful result whatever their extent or number, unilateral, bilateral, or multiple. If there is some reason, such as infection, against early operation, the operation should at least be performed before or at the completion of the puerperium." For the past year Dr. Hirst has also been restoring the muscles of the urogenital trigonum (Waldeyer) in the anterior vaginal sulci. If this injury is neglected it is said to result in a cystocele. The technics of this little operation is given. The author believes that if all classes of society can secure the same good treatment which the poorest classes are obtaining in the best of our modern maternity hospitals, an advance will be made in medicine which will rank with vaccination, anæsthesia, and asepsis.

Palliative Treatment of Uterine Cancer by Ligation of the Hypogastric and Ovarian Arteries.—Professor Krönig (*Centralblatt für Gynäkologie*, October 11th) calls attention to the fact that the usual method of palliative treatment of inoperable uterine carcinoma by curetting and cauterizing the mass, is often useless and sometimes dangerous, by entering the bladder, rectum or peritonæum. In such cases, a bilateral ligation of the hypogastric and ovarian arteries can be recommended. The hypogastric can be best tied as it leaves the common iliac, and silk should be employed. The ovarian is tied at its entrance into the broad ligament. Of late, Krönig has ligated the artery of the round ligament also, to prevent, as far as possible, the establishment of a collateral circulation. The bleeding from the growth usually stops very promptly. In some cases curetting may be indicated also. The ligation can be carried out in a few minutes in those cases in which the growth is found to be inoperable when the abdomen is opened for the purpose of a hysterectomy.

Permeability of the Tubes.—Professor Ahlfeld (*Centralblatt für Gynäkologie*, October 11th) reports the case of a single woman with a retroversion. On two successive occasions, the uterine sound entered ten cm. beyond the fundus when introduced toward the left horn. A few days later, the abdomen was opened for a neutral fixation, and no wound or scar of the uterus could be seen. The only explanation which Ahlfeld is willing to assign to the passage of the sound is that it entered the left Fallopian tube. The tube was not unusually large, nor even larger than the right one.

Fœtal Theory of the Causation of Eclampsia.—Dr. J. M. C. Mouton (*Centralblatt für Gynäkologie*, October 18th) recalls the fact that Fehling, in 1899, first promulgated the theory that fœtal toxins entering the maternal circulation could, under certain conditions, evoke eclamptic seizures. Van der Hoeven enunciated the same notion as early as 1896, contending that the toxæmia arose through overwork on the part of the kidneys which were, after a certain time, unable to cast off the catabolic products of mother and child. An accumulation of toxic products thus arose with the well-known consequences. Van der Hoeven supports his contentions by citing the frequency of eclampsia in cases of twins, and the cessation of the seizures with the emptying of the uterus.

NERVOUS AND MENTAL DISEASES.

The Use and Abuse of Bromides in the Treatment of Mental Diseases. By A. R. Defendorf, M. D. (*American Medicine*, November 29th).—The author sounds a warning against the indiscriminate and large dosing by bromides in all forms of mental diseases. The histories of five unusual cases are given. The symptoms of bromism are usually described as consisting of great somnolence, depression of spirits, sluggishness of mental processes, insensibility of the skin and mucous membrane, abolition of sexual function and deep reflexes, fœtid odor of the breath, muscular weakness, dilated and irresponsive pupils, ptosis of eyelids, cachexia, and yellow skin. In severe poisoning the symptoms are paralysis of motion, sensation, and often mental processes, stupor,

depressed circulation, slow easy respiration. Death may ensue. The unusual symptoms noted in the reported cases were: Exaggeration of the deep reflexes (all cases); ankle clonus (two cases). The bromide eruption may appear late or not at all and cannot therefore be a guide to dosage. The somnolence, progressing to coma, was absent in all but one case. Two patients had marked hallucinations, and one patient even hallucinations of taste and smell. Further, bromides have been known to produce marked irritability, with outbursts of temper and suicidal attempts, this principally in epileptics; Chapin holds the bromides responsible for a considerable number of the hopeless epileptics; Alexander has noted pronounced aphrodisiac effects; Mitchell reports one case of melancholic depression at the menstrual period.

The value of bromides in insanity is very limited. The drug finds its best use in acquired neurasthenia, insomnia, inner nervous tension, manic-depressive insanity, and in those forms of mental disease which seem to bear a close relation to sexual excitement, particularly if this is periodic. In general it is useful in cases of mental excitement in which motor excitation is the primary factor. The bromides are contraindicated in dementia præcox, general paresis, and exhaustion psychoses. In these later cases, especially, supportive and not depressant treatment is needed. In the mental excitement of manic-depressive insanity the bromides should be combined with chloral, sulphonal, trional, cannabis indica, etc. Such treatment is, however, palliative merely. It is better practice to accomplish this same end by the prolonged warm bath, by bed treatment and the psychological influence of a tactful and experienced nurse. Hare has this to say of the bromides: "I know of no other drug, with the exception of those that produce habits, such as morphine, cocaine, etc., that is so enormously outraged as the salts of bromine are."

The Surgery of Brain Tumors From the Point of View of the Neurologist, with Notes of a Recent Case. By Charles K. Mills, M. D. (*Philadelphia Medical Journal*, November 29th).—Dr. Mills puts in a plea in favor of continued operative intervention in cases of brain tumor, notwithstanding the large percentage of the resulting failures. Cases should be carefully chosen and methods should be more precise. When an operation is followed by complete or large subsidence of symptoms and a fair guarantee against recurrence, it should be called a success. Fibromata, encapsulated fibrosarcomata, inert gummata, and occasionally other forms of neoplasms give the most grounds for hopeful results. The causes of failure in operations for brain tumor are: (1) mistakes in localization; (2) lack of exactness in fixing the cranial areas for operation; (3) excessive hemorrhage; (4) concussion, and even contusion, of the brain in osteoplastic operations with chisel and mallet; (5) prolongation of operations; and (6) the sudden disturbance of the balance of pressure in the skull by the removal of large hard tumors. The elements of success are the reverse of these six causes of failure. Specifically, the following points are of importance: (a) Accurate localization by the neurologist; this can now often be greatly aided by the X ray. (b) Greater care by the sur-

geon in defining the field of operation and getting his landmarks. This is best done by the use of the Anderson-Makins method of locating the chief cranio-cerebral landmarks, and by the use of some such method as the one advised by Dr. Mills for accurately mapping out the flap and its base line. (c) The making of a large opening. The large osteoplastic operation is the only operation that should be employed for the removal of brain tumors. Cerebellar tumors form the exception. The Stellwagons trephine is the best instrument to use. The ordinary trephine, with or without the aid of a rongeur, or the chisel and mallet, is not to be recommended for this purpose. Tumors of the cerebellum, cannot be attacked in any routine way. The details of an operation with the clinical report of a case are given. The operation itself was performed by Dr. W. J. Hearn, the location of the flap and its size, etc., was according to the system proposed by Dr. Mills.

Cases of Acute Disease of the Nervous System.

By Dr. J. Barr (*British Medical Journal*, November 22nd).—The first case reported by the author was one of what he terms serous apoplexy, occurring in a woman aged fifty years. In such cases of sudden effusion into the ventricles recovery usually takes place, but occasionally a fatal case occurs, in which, during life, marked cerebral symptoms were noted, and at the autopsy the only abnormality to be found is a watery condition of the brain. The symptoms in these cases very closely resemble those of cerebral hemorrhage, but the paralysis is rarely absolute and the onset more gradual, like that of thrombosis. The condition of the circulation absolutely differentiates the two classes of cases; in serous effusion the blood pressure is invariably low, whereas in sanguineous apoplexy it is high. The former occurs in the badly fed, poorly nourished, and overworked individuals, and the latter in *bons vivants*, cases of Bright's disease, and of high blood pressure in atheromatous vessels. In the case here reported the cerebral effusion was preceded by febrile disturbance, cardiac asthenia, and exhaustion of the nervous system, but in other cases the development is more rapid and the effusion occurs without any premonition. It is important to recognize these cases, as the treatment is the exact opposite to that of cerebral hemorrhage. The general blood pressure must be raised and the velocity of the circulation increased, the best drugs for the purpose being digitalis and caffeine. If there is any elevation of temperature it should be reduced by the application of large ice bags to the abdomen. The bowels should be kept open but not purged. When consciousness returns and the patient is able to swallow, he should be well fed with a light nutritious diet. The associated and causal conditions should receive necessary attention. A sinapism or fly blister to the nape of the neck does good. The further treatment consists of mental and bodily rest, good food, and a long holiday. The second case was one of acute staphylococcus infection occurring in a man aged nineteen years. When first seen the patient was paraplegic, and had incontinence of urine and feces. The case more closely resembled one of Landry's paralysis than anything else, and the prognosis was hopeless until staphylococci were discovered in the cerebrospinal fluid.

OPHTHALMOLOGY.

Photography of the Retina.—Dr. W. Thorner (*Berliner klinische Wochenschrift*, October 27th) has perfected an apparatus for photographing the retina of animals which have the layer of much greater light intensity than that of man, as the cat. The photographs show a great many details especially of the retinal vessels, as the right-angled crossing of arteries and veins and the thickness of the vessels which can be measured with great accuracy. In this way experimental results can be noted, such as the changes in growth, the action of various drugs, of thermal and electrical influences, nerve irritation or section of nerves on the living animal. The apparatus is described in full.

LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

The Treatment of Early Cancer of the Larynx by Thyrectomy, With an Account of Two Successful Cases. By Dr. E. S. Yonge (*Lancet*, November 15th).—Epithelioma of the larynx is at first intrinsic, taking origin from a vocal cord or ventricular band, and is confined for a considerable period within the laryngeal cavity. Moreover, involvement of the lymphatic glands is usually absent or late in making its appearance, so that the importance of recognizing the disease in its early stages is great; it is at this time that the simple procedure of thyrectomy is applicable, and is likely to be followed by brilliant results. The disease is radically extirpated, the voice is markedly restored, and the risks and disadvantages of total or partial laryngectomy are largely avoided. The most characteristic symptom of early laryngeal malignant disease is a persistent dry hoarseness, particularly if occurring in a person over fifty years of age. Pain on swallowing, glandular enlargement, cachexia, and blood-spitting are generally to be regarded as contraindications to thyrectomy. The early hoarseness will be found to resist ordinary treatment, and careful laryngoscopic examination will show the presence of a growth. It may be necessary to remove a piece of the suspected growth for examination. The author reports two cases of cancer of the larynx in which he performed thyrectomy with satisfactory results. The patients recovered their voices and there have been no signs of recurrence.

GENITO-URINARY DISEASES.

A Plastic Substitute for Circumcision.—Dr. S. F. Long (*Pacific Medical Journal*, October) in a paper recently read before the San Francisco Clinical Society, described a new operation for circumcision, which consists essentially in excising a cone-shaped piece of the skin, with its base at the pubes, from the dorsal surface of the penis, when by drawing back the upper curved margin of the incision and stitching it to the basal edge, the foreskin is retracted from the glans. The operation is as follows:

The covering of the penis being in the form of a cone-shaped tube, with its apex inverted forming the inner or mucous lining covering the glans, and attaching itself back of the corona, it becomes necessary simply to shorten the tube in order properly to uncover the glans. This is easily accomplished by

making the reduction at the base instead of the apex, as under the old method. The section of skin to be removed is in the form of a triangle with each of its points rounded.

The operation may be done under local or general anæsthesia, a one-per-cent solution of cocaine answers admirably, carefully injected in small quantities about the site of the operation. I prefer to have the hair clipped off quite short with scissors, and shave only the site of the operation, as the patient is more comfortable during the reproduction of the hair. The parts should be thoroughly washed and rendered as aseptic as possible. The cocaine is now injected, and the patient soon ready for the operation.

The operator should carefully measure by drawing the skin back and ascertaining exactly how much shortening is necessary. If we remember that the foreskin is double we shall find it will greatly aid us in estimating the exact distance. For example, if the foreskin is one inch in length from the corona glandis to the end, then we should denude two inches from the base along the dorsum to the point of measurement, to account for the mucous membrane which is also an inch in length. Having ascertained the amount to be removed and marked the points on the dorsum and on each side at the base by clipping them with small forceps we proceed with a sharp scalpel to outline the section to be removed. Beginning at the juncture of the organ with the pubes and extending around either side about two-thirds the circumference, passing around the first marking forceps and including it in the piece to be removed, with a neat curve we proceed in a direct line to the dorsal forceps passing around it and thence down the other side encircling the other lateral forceps, and up to the point of beginning. The section of skin should be carefully dissected off leaving the fascia and blood vessels undisturbed. The parts are now approximated and the stitches put in, completing the operation. Dr. Long prefers medium silk sutures, of best aseptic quality, placing the first stitch in the dorsal median line, and as many interrupted stitches as are necessary to close the sides.

Any simple aseptic dry dressing is all that is necessary, held by a suspensory bandage. The suspensory bandage is advised in preference to the perineal, as the latter frequently gives discomfort and is in the way. This operation can be made perfectly aseptic, and can be done without laying the patient up. If the foreskin should be a little tight it can be easily brought over the glans after the operation for a few hours, or until any constriction is relieved, and after a few days it will be amply dilated. In cases where the foreskin is very tight, it would be advisable to dilate gradually for a few weeks before operating, and when this cannot be done the author advises gentle and complete dilatation under anæsthesia, at the time of operating.

It is very necessary to be particular about the measurements, as the tendency is to remove too little rather than too much skin. The foreskin, as previously mentioned, being double, is very deceptive, and, unless great care is exercised, it will still be too long after the stitches are in. In the old method, the foreskin is drawn well down and excised, so that it falls back of the corona glandis, and the mucous

membrane is split up and rounded off to fit, without any regard to measurements.

The author claims many advantages for this operation over the old, viz.: The delicate grading of skin with mucous membrane has not been disturbed; sensitive nerves are not severed; there is no hæmorrhage except the very slight oozing from the capillaries of the severed skin; circulation has not been interrupted and œdema avoided; the wound can be made aseptic and less painful: the dressings do not become soiled or wet by the urine, and may remain until union is complete; the slight scar is covered by the hair, as it is reproduced; the operation is more easily done, and the wound is healed in half the time required by the old method.

CUTANEOUS MEDICINE AND SURGERY.

Ætiology of Alopecia Areata.—P. Vilanova (*Revista de Ciencias Médicas de Barcelona*, Year xxviii, No. 8) discusses the parasitic and neurotrophic theories concerning this affection and reviews the literature bearing upon both. The favorable results attending a change from treatment with parasiticides to tonic treatment combined with gentle massage of the affected area for ten minutes, three times daily, and application of a stimulating lotion upon retiring, have converted the author to the belief that the condition depends upon tropic disturbance.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Hyoscine in the Treatment of Drug Habit. By Howard C. Russell, M. D. (*Medical Record*, November 29th).—A man, thirty-three years old, a user of morphine for five years, in quantities as great at one time as sixty grains a day, and during the last year a user of both morphine and cocaine to the extent of at least thirty grains each a day, is reported to have been cured of his drug habit in about twenty days by the hypodermic use of hyoscine hydrobromide in doses of from 1,100 to 3-200 of a grain, with the addition of a little strychnine and a little digitaline. A total loss of desire for either drug was attained by the treatment in nine days of drug giving and fourteen days of elapsed time. There were no disagreeable symptoms. Dr. Russell expresses the belief that the man is permanently cured. The treatment administered is given in detail.

Poisoning by Purgative Dose of Calomel.—M. R. da Silva (*Gazette hebdomadaire de médecine et de chirurgie*, November 2d) reports the case of a vigorous woman, thirty-four years of age, a morphinomaniac, who presented the symptoms of bronchopneumonia and obstinate constipation. Owing to her anorexia and constipation and her expressed inability to take salines or oil, the author prescribed twelve grains of calomel and five grains of scammony, to be taken in two doses. Two days later the patient presented a violent stomatitis, a fetid breath, pronounced salivation and enlargement of the submaxillary glands,—a picture of hydrargyrim. The author advises care in the administration of the drug, which is of great therapeutic value. [Twelve grains of calomel, and less, have frequently evoked symptoms similar to these. Probably few persons could take this quantity with impunity.]

Serumtherapy.—M. Zúñiga (*Gaceta Médica de Costa Rica*, September 15th) takes up that part of this subject which deals with sodium bromide and gelatin incorporated in artificial saline serum, as applied to obstetric practice. The former he has used with great success for the alleviation of pain in parturition and in the abortion of eclampsia; given hypodermically in the proportion of sodium bromide 60 grains, and artificial saline serum (10 in 1,000) one pint. Gelatin, he believes, has a wide application in obstetrics for the prevention and control of hæmorrhage. As a routine practice Zúñiga limits the diet of pregnant women with a history of albuminuria, hæmophilia, or other condition suggesting hæmorrhage during parturition, to foods largely composed of gelatin, during the last two weeks of pregnancy; and upon the onset of premonitory symptoms of labor, he gives a hypodermic injection of the following: gelatin, $\frac{1}{2}$ a drachm; artificial saline serum (10 in 1,000), one pint. This treatment has proved most successful in his hands and has averted post-partum hæmorrhage in those who had previously suffered from that affection. For the control of post-partum hæmorrhage, when it does occur, the doctor uses a hot intrauterine injection of this serum, to which is added a small quantity of carbolic acid, and he follows the injection with vaginal packing, the cotton used for this purpose being first saturated with the gelatin serum.

PHYSIOLOGY AND PATHOLOGY.

Value of Elastin Staining in Histological Diagnosis.—Dr. B. Fischer (*Münchener medizinische Wochenschrift*, October 28th) illustrates a case in which the staining of the elastic tissue, in addition to the usual nuclear stains, was of advantage in pointing out the malignancy of a growth. In the specimen in which Weigert's stain for elastin was the lumen of a small blood vessel was seen; in the specimen in which Weigert's stain per elastin was employed, it was seen that the vessel was of large size and had been almost entirely encroached upon by the neoplasm, only the elastic tissue of the former vessel remaining. The author insists upon the value of this method of staining specimens in making early diagnosis of carcinoma and sarcoma.

Clinical Notes Concerning the Short Bacillus of Diphtheria.—The opponents of antitoxine point with no small satisfaction to cases of diphtheria cured without serum treatment. M. R. Casabó (*Cronica Médico-Quirúrgica de la Habana*, October) believes such cases to be the mild ones in which the pathogenic agent is the short bacillus that Martin describes in his classification of the varieties of diphtheria bacilli, as groups of short bacilli arranged parallel to one another, and generally benign. In five cases which came under Casabó's observation, microscopical examination showed the lesion to be due to the short bacillus, and the disease ran a benign course without serum treatment, which it was inexpedient to use for various reasons. The author states, however, that a guarded prognosis should be given, even in this form of diphtheria, as it has been shown that the short bacillus may acquire a greater virulence in certain media; and individual resistance plays an important part in the course of the disease.

Ossification of the Cricoid Cartilage.—A most unusual case seen in the hospital service of D. E. V. Segura (*Anales de Sanidad Militar*, Year IV, No. 7) is described as follows: The patient, a man with good family and personal history—aside from repeated inflammatory affections of the throat—complained of constant pain in the throat, especially on swallowing, during a period of five months, when to this symptom were added tenderness on pressure in the region of the cricoid and severe pain, increased by deglutition. Shortly after the appearance of these symptoms, hoarseness, difficult respiration and cough with expectoration set in. Laryngoscopic examination revealed no abnormality save a general thickening of the walls and consequent narrowing of the subglottic region. The patient's pain and respiratory distress continuing, laryngotomy was decided upon, which showed the entire right half of the cricoid cartilage converted into an osseous sequestrum; while the left half retained its cartilaginous form. The sequestrum was removed and the wound kept open for ten days, when it was sutured, and complete recovery followed; voice and respiration becoming normal within three weeks after the operation.

Temperature of Nurslings.—M. Weill (*Lyon médical*, November 9th) finds that the morning and evening temperatures of infants nursing at the breast vary but little, one-tenth of a degree as an average; the digestive functions are usually good, and the infant gains continually in weight. Artificial feeding, especially with cow's milk, induces a curve broken by several tenths of a degree, the evening temperature usually being the highest. An infant fed on ass's milk tends to have an even temperature. As a general rule, the breast-fed infant has a temperature between 98.3° F. and 99° F., or in the case of prematurely born children, it may be between 96° F. and 97° F., as also in those infected with syphilis or infantile atrophy. If such an infant tends to run an even temperature, its recovery is likely; but if the temperature curve becomes irregular and never reaches 98.3° F., its death is certain. The differences in temperature noted are probably due to nutritive changes, being perfect in breast-fed infants and less so in the artificially fed.

Leucocytosis in Infectious Diseases.—M. F. Bezançon and M. M. Labbé (*Presse médicale*, November 8th) conclude that the greater number of the infectious diseases are accompanied by a leucocytosis; more frequently this is a multinuclear leucocytosis, but sometimes it is uninuclear. In the saprophytic infections a hyperleucocytosis with multinucleosis is mainly observed, as in localized inflammations, suppurations, erysipelas, pneumonia, etc., while in gonorrhoea, diphtheria and scarlatina, there is an accompanying excessive fibrinosis. The specific infections, like syphilis and tuberculosis in certain stages, are characterized by a leucocytosis with uninucleosis. Variola and varicella produce very large leucocytes. Typhoid and typhus fevers and malaria show a leucopenia with a relative uninucleosis.

The curve of the leucocytosis is usually parallel to that of the disease. The return to the normal is preceded by some special modifications of leucocytic forms—uninucleosis, the appearance of transitional forms, and especially the reappearance in great num-

bers of eosinophiles, which disappear at the beginning of the disease. Each infectious disease does not possess a particular hæmoleucocytotic formula. The blood formula is valuable only as a symptom and its study serves as an aid to diagnosis. This study has a value as to prognosis: a leucopenia is a sign of extreme gravity and indicates an insufficiency of reaction of the hæmatopoietic organs, while an intense or medium hyperleucocytosis indicates an attempt of the organism to defend itself against invasion. Finally, the infections with multinuclear leucocytes which give evidence of a transitory effect of the body to fight the disease, confer only a temporary immunity; but those accompanied by a uninuclear leucocytosis, which necessitate a more prolonged effort on the part of the organism, confer permanent immunity.

Some Experiments on the Immunization of Cattle Against Tuberculosis. By Leonard Pearson, B. S., M. D., and S. H. Gilliland, V. M. D. (*Philadelphia Medical Journal*, November 29th).—From a series of interesting experiments conducted by the State Live Stock Sanitary Board (of Pennsylvania), for the purpose of investigating the possibility of immunizing cattle from tuberculosis, certain important preliminary conclusions seem warranted: (1) That after repeated intravenous injections of cultures of tubercle bacilli from human sputum the resistance of young cattle to virulent tubercle bacilli of bovine origin may be increased to such an extent that they are not injured by inoculation with quantities of such cultures as are capable of causing death or extensive infection of cattle not similarly protected. (2) That intravenous injections of much larger quantities of culture of human sputum tubercle bacilli than are necessary to confer a high degree of resistance or immunity, upon the vaccinated animal may be administered without danger to that animal. Experiments are now under way to determine the duration of this immunity and the extent to which it is effective in protecting cattle against infection from natural sources. Further experiments are under way to settle the question of the minimum quantities of culture of non-virulent tubercle bacilli that it may be necessary to administer in order to confer a serviceable degree of immunity, and also to simplify if possible the present process of the vaccination.

Primary Carcinoma of the Liver; Very Rapid Growth; Great Emaciation With Increase in Body Weight; Marked Pyrexia; Duration Four Months (?); Death. By Dr. T. D. Acland and L. S. Dudgeon, M. R. C. P. (*Lancet*, November 15th). The authors report a case of primary carcinoma of the liver occurring in a boy aged fifteen years. He had suffered from at least three severe blows on the abdomen within fifteen months of the onset of his fatal illness. He complained at first of cough and loss of weight, and there was a large tumor in the right epigastric region, which was first noticed three months previously. The boy's condition grew steadily worse, the tumor mass increased in size, and he died about four months after the beginning of his illness. Although extremely emaciated, yet his body weight increased while under observation, probably due to the enormous progressive enlargement of the liver and to ascites. The nature of the affection was not recognized before death, it being taken for a subdiaphragmatic abscess, abdominal or liver abscess, or

hydatid disease of the liver. At the autopsy the liver was found greatly enlarged, being little more than a mass of cancerous new growth. There were moderate secondary deposits of growth in the lungs and abdominal glands. The case is interesting because of the youthful age of the patient and the nature of the growth, the rapidity of the growth and its addition to the body weight, and because of the presence of considerable fever and the absence of jaundice.

Primary cancer of the liver is rare in the earlier years of life. As a rule there is no fever, unless there is some intercurrent complication. Jaundice and ascites are inconstant symptoms. The course of primary neoplasms of the liver is much more rapid than when the growth is secondary. They occur in three forms: (1) *Cancer massif*, where there is only one large single tumor, usually in the right lobe. General metastasis is not common. (2) Infiltrating carcinomatous cirrhosis. In these cases the liver is more or less enlarged, and the surface is warty, the disease infiltrating the organ. (3) Cancerous infiltration of Glisson's capsule. This is a rare form which arises from the larger bile ducts. Histologically the disease is either a cylindrically-celled adenocarcinoma, or a simple or medullary form with solid cell nests. Metastases are rare, and when they do occur, are usually in the lungs. Little is known with certainty as to the origin of primary carcinoma of the liver.

Alimentary Glycosuria and Lævulosuria in the Diseases of the Liver. By Professor Luigi Ferrannini (*Riforma Medica*, September 6th).—In order to apply the researches of various observers who have found alimentary glycosuria and lævulosuria in patients with diseases of the liver, the author examined all the patients with liver diseases in his clinic during the past year. In each case he administered 100 grammes of glucose and 100 grammes of levulose in 500 grammes of water, and tested their urines for glucose and levulose, resorting in cases of doubt to Reale's method for determining the presence of small quantities. He obtained positive results with these tests in all cases except one, in which a syphilitic subject showed a chronic jaundice, but in all the other fifteen cases the levulose test was positive, while the glucose test was positive in ten, and negative in the other five. Of these cases, in seven, Reale's method of examining for glucose had to be used, the amount of sugar being very small, but in the levulose test only in four cases was the use of this test necessary. Lævulosuria therefore, rather than glycosuria, is a proof of hepatic disease, and that the test should be made in preference with levulose.

An "Undescribed" Hæmatozoon Met With in the Malay Peninsula. By Dr. S. T. Clarke (*Journal of Tropical Medicine*, November 1st). In a preceding number of the *Journal of Tropical Medicine*, Dr. W. L. Braddon describes a new organism as the most frequent hæmatozoon to be met with in the Malay Peninsula, and gives it the name of "mycoid." It is to be demonstrated by a process of wet staining, whereby a mixture of blood with a solution of methylene blue in a one per cent. solution of potassium citrate is passed between a slide and cover-glass by capillary action. Dr. Braddon considers

it an important cause of fever. The present author has investigated the question and finds that: (1) Mycoids are present in almost every blood examined. (2) In fever cases the ordinary malarial organisms can almost always be found. (3) When periodicity is present, it depends upon the malarial organism present. (4) Most mycoids are found in anæmic cases. (5) Though quinine cures the fever, the mycoids persist. From his examinations of the blood of an unborn of an amphibian, a bird, and a mammal, he concludes that the mycoid filaments are the remains of the branching in some cases, or the breaking up in others, of the original nucleus; that red cells have all a nuclear origin and an undoubted cell membrane, which is originally connected with the nucleus, but perhaps is ultimately separated by the growth of the cell, during which process in mammals the remains of the nucleus are completely absorbed.

Ankylostomiasis; Is Pigmentation of the Tongue an Early Sign? By P. H. Delamere, L. R. C. P. (*Journal of Tropical Medicine*, November 1st).—The author calls attention to the presence of blue-black or brown marks on the tongue in cases of ankylostomiasis, and suggests that such pigmentation of the tongue is of diagnostic value. The marks may be very few and small, or they may take the form of a bluish strip down one side of the tongue. In fourteen cases with such pigmented tongues, the administration of thymol caused the passage of ankylostomes. Malaria also marks the tongue, but only in advanced anæmic cases; the patients here mentioned were not anæmic, gave no other signs of ankylostomiasis, and did not have malaria.

On the Presence of the So-called Acidophile Bacteria in the Fæces of Adults.—Dr. Angelo Cipolina (*Gazzetta degli ospedali e della cliniche*, October 5th) has isolated from the fæces of adults four species of germs that grow more favorably on acid media and are therefore acidophile. Finkelshtein, Moro, Escherich, and Rodella have long since isolated acidophile germs from the fæces of nurslings, but no investigations have been published as regards the same germs in the flora of the adult intestine. A culture tube filled with glucose broth to which one per cent. of acetic acid had been added was inoculated with fæces from adult patients. After twenty-four hours, this broth was always found turbid; the fecal residue was always at the bottom of the tube. Then the culture was transferred to neutral glucose broth, and finally into sterilized milk. The author described, as the result of these researches, four species of germs: (1) The bacillus of lactic acid, (2) The filiform acidophile bacillus, (3) The common acidophile bacillus, and (4) The acidophile diplococcus. These four species, while presenting differential characters, had various characteristics in common, such as the property of growing in acetic acid broth, the property of staining with Gram's stain, and the tendency of growing sparsely upon the ordinary solid media. A certain connection between the presence of the bacillus of lactic acid and disturbances of the gastrointestinal tract was present, but no such connection was found in the case of the common acidophile bacillus. Nothing definite can as yet be said of the other two species, because each of them was isolated only in one case.

Book Notices.

Mental Growth and Control. By NATHAN OPPENHEIM, M. D. New York and London: The Macmillan Company, 1902. Pp. ix-296. (Price, \$2.)

According to the Prefatory Note, this little work is one of a short series of small volumes intended to fulfil the mission of the old time books of counsel, now obsolescent, that in the past century taught young men and women how best to shape their ideals and their lives. That mission is equally imperative to-day, but the methods and environments of to-day are not those of fifty years ago, and a readjustment must be made if the mission is to be fulfilled. The present excellent little work is the result of such a readjustment, and may be called an elementary textbook of applied psychology. It attempts to lead the non-technical reader step by step to a clear understanding of mental operations and the interaction between them and physical conditions. And in our opinion the attempt attains a great measure of success. The work is divided into twelve chapters, dealing respectively with the growth of character; the mind as a machine; the power of attention; what association means; the uses of instinct; memory and its development; the bonds of habit; hypnotism and suggestion; imagination, the enlightener; the emotions and their education; reasoning, the guide; and will, the controller. Where all is good it is hard to particularize, but we should certainly select the chapter on association as much needed in the course of general instruction, and as giving admirably expression to a difficult subject. The author's method is excellent, his lucidity is such that the reading of the book is a delight, and his language is clear, forcible, and exceptionally near to the best classical models of English expression.

In illustration he is felicitous to an unusual degree.

The work does credit to both author and publishers. It should be in the hands—and in the head—not only of all young people arriving at adult age, but also of all who have to do with the training of youth, parents as well as teachers.

The Physicians' Protective Accountant. Chicago: The Clinic Publishing Co. (Price, \$2.)

This is a new system of records and accounts for physicians, and seems likely from its combined simplicity and efficiency to become very popular. It consists of visiting list and ledger, differing from those ordinarily in use in the following particulars: Each visiting list page contains two vertical columns, one for each of two patients. The patient's name and address are entered at the top of the column, and each line corresponds to a day of the month. On these lines are entered the service rendered and the amount charged therefor. Space is given for the entry to be made in full, and without signs or unintelligible abbreviations, so that each entry stands as a self-explanatory record admissible by the courts as evidence. At the end of the month, the daily totals for each patient are cast up at the foot of the column and the amount, if unpaid, is transferred to the ledger. This book, also, consists of vertical columns for the several patients, the horizontal lines recording the reference page in the visiting list for

that particular patient, for each month of the year, and the total charges for the month, as transferred from the visiting list, together with any balance brought up from the preceding year. These, added up at the bottom of the page, give the amount of the patient's account, including arrears, at the end of the year. At the foot of the page in each column of the ledger is a space for credits, so that a balance is struck to be carried over to the following year, if necessary. Besides these details, there is the page of cash receipts, so that an account paid within the month in which it is incurred need not be transferred to the ledger at all, but can be crossed off on the page of the visiting list in which it is entered and the amount recorded in the cash receipts; here, too, are entered ledger accounts as they are paid. There are also an obstetrical record and blank pages for memoranda. To the busy practitioner we think that this simple and yet efficient legal record will prove of great value.

Clinical Psychiatry. A Textbook for Students and Physicians. Abstracted and Adapted from the Sixth German Edition of Kraepelin's *Lehrbuch der Psychiatrie*. By A. ROSS DEFENDORF, M. D., Lecturer in Psychiatry in Yale University. New York: The Macmillan Company, 1902. Pp. xi-3 to 420. (Price, \$3.50.)

Abandoning the original idea of translating Kraepelin's well-known book on psychiatry, Dr. Defendorf decided on a work which would serve as a textbook for physicians, and would represent Kraepelin's teachings, but should be somewhat smaller and more accessible for American readers than the original German text. Consequently this volume represents the Kraepelin school, although it is not a literal translation of Kraepelin's book. Dr. Defendorf is to be congratulated on having made accessible to American alienists the classification, the nomenclature, and as far as possible the phraseology of Kraepelin, who has done so much for progress in the line of mental disease. We are sure that this book will have great popularity.

Transactions of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics. First Annual Meeting, held in Wash-

The present volume contains the report of the transactions of the society at the meeting held in Washington, in May, 1901. It includes an address by the president, and it may be said in passing that it is through the president's generosity that the handsome volume containing the transactions is published. The report of the Ohio Hospital for Epileptics, also reports from the superintendent of Craig Colony, from those interested in the colonies in Massachusetts, Texas, New Jersey, Pennsylvania, California, Illinois, Connecticut, Virginia, North Carolina, Mexico, and Brazil, and many other countries and States are contained in the volume. The very titles of these papers give the best of evidence that the colony idea has established itself in the minds of philanthropists and physicians, and that it will not be long before it is generally recognized that every State must have its own colony for the care and treatment of

epileptics. G. Penn Gaskill read a paper on the National Society for the Employment of Epileptics in England; Pastor Seibold, a report from Bethel; and Professor Kölle one on the care of epileptics in Sweden. There were also reports from Switzerland, Russia, Italy, Turkey, India, Japan, and Australia.

Maladies nerveuses. Diagnostic—traitement. Par J. VIRES, Professeur agrégé à la Faculté de médecine de Montpellier, etc. Préface par F. RAYMOND, Professeur de clinique des maladies nerveuses à la Faculté de médecine de Paris, etc. Avec 11 figures dans le texte. Montpellier: Coulet et fils, 1902. Pp. xxxii-613.

In brief compass, Dr. Vires has been able to condense in well chosen phrases faithful sketches of the symptomatology and aetiology of nervous affections. These serve only as a preliminary for the expositions of the therapy of nervous diseases. His directions for treatment are written in a very thorough way and show great good sense and personal experience on the part of the author. The alphabetical order of diseases has been followed. The most noticeable thing about the book is the stamp of personal experience, whereas so many books on treatment are nothing more than compilations, errors and old-fashioned notions being included with the newer remedies. Dr. Vires has succeeded in putting forth a book which is thoroughly modern without being loaded down with useless matter.

Clinical Lectures on Neurasthenia. By THOMAS D. SAVILL, M. D., Physician to the West End Hospital For Diseases of the Nervous System, London, etc. Second Edition. New York: William Wood & Company, 1902. (Price, \$1.50.) Pp. xv-171.

About two years ago this book was reviewed in our columns, and there is little change to be made from what was then said. Some alterations have been made in the text and fresh illustrative cases have been added. The treatment previously given in the second lecture has been omitted, while that in lecture four has been revised and amplified.

The Principles and Practice of Bandaging. By GWILYM G. DAVIS, M. D., Assistant Professor of Applied Anatomy, University of Pennsylvania, etc. Illustrated from Original Drawings by the Author. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xi-17 to 246. (Price, \$1.50.)

Based on his publication eleven years ago along similar lines, the author would have this greatly enlarged and far better illustrated volume pass as a practically new book. The admonition that the stereotyped illustrations of bandages are not adhered to in daily practice is true but not essential; for the surgeon adapts the turns of his bandages to the exigencies of the dressings about the wound. It is time that the tables were turned and that illustrations of practically applied bandages to diseased areas replaced the stereotyped illustrated bandaging of textbooks. This is said in no spirit derogatory to the precise descriptions and elaborate illustrations of this volume, which will make it very useful to nurses and

students. The concluding pages are devoted to the illustration and description of the handkerchief bandage, which, save for the sling, is obsolete in modern surgery as well as in military practice since the acceptance of the roller bandage as a constituent of all first aid packages in lieu of the handkerchief.

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VIII. Pædiatrics and Orthopædic Surgery. July, 1902. Chicago: The Year Book Publishers, 1902. Pp. 5 to 231. (Price, \$1.25.)

This volume, like its predecessors of the same series, is intended to record the year's progress in pædiatrics and orthopædics. The introductory remarks concerning pædiatrics are pedantic and irrelevant, being not at all in consonance with the otherwise very practical excerpts from the year's publications in pædiatry. The contributions are grouped under the titles Disturbance of Heredity, Nutrition, Infections, and Pathologic Resultants. By far the largest space is accorded to the infections.

Orthopædics, being mainly concerned with children, is properly added to the volume on pædiatrics. The compiler of this branch has exercised too strict a censorship, more than is manifest in the previous volumes of the series, with the result that little more than twelve topics are represented, and these abound in extensive criticisms at the hands of the editor. There are too many omissions to allow us to seriously regard this volume as a representative of the year's progress in orthopædics.

The Eighth Annual Report of the Board of Managers of the Craig Colony for Epileptics, at Sonyea, N. Y., to the State Board of Charities. For the Year ending September 30, 1901.

The eighth annual report of the Craig Colony for Epileptics, at Sonyea, N. Y., shows the institution to be in a very satisfactory condition. The superintendent's report, as in previous years, contains valuable information in regard to epilepsy, derived from the wide experience which he has had. His present report has the most interesting information in regard to the causes of epilepsy, the methods of classification, occupation, education, and treatment of the colonists at Sonyea, the effects of epilepsy on the mind, and similar questions. The crying needs of the colony at present are more dormitories and appropriations intended to help the employment of the colonists.

La guérison de la morphinomanie sans souffrance. Par le Dr. OSCAR JENNINGS. Tradit de l'anglais par M. ALBERT BALL. Paris: A. Malone, 1902. Pp. xv-231.

A few months ago we had occasion to speak well of the English, the original, edition of this little volume on the treatment of the morphine habit. The present French edition is entirely unchanged from the English, and consequently any criticisms upon it we will leave to Frenchmen themselves.

Neurasthenie und Hysterie bei Kindern. Von Dr. ALFRED SAENGER, Nervenarzt in Hamburg. Mit 2 Abbildungen im Text. Berlin: S. Karger, 1902. Pp. 32.

In this little brochure Dr Saenger has emphasized the importance and frequency of hysteria in children. He cites a number of interesting cases. In speaking of hysteria he agrees almost entirely with an earlier monograph of Bruns's in which the monosymptomatic type of hysteria in children was emphasized.

Leitfaden der Elektrodiagnostik und Elektrotherapie für Praktiker und Studierende. Von Dr. TOBY COHN, Nervenarzt in Berlin. Mit 6 Tafeln und 39 Abbildungen im Text. Zweite vermehrte und verbesserte Auflage. Berlin: S. Karger, 1902. Pp. xii-166.

This second edition of Dr. Cohn's well-known book on electrodiagnosis and therapy is somewhat enlarged and improved. The illustrations showing relations of the motor points to the underlying nerve and muscle structures are extremely ingenious, and in every way the book is heartily to be recommended as a model guide to those interested in the subject of electrodiagnosis.

Lehrbuch der klinischen Untersuchungsmethoden für Studierende und praktische Ärzte. Von Professor Dr. H. SAHLI, Director der medicinischen Universitätsklinik in Bern. Dritte umgearbeitete und ergänzte Auflage. Mit 276 theilweise farbigen Holzschnitten im Texte und 4 Lithographierten Tafeln. Leipzig und Wien: Franz Deuticke, 1902. Pp. xxx-954.

In this edition of the book, almost every article has been completely revised, and brought thoroughly abreast of the times. The author includes in this work, not alone every known method of clinical investigation, but also numerous articles on pathology, physiology and physical diagnosis, which have some bearing upon the methods of clinical diagnosis.

We know of no work, either in the English, or any other language, which is quite so complete and up to date as this one, and we feel free to recommend it as a most excellent book of reference.

Die spezielle Chirurgie in 60 Vorlesungen, ein Kurzgefasstes Lehrbuch für Ärzte und Studierende. Von Dr. EDMUND LESER, Professor an der Universität in Halle, etc. Fünfte vermehrte und verbesserte Auflage. Mit 355 Abbildungen. Jena: Gustav Fischer, 1902. Pp. xix-1110.

In the fifth edition of this book we are told that the chapter on the surgery of the thyroid has been thoroughly revised. While we find that the merits of the various surgical procedures for the relief of goitre are passed in review, yet the description of the technics of Kocher's and Mickulicz's methods, most commonly practised in the removal of goitres, is very incomplete.

Referring to the chapter on abdominal surgery, also said to be revised, we note an improvement in the teaching concerning appendicular disease, though the main conception of the author seems to be that of

the termination of the process in a perityphlitic abscess. As to the use of the Murphy button, the author holds that the adept surgeon can apply the suture to better advantage at the expense of very little time. Even in its revised state, this textbook, though it correctly renders the current surgical practices of the day, embodies no features to make it superior to other contemporary German surgeries; but the terseness and thoroughness of the narrative make it a work of much value to those first entering upon the study of surgery.

Applied Surgical Anatomy Regionally Presented. For the Use of Students and Practitioners of Medicine. By GEORGE WOOLSEY, A. B., M. D. Professor of Anatomy and Clinical Surgery in the Cornell University Medical College, etc. With 125 illustrations, mostly colored. New York and Philadelphia: Lea Brothers & Company, 1902. Pp. vii-17 to 521. (Price, \$5.)

The title of this work fully conveys a conception of its contents. After its perusal we are pleased to endorse it as most desirable collateral reading for medical students, since it relieves the monotony of studying descriptive anatomy and facilitates the memorizing of eminently practical data. It is somewhat awkward, however, for the identity of the book that the author chose a title sounding so much like that of Treves's *Surgical Applied Anatomy*. Materially, and even as far as the sequence of subjects is concerned, it does not in the least differ from this, save that it is executed more elaborately. It is a larger volume, far better illustrated, supplied with illustrations very freely borrowed from and duly credited to contemporary anatomists, and it embodies many features not found in the last edition of Treves's book of nearly fifteen years ago.

In Dr. Woolsey's book we have not merely surgical anatomy such as is appended to systematic works on the subject, but surgical anatomy interwoven with the narrative of diseased conditions, and such anatomy as is at play in operative surgery and in the diagnosis of surgical affections. It is a connecting link between anatomy and surgery, and is therefore to be recommended to advanced medical students.

Pædiatrics. The Hygienic and Medical Treatment of Children. By THOMAS MORGAN ROTCH, M. D., Professor of the Diseases of Children, Harvard University. Third Edition, rearranged and rewritten. Illustrated by Numerous Engravings in the Text, and by Colored Plates. Philadelphia and London: J. B. Lippincott Company, 1901. Pp. xxi-17 to 1021.

Rotch's *Pædiatrics* is so well known by its first edition that the general character of the work need not be discussed. In this first general revision many important changes have been made, both in its form and in its subject matter. The author has, we think wisely, dropped the colloquial, lecture style, omitted many detailed case reports, and greatly condensed his chapters upon diseases of the blood and the nervous system. By these changes he has reduced the size of the book by about one hundred pages without sacrificing anything essential.

Dr. Rotch is so generally known as the apostle of

scientific artificial feeding of infants that one is especially gratified at finding in his book probably the best presentation of the subject of breast feeding to be found in medical literature. The general views in regard to artificial feeding have not been essentially changed from those expressed in the first edition. A valuable chapter has been added upon the Theory of Milk Modification. Much more space than formerly has been given to the subject of the home modification of milk; but we think the reader will be confused rather than helped by the description of so many different methods of calculating percentages. The numerous algebraic formulæ are discouraging to the uninitiated.

The chapters upon typhoid fever and epidemic meningitis are improved by the addition of considerable new material, and more space has been given to the subject of diseases of the glands.

The strong part of Dr. Rotch's book is that which relates to nutrition and its derangements; the least satisfactory, is the discussion of the general diseases. The introductory chapters upon development seem to us still too long for a general text book, and much of the anatomy might have been omitted without sacrificing anything important to the student or practitioner.

While many of the illustrations in the book are of exceptional excellence, especially some of the colored plates, on the whole, too many pictures have been given; fully one fourth of them might have been omitted without being missed. For instance, no fewer than fourteen pictures of the stomach are given when five or six would have illustrated every condition amply.

The defects of the book are, however, of a minor character and its excellences are many. It is sure to command a wide reading and hold its place as one of the best text books on the subject in existence.

Introduction à l'étude de la figure humaine. Par le Docteur PAUL RICHER, de l'Académie de médecine. Paris: Gaultier, Magnier et Cie, 1902. Pp. viii-190.

This first volume of an artistic and scientific collection of illustrated studies of the human form is devoted to a wide review of the subject matter, to general considerations on the relations of painting and the plastic arts to anatomy and physiology, and to the discussion of aesthetic problems, and more especially to questions raised by the study of the nude.

Among the more interesting chapters may be cited those in which the methods of artists and investigators are noted and compared, the traditional rules for the representation of the human form are analyzed, and the history of the conventional canons of proportion is traced from the era of Phidias to our own times. The author has devoted a part of his work to the question of instantaneous photography and its influence on our conceptions of certain forms of motion, as well as on our aesthetic standards of their pictorial value. Dr. Richer lays stress on the fact that we have, or should have, an art physiology as well as an art anatomy, if the human form, the nude in action, is to be understood and translated by the painter into a representation of life which is to be not only beautiful but truthful, and based upon the mechanics of Nature. That this has not always been

done, and that many works of art have sacrificed the eternal verities to conventional rules or the tradition of this or that school, is shown by the analysis of numerous art works.

The volume is most instructive and entertaining reading for the physician who does not limit his intellectual processes to the minimum of practical requirement, as well as to the student of anatomy or of art. The style of the essays is unusually attractive and clear, and (what is not so much a matter of course in French writings) the subject matter has been thoroughly investigated. A word must be said, too, in praise of the excellent press work of this volume. A fair, large page with ample margins, type so clear cut and so well printed as to suggest copper plate, liberal leading, and good paper "mat," without a trace of calendering combine to make the reviewer's task a pleasure. The appearance of the illustrated numbers in this series will be awaited largely by all who have been initiated into this most charming of borderland studies, and who have found that drawing is as valuable, if not as essential, to the anatomist as anatomy to the artist.

Miscellany.

Father, Physician, Divorce, and Parturition.—

According to the *Gazette médicale de Paris* for October 5th, a Dr. X. and his wife have filed cross-suits for divorce. *Lite pendente*, Madame X. is authorized to reside with her mother. Last August the doctor, knowing that his wife was on the point of becoming a mother, applied for an order authorizing him to be present, both as father and physician, at the accouchement of his wife. The judge did not think it right, in the interests of the mother's health, to comply with the doctor's demand, but authorized him to visit his infant-to-be every Thursday between one and three o'clock. Moreover, the wife was ordered to notify her husband of her confinement as soon as it was over, that he might immediately see his child. The accouchement came off on September 13th, the doctor only hearing the news by chance the next day. Forthwith, accompanied by a sheriff's officer, Dr. X. presented himself at his mother-in-law's house, who, after making some difficulty, brought the child in its swaddling clothes to him in a room without bed or chair, and unwarmed. Neither at this visit, nor at that on the Thursday following, could the doctor undress his child. Whereupon Dr. X. in his double capacity of father and physician made a fresh application to the court for an order authorizing him to handle and examine his child freely, to disrobe it as he might desire and with the requisite comfort, and to make such an examination of its person and exercise such cares thereof as he should judge necessary. Moreover, the doctor

The *Gazette médicale de Paris* for October 11th continues its report on this case. It seems that the time appointed by the judge for the father to see his child, namely from two to five p. m., happens to be the doctor's consulting hours. He, therefore, has made another application requesting that the child

should be brought to his house. The judge, however, decided that to have a child of three weeks taken about would be imprudent, and therefore decreed that the father should see his son more at his convenience, from four to six p. m., and in a suitable room! On this the *Gazette* remarks "Quelles chinoïseries!"

A Case of Generalized Scleroderma.—At a meeting of the New York Neurological Society held on October 7th Dr. B. Sachs presented a lady, twenty-four years of age, whom he had first seen six years ago, with ordinary hypochondriacal neurasthenia. When next seen, last year, she stated that during the past few years she had noticed that the upper and lower extremities had begun to be stiff and more or less painful on movement. She was not aware at the time that there was anything specially wrong with her face. At present the face showed a very marked form of scleroderma and she also had distinct sclerodactylism. Six months ago there was so much retraction of the upper lip, as a consequence of the retraction of the skin, that the gums were constantly exposed. The hands showed marked tenseness and glossiness of the skin, attenuation and clubbing of the fingers, and an apparent subluxation of the middle finger at the metacarpophalangeal articulation. An x ray photograph showed that the latter was due to the wearing away of the bone under abnormal pressure. There was also a general scleroderma in this patient, extending from the forehead to the middle of the abdomen. The lower extremities were sclerodermatous only in certain areas. There were also some areas of leucoderma. The speaker said that this woman had shown a certain amount of improvement under thyroid medication. She had taken as much as eighteen grains a day without detriment, and had also had warm baths and exercises with the object of improving the condition of the integument and underlying tissues.

Dr. George W. Jacoby said that he had been one of the first to act upon Dr. Sachs's suggestion regarding the use of the thyroid extract, and he was convinced that this treatment accomplished something. About a year ago he had himself reported two cases, in children, in which the skin had become almost perfectly pliable as a result of thyroid treatment. The changes in the fingers had been very much more marked than in the case now under discussion. Of course, these pathological conditions did not retrograde. He did not think the pressure of the retracting skin was sufficient to explain the marked bony changes observed. In his opinion, the thyroid treatment was the only one that held out any prospect of success, and it was particularly useful in children.

Dr. Joseph Fraenkel said he believed there were two types of scleroderma, the localized and the generalized. The latter appeared to him to be an expression of a rheumatic tendency. For the last four months he had had a case under observation which had done very well under antirrhematic medication, particularly the use of the salicylates. Ordinarily the thyroid treatment seemed to be the best method.

Dr. Joseph Collins said that he had had some experience with the thyroid treatment, and, while he had observed improvement, the results were not at all comparable with those reported by Dr. Sachs and Dr. Jacoby. All that he thought the thyroid did

was to diminish the subcutaneous fat. This, of course, made the skin much more pliable over the affected area, and reduced the masklike appearance of the face. In his opinion, scleroderma was a disease of the spinal cord and of the sympathetic fibres and cells within the spinal cord. The symmetry, chronicity, course, and termination were all explicable on this theory. He expected soon to have an opportunity of making a post mortem examination in a marked and advanced case of general scleroderma. In that patient sensory changes were occurring which pointed strongly to involvement of the conducting pathways of the spinal cord. As young persons had a marked accumulation of subcutaneous fat, and this fat could be very readily increased or diminished, it was easy to explain the good results just reported by Dr. Jacoby.

Dr. Sachs said that in the patient he had just presented there had been an extremely disagreeable appearance of the face a few months ago, resulting from the attenuated state of the nose, a part having very little subcutaneous fat; yet this part had very decidedly improved under the thyroid medication. He should be greatly surprised if scleroderma proved to be an affection of either the spinal cord or the sympathetic system. The disease seemed to be diametrically opposite to two other diseases—acromegaly and myxœdema. He was inclined to think that scleroderma was possibly a general glandular affection involving not only the skin but the subcutaneous tissues and even the bones.

Arterial Disease in Comparatively Early Life.

—At the same meeting Dr. E. D. Fisher read a paper with this title. He said that if one had not established one's self in some definite line of work by the age of forty, one would rarely succeed. This was the law of life. Having excluded syphilis, kidney disease, diabetes, alcoholism, and old age, there would still be a number of cases of arterial disease having a different ætiology. He was of the opinion that cerebral hemiplegia was more than ordinarily common at the present period of our national development. There was an intensity in the pursuit of an object in the Anglo-Saxon race not present in the Latin races; this led us to a very large consumption of tissue. He believed that the so-called "strenuous life" led to fatty degeneration of the cardiac and arterial muscular tissue. If this view was correct, then the means of prevention were obvious and important. Our social system in the large cities was one of anxiety and overwork. There should be less straining after living, as was the case with the very rich, and a stronger desire for culture and moderation.

Dr. W. B. Noyes raised the question as to whether, in the treatment of so many diseases of the nervous system with strychnine, physicians were not committing a grave error. The effect of this drug on the arteries was not closely studied, and it had occurred to him that in cases like those described in the paper, in which there was, in his opinion, arterial disease, the persistent use of a drug like strychnine, which increased the arterial pressure, was actually harmful and more than counterbalanced the beneficial action of the remedy upon the peripheral nerves. He believed that many of those present could bear him out in the statement that iodide of potassium frequently benefited many patients in whom there was no syphilitic taint, probably by its effect on the vascular

system. He would like to hear from others regarding this view that strychnine and iodide of potassium were, to a certain extent, antagonistic in their action on the vessels.

Dr. W. M. Leszynsky said he could not agree with Dr. Fisher in the contention that the so called strenuous life produced cerebral and arterial degeneration unless this was accompanied by alcoholism, syphilis, or some other toxic cause. He had never seen a patient under forty years of age with a cerebral hæmorrhage or endarteritis unless there was some discoverable cause which would lead one to the belief that such conditions had previously existed.

Dr. Sachs said it was interesting to consider whether there was really arterial disease in early life sufficient to lead to apoplectic attacks. Personally, he could not recall a single case of cerebral hemiplegia which was not due to arteriosclerosis, syphilis, or embolism, or was the accompaniment of renal disease. There was only one other vascular degeneration occurring early in life, namely, a fatty degeneration of the arteries, which explained the very early apoplectic attacks in children. When he had been able to exclude embolism, renal disease, and syphilis, he had always come to the conclusion that the case was one of early arteriosclerosis.

Dr. Joseph Collins said that he found it very difficult to talk upon arterial disease—not sclerosis. He was thoroughly convinced that chronic degeneration of the tunica media, arteriosclerosis, was a disease of the "strenuous life," and that alcoholism, rheumatism, syphilis, and the so called metabolic diseases had very little to do with this. A deficient heredity was one of the contributing causes. Another was chronic indigestion of any kind, and a third was worry with work. These were more potent causes of arterial degeneration than syphilis, alcoholism, and bad habits. The last named condition caused periarteritis and endarteritis. A second great class of cases was dependent upon infections; some would put those as the first and more important class. We had been taught as students that arteriosclerosis was a disease occurring in those past fifty, but he maintained that this was not true, and that when the disease began at that time it was nothing more than a natural process at that age. A person sixty-five or seventy years of age, becoming ill with an infection like pneumonia, usually had the disease in an exceedingly mild form. He would further contend that arteriosclerosis was, at the present day, the scourge of humanity, and that there was no organic disease of the nervous system that could compare with it in its effect upon the production of disease.

Dr. Leszynsky thought the last speaker had begged the question with regard to young subjects. If the "strenuous life" reacted upon digestion and interfered with assimilation, it caused an intoxication or an infection, and in this way set up arteriosclerosis. He did not think any proof could be adduced to show that the "strenuous life" alone produced arteriosclerosis.

Dr. Fisher said that a man over forty years of age would rarely start in a new line of work, although he might continue to do much very good work in old channels up to quite late in life. If he had understood the remarks of Dr. Collins, he did not think their opinions were very much at variance on this topic. By arterial disease he meant any morbid condition of any part of the arteries.

Another Successful Operation for Gunshot Wound of the Heart.—According to the *St. Louis Medical Review* for October, an extraordinary case of successful operation on the heart for double gunshot wound of the heart was reported by Launay, of Paris, recently in the *Gazette médicale de Paris*. A man twenty-six years of age was operated upon three hours and a half after being shot with a pistol of small calibre. The wound of entrance was immediately over the left nipple and was small. From this wound there was a constant escape of blood. The pulse was feeble and uncountable. Percussion showed exaggerated resonance over the left side, and, with the absence of respiratory sounds, gave evidence of pneumothorax. The heart sounds were weak and muffled, and from time to time splashing sounds could be heard indicating hæmopericardium.

Launay made an osteoplastic flap including portions of the fourth, fifth and sixth ribs. The lung was found retracted and the left pleural cavity contained a large amount of blood. From a wound in the pericardium near the apex of the heart blood was escaping slowly but constantly. The pericardium and mediastinal pleura were divided with the scissors and the heart was exposed, beating violently. On the anterior aspect of the left ventricle about two centimetres from the apex, near the left border, was a wound from which the blood was ejected with each diastole. This was easily sutured with catgut and the hæmorrhage ceased. Lifting the heart by its apex, Launay then discovered the wound of exit in the posterior aspect of the left ventricle, near the auriculoventricular groove. This was also closed with a small suture, but with some difficulty. The pericardium was emptied of clots, closed with catgut, and drained at the lower angle of the wound; the pleural cavity was cleared and also drained. The flap was then replaced and sutured. The operation occupied thirty-five or forty minutes. Immediately after operation the patient's pulse was weak and rapid but respiration was easy. Next morning the temperature was 97.5° F. and the pulse strong, regular, and 100 to 120. During the next two days the temperature was 100.4° F., then went down to 98.6° F. The drains were removed after forty-eight hours. The external wound united by first intention, and recovery was rapid and complete. A skiagraph revealed the ball in the vertebral region, to the left of the spine.

English Medical Folklore.—G. F. Northall, in *English Folk-Rhymes* (1892) gives an interesting collection of English charms and spells among other things for various ailments. The following for cramp has a practical value: "Coleridge, in his *Table Talk*, Vol. ii., p. 59, records the approved mode of procedure (for cramp) in Christ's Hospital [the "Bluecoat School"], which he believed had been in use in the school since its foundation in the reign of Edward VI. A boy, when attacked by a fit of cramp, would get out of bed, *stand firmly on the leg affected* [italics ours], and make the sign of the cross over it, thrice repeating this formula:

"The devil is tying a knot in my leg,
Matthew, Mark, Luke and John, unloose it, I beg!
Crosses three we make to ease us,
Two for the thieves, and one for Christ Jesus."

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Lectures and Addresses.

THE PAST, PRESENT, AND FUTURE OF THE NEW YORK ACADEMY OF MEDICINE.*

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When I was a student at the College of Physicians and Surgeons, less than half a century ago, I was at the same time the student in the office of Dr. John Watson, one of the founders of the Academy of Medicine. I say the student, because I was the only student he ever had. I was taught many things in Dr. Watson's office, and among them how to write an anniversary discourse. My instruction on this point was *thorough*; his anniversary discourse covered the entire history of medicine in ancient times and 222 octavo pages of printed matter. The practical lesson I learned from this was that that was about 200 pages too much, and I give you the benefit of that lesson to-night. I do this the more gladly as we could get an anniversary orator for every meeting in the year; they are as thick as autumnal leaves, for every one of our Fellows is an orator! But it is only once in an æon that we can get an epoch-maker to come and tell us how he made an epoch. And this is what Major Gorgas will do in what is left of the evening after I have finished, so I will make my discourse the shorter that his paper may be the longer.

Especially for an Academician, there could scarcely be a more interesting way of spending a leisure hour than in examining the records of the Academy of Medicine for the first few years of its existence. Its inception was at a social gathering in which a number of the leading medical men of the day participated, and at which it was suggested that "instead of being the anatomists of each other, the *disjecta membra* of the profession, they should be brought together, and become a body corporate." From this it would appear that the uppermost idea in the minds of at least some of those present was that such an organization would serve as a cure for prevailing professional dissensions (they were good fighters in those days), and accordingly we find that this suggestion was followed by another, "that the

profession of the city organize with a code of ethics, to regulate the *professional conduct* of its members." However, from the first the chief purpose of association was recognized as being the promotion of medical science and improvement in the theory and practice of the healing art. Incidentally the practice of mutual vivisection alluded to above seems to have been gradually abandoned. This was in the year 1846, and in the following year the Academy of Medicine was formally organized and entered upon its career. The first president was Dr. John Stearns, and among the early fellows were many whose names are still "household words," though their bodily presence has long since ceased from among us—Valentine Mott, John W. Francis, Alexander H. Stevens, Willard Parker, John Watson, William H. Van Buren, John W. Draper, Alonzo Clark, Joseph Mather Smith. How they loom up from the misty past! To some of us they are living memories, to others only traditional figures: to all of us they are men whom their profession ennobled, and who in turn ennobled their profession.

Succeeding the immediate founders, the roll of the Academy contains the names of many illustrious Fellows. It was always true that the strongest men in the profession were numbered in its ranks. Thus it early secured that weight of influence and that dignity of position which characterize it to-day, and give to it a moral force the value of which can scarcely be overestimated.

The progress of the Academy since those early days has indeed been rapid. Within a few years it acquired a home of its own in a spacious dwelling-house, which was enlarged and fitted up for its use. This, however, was soon found to be entirely too restricted in its accommodation, especially in view of the rapidly growing library. The necessity for more ample quarters led to the purchase of the present site and the erection of the building we now occupy. In accomplishing this it was thought that ample provision had been made for the growth of many years. But now, scarcely a decade having passed, we are again straitened for room, and principally for the same reason as before, the large annual increase of the library.

The list of resident Fellows comprises now 800 names. Many of them, very many, are widely and favorably known, not only in our own country, but abroad as well. They are found in large numbers

* Anniversary discourse delivered before the Academy, Nov. 6, 1902.

in the membership of the many national societies devoted to the furtherance of special departments of medicine and among the honorary and corresponding members of the leading medical societies in other lands.

And here permit me a word of gratulation to our fellow Fellows of the gentler sex. There are a goodly number of these, and in the work of the Academy they fully do their part. If they are not prominent in debate, we can only attribute the fact to a feminine disinclination to talk, for their pens are in frequent requisition, and furnish articles of the highest merit.

Those who were present can never forget the fiery zeal with which the chivalrous Agnew espoused their cause when the question of the admission of women into the Academy came for the first time under discussion! The question was settled then for all time, and no one since then has doubted that it was "settled right." Not only in the Academy, but everywhere, the field of medicine is open to women, with no artificial hindrances imposed, and no sentimental privileges demanded. That it has prizes for them was demonstrated long ago. There is a demand for their services, and an inexorable law determines the supply. Meantime, the Academy finds them capital Fellows, and extends to them a hearty welcome.

The papers read before the Academy and in the sections are of a high order, and many of them constitute landmarks in the progress of medical knowledge.

The publications of the Academy are regularly received by practically every medical library in the world, and wherever medicine is taught, and medical literature is read, what transpires within these walls is known and appreciated. It is therefore no exaggeration to say that whoever speaks from this rostrum is heard around the globe.

The last report on the condition of the library was made in November, 1900, from which the Librarian, Mr. Brownne, has furnished me the following extract:

Number of books in the library, Nov. 30, 1900, 89,900 volumes.

Duplicates, 36,105 volumes, included.

Books added during year, not including duplicates, 3,649 volumes. In the circulating department 971 books and 832 journals were issued to 194 readers. 11,520 readers have registered during the year in the reading room, and probably many others have used the library, but have not registered. The library is growing rapidly, the additions annually for the last four years being at least 3,500 volumes (in 1898, when the library of the New York Hospital was donated to the Academy, 7,000 volumes) were added, without including duplicates. Nine hundred and ninety-one journals in many languages are on file, and add 1,135 bound volumes this year to the shelves.

Including the duplicates, the natural growth amounts to about 5,000 volumes, and at this rate there is only space left in the stack room for five years more. More space for the library is urgently needed and it will be difficult to find this space in the present building. (At present there are 13,430 feet of shelving available, of which less than 3,000 are unoccupied, and 600 feet of shelving are needed annually for the natural growth in new books. The labor of taking charge of this large collection of books will require an increase in the librarian's staff this coming year.) More money is urgently needed, both for the purchase of books and for the running expenses. At least \$40,000 is required to be added to the library fund.

The last printed list of the periodicals which are received in the library was published four years ago, but it has been constantly revised as changes have occurred. Four years ago the number was 844; it has now grown to 1,089. The proportion printed in the different languages is about as follows: English, 475; German, 162; French, 152; Italian, 31; Spanish, 12; Scandinavian, 5; Dutch, 6, of which 1 is published in Batavia, and represents the medical literature of the Dutch East Indies; Russian, 5; Japanese, 1; Greek, 1; Polish, 2.

In looking over the revised list of medical periodicals, I was interested in the "vital statistics" of this kind of literature. Like other vital statistics, they included marriages, births, and deaths. Marriages of medical journals are frequent, and it would be interesting if we could trace the causes by which they are brought about. There are very few love marriages probably, more we suspect are marriages of convenience, and not a few are marriages of necessity.

The births are much more numerous than the marriages and deaths combined, since we find a steady and rapid growth in the number of periodicals. Thus, in 1898 we had 884 on our list, while now, after only four years, we have 1,089.

The deaths are of alarming frequency, especially in infancy, but these statistics are unique in that there are no deaths from sheer old age, though some after a long life at last die from failing circulation. Usually, however, the singular rule obtains that the greater the age, the greater the vitality. A very common cause of death is habitual ingestion of improper food, and excessive stimulation.

At very long intervals a divorce has to be chronicled. This happens usually when a marriage, perhaps contracted too hastily, is dissolved on account of incompatibility of temper.

You will pardon me for devoting so much time to this digression, but I felt a certain responsibility in view of the large amount of statistical material which the librarian of the Academy had placed at my disposal.

One of the most important of the accessories of the Academy is the Bureau for Trained Nurses, whence at any hour of the day or night an approved nurse

may be obtained. The value of this in providing for *emergencies* can be appreciated only by one who has experienced the need. The trained nurse has become indispensable in the management of any case of severe illness, and the ability to procure at short notice the services of one who has an approved record is a boon both to patient and physician. For this we are indebted to the various bureaus of registration, that of the Academy included. But the trained nurse herself is the gift of one who has almost ceased to be remembered for it by the nation which is her beneficiary.

Since our last anniversary she has passed from among us, and we may well pause for a moment to render a tribute to her memory. Against determined opposition she succeeded in introducing into our public hospitals a system of nursing such as we now have, where before there was virtually no nursing at all. At her own cost she brought from England such expert help as was needed to establish a training school for nurses, and by her untiring energy she carried the school to successful operation. Her time, her strength, her means were ever at its service, she kept it alive during its infancy, and was ever after its generous patron.

From it sprang all the legion of training schools existing in the country at the present day. Through the graduates of these schools the founder of the first continues to alleviate human suffering wherever it is found, alike in the hospital ward and in the stately mansion.

To those of us who were privileged to know her and her gracious work, to sympathize with her in her perplexities and discouragements and rebuffs, and to rejoice with her in her final success, to our eyes the white-clad nurse who shall minister to us when our own hour of suffering shall arrive will seem to wear the features of Mrs. Osborn.

In the history of the Academy a number of occasions have arisen when it has stepped aside from its usual pursuit of purely scientific objects to take action in matters affecting directly the public weal. Perhaps the most important of these actions was that which resulted in the formation of the Health Department. In this it was aided by a "Citizens' Committee," and the result was the organization which through many vicissitudes has grown to its present position of usefulness and importance. The Board of Health is emphatically the child of the Academy of Medicine, and although in times past it has not always acknowledged the filial relationship, I am assured by the present commissioner that there is nothing it prizes so highly as the moral support of its august parent.

The present Board of Health with its staff is a little band of which the second city in the world may well be proud, and it has for its assistance an advisory

committee made up from among the ablest men in the profession. But the next turn of the political wheel may sweep them away like chaff, and experience tells us what might be substituted in their place. On the other hand, the Academy is a numerous and continuous body and a source of moral power which no political faction would care to have arrayed against it, and to which no scheming cabal would be likely to run counter. There can be, moreover, no good reason why even a closer relation should not exist between the board and the Academy, in fact a relation so intimate that the board would be in effect the executive of the Academy in some of its relations to the public at large.

During the last decade action has been taken by the Academy looking toward the separation of dependents from delinquents in the Department of Charities and Correction; the erection of crematories for the burning of garbage; the establishment of a National Board of Health; for the protection of the Croton Water Shed; in behalf of public baths; recommending the establishing of State and municipal sanatoria for the care and treatment of tuberculous patients; in regard to an antivivisection bill; petitioning Congress to relieve charitable and religious institutions from the war tax; petitioning Congress for appropriation for the library of the Surgeon-General's office; appointment of a committee to urge the establishing of a municipal hospital outside the city limits for the care of tuberculosis; resolution protesting against the decision of the Treasury Department forbidding the landing of tuberculous immigrants.

It is peculiarly gratifying to me to feel that in all probability the action of the Academy aided in staying the hand of the Treasury Department as to the ruling that pulmonary consumption should exclude the sufferer from our shores. When it is considered what the sending back of such an unfortunate means to him, after he has broken up his home in Europe, and parted with all that constituted his life there, it must be admitted that it is a very harsh measure and one that only the most absolute necessity could justify. The resolution passed by the Academy pronounced such a policy "inhuman." I should spell the word without the final *e*. If this nation should ever become educated up or down to a point of cowardly selfishness that would approve such sanitary precautions, it would be a calamity far greater than the landing every year of shiploads of tuberculous immigrants.

The object advocated by the Academy was attained in nearly every one of the above-mentioned instances, and there can be little doubt that the result was influenced largely by its action. On this the Academy is to be congratulated, and I think that our experience in the past would fully warrant a more frequent

intervention in the future, and in a wider range of cases. Indeed I look forward to the time when it will be considered as much a function of the Academy to have a watchful care over matters pertaining to the health of the community and to medical charities as to engage in scientific discussions or to maintain a library. While, as we have just seen, much has been done in the past in the direction indicated, action has been sporadic rather than as the result of a fixed policy, and many opportunities have occurred and been allowed to pass unheeded when the Academy, by a strong word spoken at the right time, might have accomplished much good, and added also to its own prestige.

Once before I have had the honor of addressing the Academy on an occasion similar to this. My theme then was The Family Physician of the Future, who was sketched as occupying a most intimate relation to the families under his charge. In this ideal relation his advice was to be sought by them in regard to every proposed undertaking that could have any influence, present or prospective, upon their physical well-being, and a variety of conditions were pointed out in which his suggestions might be of the greatest value. In concluding my address I expressed the conviction that such a relation as I had described between the family physician and his families might profitably be established between the Academy of Medicine and the general public. During the fifteen years since that address was given I have become only more satisfied of the correctness of my position. There is a collective need of medical advice which can be rightly met only by a collective medical adviser. And as such an adviser the Academy is preeminently fitted to act. While it is a fairly numerous body, it is a selected body. It is made up of men who feel an abiding interest in the progress and development of medicine and who not only grow up with it, but also contribute to its growth. Neither drones nor routinists find its atmosphere congenial. Nor are its ranks open to the callow enthusiasm of the just graduated. They must wait for a period during which takes place the salutary change from the exultation of knowing so much to the humiliation of knowing so little. As a whole, the Academy presents a body of mature, thoroughly informed medical men, trained to weigh evidence and accustomed to situations of responsibility. It has only to speak, and its words will be listened to with respectful attention. Let its voice, then, be heard whenever medical science can be applied for the public weal or an abuse in matters medical is found to exist. Let it be the representative of medicine in its largest sense, in its fullest development. Let it stand to the community in the attitude of its sanitary guardian, bearing ever in heart and brain a wise and watchful and zealous care for the interests

it is called upon to protect. Not to do so would be to allow an enormous power for good to lie dormant and unused. We cannot do this any more than an individual could, without sacrificing to a corresponding extent the approval and respect of the public at large.

As illustrating the kind of action which the Academy might appropriately take, I will cite the case of the removal of the Board of Health from its fireproof quarters in the Criminal Courts Building to the structure it now occupies. For half a century the profession has been contributing material for the Bureau of Vital Statistics. The records of this bureau are of priceless value. They are appealed to many times each day for evidence of marriages, births and deaths upon which succession to property may depend.¹

They afford the official proof of the legitimacy of our children. They supply the basis of scientific deductions of the utmost importance. And yet they are stored in a building, as combustible as the veriest rookery in New York. An accident such as may occur at any moment of the day would sweep them out of existence, and there is no earthly means of replacing them.

Who were entitled to protest against a step involving such a danger if not those who contributed the material for these records? And through whom could the contributors have spoken with so much dignity and force as through their representative, the Academy of Medicine? Had this body been in touch at that time with the Board of Health, it would have been advised that such an outrage was in contemplation, and the uplifting of its finger would have prevented its consummation.

The City Court House, at the upper end of the City Hall Park, was constructed at an enormous cost to afford quarters for the various city courts. But no sooner was it attempted to utilize them for the purpose for which they were intended than it was found that the arrangements for ventilation were so utterly faulty that not only the comfort, but actually the health of the judges and the court officials was imperilled. Various efforts have been made at different times to improve these faulty conditions, but with little success, and it has not been an infrequent thing to see courts adjourned and the administration of the laws delayed by sheer inability of those occupying the rooms to go on with their labors in the pestilential atmosphere in which they were confined. So great is this evil that it is now proposed to remodel the whole building at an estimated cost of two millions of dollars in order that the original structural defects may be removed.

If the Academy of Medicine had been at that time what I sincerely hope it may ultimately become, the recognized medical adviser of the municipality, no

¹The number of transcripts furnished from the records is over twelve hundred a month.

public building of such importance would have been erected without a preliminary submission of the plans to a properly selected committee, whose scientific knowledge would have supplemented the defects in architectural skill, and the construction of such a sanitary abortion would have been rendered impossible.

A few summers ago, a steamship came into the harbor of New York having had during its voyage some half a dozen cases of cholera in the steerage. According to the well recognized laws governing the propagation of this disease, no possible danger to the community would have attended the landing of the cabin passengers and their dispersion to their homes, since there had been absolutely no medium of communication between the steerage and the cabin, and no sickness whatever had appeared in the latter.

As it was, the outrage was committed of confining a large number of cultivated and influential people on board the vessel, where they were told that they might expect at any moment the outbreak of a deadly pestilence among them, from which they would not be permitted to escape. The scandal and disgrace of this thing had to be borne by our city, and have never been wiped out.

In the then existing conditions all that the Academy could do was, after the crisis was over, to appoint a committee to investigate the facts. In its report this committee refers to "the useless personal suffering and commercial loss that had been inflicted." If only the Academy had been in touch with the quarantine authorities, this uselessness would have been pointed out in advance, the "personal suffering and commercial loss" avoided, and a most regrettable chapter in our civic history prevented.

It was largely owing to the efforts of this committee, however, that the buildings on Hoffman and Swinburn Islands were renovated and fitted in some degree for the uses for which they were constructed.

The first report of the trustees of Bellevue and the allied hospitals to the mayor discloses a condition of affairs so disgraceful that no citizen of New York can peruse the record without amazement and disgust. This is not the time nor the place in which to comment upon the picture drawn, than which there could be no more scathing indictment of our civilization and humanity. Referring to this report, the *Medical News* asserts: "Public indifference is in part responsible for the toleration of Bellevue and its allies, but the medical profession must shoulder its share of the blame." Yes, but how are the individuals who make up the profession to give voice to their demand for better conditions except through some common medium of expression? and what common medium could there be that would equal the Academy of Medicine? Was it not precisely here that the obligation rested through all these years to

call attention to this state of things and to demand some measure of relief? So that, after all, fellow Academicians, is it not largely with us as a body that the responsibility lies for the miserable inefficiency in the past with all the privation and suffering it has entailed? Ought we not to have held such relations with the public that grievous maladministration like this would have been immediately patent to us? And if patent to us, should we not have thrown the whole weight of our corporate influence against it?

Since the foregoing was written I have heard read the annual report of the Committee on Hygiene of the County Medical Society. It shows admirable and efficient work done within the sphere of the committee, and emphasizes only the more clearly what might be done by utilizing to the full the enormous moral power possessed by the Academy.

If the time should come when the Academy shall stand as the recognized adviser of the people in all that concerns their physical well-being, it would of necessity also become the adviser of those who have the desire and the means to promote that physical well-being. In this way it would give a wise direction to charitable impulses, so that large sums of money would not be expended in ill advised and unproductive ways, but would be placed in such a manner as to yield the maximum benefit to those most needing relief. It would thus often accomplish in a large way the kind of results attained in the detail work of the Charity Organization Society, with a great gain for medical charity and the avoidance of disappointment and chagrin to intending benefactors.

But it will be asked: "How can this more intimate relation between the people and the Academy be established?" Certainly not by any single act on the part of the Academy, but rather by exhibiting an active interest in the medical and sanitary problems that affect the public. Let the people perceive that we are interested for them, and they will soon come to appreciate that interest. Let us form the habit of coming to the aid of the public, and the public will soon form the habit of coming to us for aid.

It goes without saying, however, that such action can be taken by the Academy only after mature consideration and thorough discussion. If it is to mould public opinion, it must show upon its face that it is unbiased and impartial, and is based upon a full knowledge of the facts.

There is another and a very important way in which the good offices of the Academy could be employed for the mutual advantage of the profession and the public. I refer to the dissemination of elementary information that would give the people an insight into the progress of medicine and surgery and fit them to form an intelligent judgment as between fact and fable, reality and pretense, science and charlatanry.

With your permission I will quote from remarks apropos of this matter made by me in this place some two years ago, the subject being the relation between the public and the medical profession:

"The student of sociology at the opening of the twentieth century finds many curious things to engage his attention. Not the least curious of these is the co-existence of two opposing facts touching the subject of this evening's discussion. The one is that the last two decades have witnessed an unexampled advance in the science and practice of medicine and surgery amounting almost to a revolution, and the other is that the popular mind is daily growing more prone to return to old superstitions in medicine or to invent new ones even more absurd. On the one hand, we have the keenest and best trained minds competing in the field of science and reaching discoveries bewildering in their frequency and in their importance to the human race. On the other, we see on a large scale a complete repudiation of the results of science in favor of ideas that had their fitting development in mediæval times. Side by side with the astounding achievements of bacteriology, of antiseptics, of skiagraphy, we have the inane drivel of 'Christian Science' and the ridiculous pretensions of 'osteopathy'; and the public seem to be about as much impressed in one direction as in the other, and entirely incapable of forming a rational judgment in the matter."

That this should be the case at a time when the general intelligence is developed to the extent that it now is shows that for some reason or other scientific medicine has failed to be adequately interpreted to the public mind. Otherwise it would be impossible that persons who discriminate so sharply in other things should be so utterly imbecile in this.

As an illustration of the popular inability to appreciate a medical proposition, even the simplest, let us take the fact that among the names inscribed in the so called Hall of Fame not one representative of medicine appears. This is due, not to absence of desert on the part of medicine, but to absence of knowledge on the part of the committee having the selection in charge. To say nothing of lesser achievements, two colossal monuments to American medicine and surgery have been raised during the past century that will tower above the ages when the Hall of Fame shall have become a ruin. These are the operation of ovariectomy and the discovery of anæsthesia. But probably not one of the committee had ever heard of Ephraim McDowell or had even the haziest notion of an ovariectomy. Nevertheless, that work of the Kentucky surgeon is adding every year thousands of years to the aggregate life of the women of America alone.

Probably not one of that committee had ever seen an anæsthetic administered or had the faintest idea

of what a surgical operation was before the days of anæsthesia. Yet in thousands of cases every day the knife is robbed of its terrors by this beneficent agency, and I am certain that if one of the jury had been condemned to lose if only a finger, without the use of an anæsthetic, there would have been found at least one place on the roll for a name from the ranks of medicine.

That blame attaches to the medical profession for this anomalous situation cannot, I think, be successfully denied. No idea, however meritorious, is ever sufficiently championed by those not directly engaged in its development. No subject will ever be thoroughly understood by the world or fully enlist the interest of the public unless those most conversant with it will act as educators in its behalf. Indeed, in the absence of such education the importance of a subject, however great, is certain to escape recognition and be overshadowed by baseless claims that are pressed with clamor and persistence.

And this, I believe, is the explanation of the failure of scientific medicine to obtain that hold upon popular recognition and respect which it obviously deserves, while the most impudent and absurd parodies upon it are eagerly accepted by a public which is credulous in this respect only because in this respect it is ignorant. And for this ignorance who is responsible if not the medical profession itself? We have been content to develop our science by original investigation and by accumulation of clinical experience and to keep the results to ourselves, as if they had no interest for those without the pale. And this attitude on our part has been met by a corresponding attitude of the world at large. The world has outgrown the mental habits of the scholastic age, and refuses to accept important conclusions on the simple dictum of authority. It demands to be taken into the confidence of the schoolmen, and at least to have the compliment paid to it of being thought competent to understand what it is asked to believe.

When a layman is told that the young men in our hospitals are so trained that by a microscopical examination of a drop of blood, and with no other knowledge of the case, they can say this patient has a chill recurring every day, and this one a chill on each alternate day, and this one has chills of varying intensity and at irregular intervals, he naturally feels a wish to know something of the basis upon which the discrimination rests. Or, if he is told that in cases of gunshot wounds of the abdomen involving half a dozen or more perforations of the intestinal folds, the abdomen is opened, the intestines are laid out upon the table, the wounds in them sought out and closed with delicate sutures, the whole returned to its place, and the incision sewed up, the patient as a rule making "an uneventful recovery," it is a matter of interest to him to know by what means this re-

markable result is obtained under conditions of so much peril. Or, again, when a layman hears that our nerve specialists by careful study of the local disturbances of motion and sensation can say with almost absolute certainty that a tumor is located at a given definite point within the brain, so that the surgeon, following this indication, can trephine the skull, cut into the brain, and remove the growth, with a good chance of saving the patient's life, when he is told this he will very probably want to know what are the links in the chain of reasoning by which the conclusion is reached.

Now, in each one of these examples the desire for more information than the simple statement of the facts conveys is a natural and proper one, and there is no sufficient reason why it should not be fairly and fully met. And if this is true of the individual, it is equally true of the community as a whole.

In all other branches of science this is freely accorded. The utmost publicity is given to each new discovery, and the principles involved are fully discussed in popular language for the benefit of the public. Only in medicine is it considered unprofessional and undignified to give out anything to satisfy the interest of the laity in matters concerning which they are assumed to be incompetent to judge.

A dead language, even, is employed in writing prescriptions. Consultations are conducted in secret, and conversation between medical men in the presence of a layman is veiled in technical terms which are calculated to inspire him with awe, or, perchance, distrust. Popular writing or popular lectures on medical topics are frowned upon as ill disguised attempts at advertising. It seems to be no concern of the profession that in regard to medicine the public should have correct ideas or, in fact, any ideas at all.

Contrast with this the methods of, for example, Christian Science. Here all they have is fully discussed, the only trouble with them being that there is so little of it. If they had more they would tell more. Their candle is not hid under a bushel, but put upon the highest candlestick they can command. Their principles, such as they are, are open to inspection, and many people imagine that they find them sufficient and conclusive. There can be no doubt, at all events, that they are thoroughly interpreted by those who stand for them.

To very many fairly intelligent persons this open discussion, however unsound the premises may be, appeals more strongly than the shadowy glimpse they are able to obtain of legitimate medicine. And this will come to be more and more the case unless the profession awakens to a sense of the obligation that rests upon it to impart to the public the information needed for a correct judgment upon matters of this kind. Until this is done the responsibility for the pitiable results of these delusions, as they are con-

stantly being reported by the daily press, will rest chiefly upon us.

Papers and lectures in popular language on medical subjects, by medical men of recognized position and ability, and published by the daily press, could be made extremely valuable in bringing the profession and the public into mutually helpful relations. An intelligent comprehension of what medicine has accomplished and what it aims to accomplish, together with its necessary limitations, would remove a great deal of popular misapprehension. This misapprehension includes in about equal proportions extravagant ideas of what medicine can do and skepticism as to its ability to do anything. It is certainly very desirable that the laity should be able to settle down to a just medium between these extremes. It is as regrettable, for instance, that the notion should find credence that the x ray has opened to view all the morbid phenomena occurring within the body as that the idea should take possession of the public mind that in reality we know little or nothing about these phenomena.

The world has a right to know, and it is our duty to tell, just what progress we are making day by day, the steps by which results are obtained, the difficulties we meet with, the uncertainties which are still to be cleared up, the problems which are pressing for solution.

In establishing a more intimate relation between the people and the profession, the Academy might well assume the lead. Anything of an educational nature given out by it, or under its censorship, would be accepted without question. It could be made to supply every legitimate demand for popular medical instruction, and would serve to discourage the setting of those journalistic fly-traps which so many unsophisticated colleagues find it impossible to evade. Doing a thing properly is the best way to prevent somebody's doing it improperly.

In conclusion, we may look back upon the past of the Academy with admiration for the many distinguished men among its founders, and for the energy and perseverance with which its purpose was carried forward to successful realization. We may contemplate its present with pride in the position which it has attained and the influence it wields; and, finally, from its past and its present we may draw inspiration for the future that shall result in still higher achievements for science and for humanity.

Improvements on North Brother Island.—The Hospital for Contagious Diseases on North Brother Island has been very much improved under the present administration, the buildings having been repaired and repainted, new bath tubs put in. Some \$30,000 has been spent in work of this character.

Original Communications.

LARYNGECTOMY FOR MALIGNANT DISEASE.*

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SURGEONS.

Since Brauers (thyrectomy, 1833), Watson (total laryngectomy,¹ 1866), and Billroth (partial laryngectomy, 1878) attempted their operations for the relief of malignant disease of the larynx, much has been said about the horror and the despair attending both the disease and its operative treatment. During the last ten years much of the despair at any curative result by operation has been lessened by the earlier and more certain diagnosis of the disease by means of the laryngoscope, the microscope, and by exploratory thyrectomy. To-day our statistics compare favorably with those collected but a few years ago and give promise that, with earlier diagnosis and more restricted operative procedures, the death ratio and the possibility of recurrence can be still greatly reduced.

Before the year 1881 the mortality for 41 total laryngectomies was 60 per cent.; that for 10 partial laryngectomies was 40 per cent. The average for both operations was, therefore, 50 per cent. (Wassermann). Up to the year 1889, 118 total and 50 partial laryngectomies showed an average mortality of 44 per cent.; an average of permanent cures equal to 7.4 per cent.; 14.5 per cent. remained alive less than three years and 27.9 per cent. died with recurrences (Wassermann, *Deutsche Zeitschrift für Chirurgie*, xxix, 1889). In 1890, a collection of 132 total and 55 partial laryngectomies showed an average mortality of from 42 per cent. to 44 per cent. Recurrences were noted in from 25 per cent. to 33 per cent. Cures over one year were noted in from 18 per cent. to 29 per cent. (Dr. Kraus, *Wiener medizinische Zeitung*, 1890).

During this time Butlin (*British Medical Journal*, 1890) reported 51 cases of total laryngectomy with a mortality following operation of 31 per cent.; 11.5 per cent. died of intercurrent disease, 15.5 per cent. were cured. He also reported 23 partial laryngectomies with a mortality following operation of 30 per cent. and with 17.5 per cent. of cures. In 1895 Powers and White (*Medical Record*, xlvii, 1895) collected 309 cases. The mortality was 33 per cent. The cases remaining cured over three years were 10 per cent. of the whole for total laryngectomy and 14 per cent. for partial laryngectomy.

In 1896, Sendziak (*Die bösartigen Geschwülste des Kehlkopfes*, Wiesbaden, 1896) collected 430 cases of laryngectomy and partial excision including only the cases to the year 1894.

For the partial and total laryngectomies the combined statistics averaged as follows:

Mortality	35 per cent.;
Definitely healed.....	7.5 per cent.;
Relatively healed.....	18.5 per cent.;
Recurrences and unknown...	38 per cent.

For the thyrectomies and the partial excisions of the soft parts, the combined statistics averaged as follows:

Mortality	9.8 per cent.;
Definitely healed.....	8.0 per cent.;
Relatively healed.....	13.0 per cent.;
Recurrences and unknown...	69.2 per cent.

In 1897, Graf (*Archiv für klinische Chirurgie*, lv, 1897) collected in Bergmann's clinic, from 1890 to 1897, 9 total and 8 partial laryngectomies, with an average mortality of 11.75 per cent. and 15.5 per cent. of permanent cures. In 9 small resections the mortality, owing to two cases of accidental but avoidable deaths was 33 per cent., while the permanent cures were 44 per cent.

Schmiegelow (*Annales des maladies de l'oreille*, 1897) collected 149 cases of operations for malignant diseases between the years 1890 and 1896: 49 thyrectomies gave a mortality from operation of 14.3 per cent.—42.6 per cent. of relatively healed and 14.3 per cent. of definitely healed; 50 laryngectomies gave a mortality of 16 per cent.—32 per cent. of relatively healed and 16 per cent. of definitely healed; 50 total laryngectomies gave a mortality of 22 per cent.—10 per cent. definitely healed and 48 per cent. of relatively healed.

Garré (*Münchener medizinische Wochenschrift*, 1898, No. 18) collected 68 cases (from 1891 to 1898) of total laryngectomies, with a mortality of 20 per cent.; 10 per cent. of these cases were cures over three years..

Kocher (*Deutsche Zeitschrift für Chirurgie*, 50, Rutch) since 1890 has operated in 12 instances for malignant disease, including,

- 1 total laryngectomy,
- 6 partial laryngectomies, in which one side was removed.
- 3 partial laryngectomies, in which less than one side was removed.
- 1 thyrectomy with an excision of soft parts.
- 1 pharyngotomy, with excision of the epiglottis.

In these cases the mortality was 8.3 per cent. Those cured for over 3 years, 16.6 per cent.; those free from recurrences less than 3 years, 33.3 per cent. In 1899, Sendziak (*Jahresbericht für Chirurgie*, 1899, p. 408), gives again a statistical table consisting of 640 cases of malignant disease in the larynx, consisting of (1),

* Read before the New York Clinical Society at its May meeting, 1902.

¹ Desault first recommended laryngotomy for foreign bodies in the larynx; Pelletan first performed it. Brauers performed the first laryngotomy for tumor of the larynx (Volkmann's *Sammlung klinischer Vorträge Chirurgie*, No. 94, p. 2808, Schuchardt).

36 endolaryngeal operations, with 39 per cent. of definitely healed, 39 per cent. of recurrences and 22 per cent. of unknown results; (II) 136 cases of laryngofissure, with 25 per cent. of definitely healed, 57 per cent. of recurrences; 2 per cent. of fatal cases, and the remainder not known; (III) 201 Resections of the larynx, with 23 per cent. of definitely healed, 21.8 per cent. of fatal cases, 31.3 per cent. of recurrences, the remainder unknown; (IV) 267 total extirpations with 13 per cent. of definitely healed, 35 per cent. of fatal cases, 30 per cent. of recurrences and the remainder unknown.

Glück (*Verhandlungen der deutschen Gesellschaft für Chirurgie*, 1900, 1-178), in 1900, reported 34 cases with 31 recoveries, a mortality of only 8.5 per cent. These were all total laryngectomies and were performed for malignant disease.

The diminution in the death rate for laryngectomies from 1889 to 1900 was from 44 per cent. to 8.5 per cent. or 14 per cent. The increase in those remaining cured over three years has been from 7 to 15 or 16 per cent. during this period. The increase in those remaining free from recurrences, but not over three years, has been from 13 or 14 per cent. to 33 per cent. during the same period.

The cases in which a partial excision of the soft parts of the larynx has been combined with thyroto-my have also improved in results. To-day in this class of cases the permanent cures are as high as 44 per cent., while the death rate can be placed at about 11 per cent. if we exclude the two cases of accidental death occurring in Professor von Bergmann's clinic.

The reason for this steady improvement in the results is to be found in the measures adopted to avoid the former frequent causes of death, viz., the aspiration pneumonia and the infection of cellular planes enclosing the trachea and its extension to the mediastina.

Of these measures, the avoidance of general anæsthesia and the more frequent employment of local anæsthesia must be mentioned. Cocaine had formerly been used by Billroth and Semon, but Kocher, in Bern, has probably used it more extensively than any one else and for the purpose of preventing cough, stilling hæmorrhage and diminishing pain. Both Kronlein (*Beiträge zur klinische Chirurgie* xix, 1897) and Kocher (*loc. cit.*) believe that the diminished reflex irritability of the trachea and of the bronchi seen in general anæsthesia is avoided by local anæsthesia. An additional disadvantage in the use of ether, which does not concern chloroform, is the increased tracheal and bronchial secretion. This is also eliminated by local anæsthesia. The use of cocaine upon the mucous membrane of the larynx has other advantages in that it defines more precisely the limits of the growth (Butlin, *loc. cit.*) and by its anæsthetization diminishes the

tendency to a sudden reflex inhibition of the heart and respiration through the superior laryngeal branch of the pneumogastric nerve. (Crile, *Journal of the American Medical Association*, March, 1900.)

Another measure tending to improve the statistics has been the reestablishment of the posture used and advocated by Maas in 1874 during the operation (*Archiv für klinische Chirurgie*, xix). This posture is now made use of by many surgeons under the name of the Trendelenburg and Rose posture. In this posture of the head and trunk, the natural tendency of all secretion and blood is to flow away from the trachea and to avoid aspiration into the lung. A complete reliance upon this posture had done away with the preliminary and immediate tracheotomies to a large extent in the more restricted operations and completely with the various tampon cannulæ, the use of which tended rather to increase than to avoid the dangers of an aspiration pneumonia.

Another measure used in total laryngectomy for the avoidance of aspiration pneumonia is that recommended by Glück in 1881 (Langenbeck's *Archiv*, No. 26), in which, immediately preceding the extirpation of the larynx, division of the trachea at the level of the first or third rings is made and its lumen turned forward and sutured to the skin. The mortality for his method of operation has been only 8.5 per cent. for total laryngectomies, a mortality not yet attained by any one by another method.

Another measure which has diminished the danger of the infection of the peritracheal connective tissue in total laryngectomy has been the efforts made to close the mouth and pharynx from the wound and incidentally from the lumen of the trachea. Among these efforts are those of Bardenheuer, Poppert, Rotter, Sacchi, and Fæderle, all of whom attempted to secure this advantage against the infection of the cellular tissue about the trachea.

The diminution in the mortality and the increase in the permanently cured, the possibility in the near future of doing without the artificial larynx as well as the recent efforts in developing the technique of the operation and of improving the anæsthetization will certainly increase the number of indicated laryngectomies. At present this number is undoubtedly small.

The majority of cases which we meet with are already beyond help. The cases which demand a total operation and show a prospect of cure, are only found out after an exploratory thyroto-my as the preliminary step to an intended resection or partial laryngectomy.

It is, therefore, practical, for the present at least, to bear this in mind, and before proceeding to any radical method, to explore the interior of the larynx and to exclude the possibility of a more restricted procedure.

On this point, Cohn (*New York Medical Journal*, Sept. 18, 1900), Kocher, *loc. cit.*; Butlin, *loc. cit.*; Semon (*Monatsschrift für Ohrenheilkunde*, 1899, No. 11) Navratel (*Jahresbericht für Chirurgie*, 1900, p. 410) are a unit in their opinion as to its importance, and Sendziak's statistics of 640 cases, representing the work of many different operators, show clearly the importance of early diagnosis and, immediate, restricted but radical procedure.

The method usually adopted for the more restricted procedures, is based upon the experimental work of Czerny, and consists in a median incision made through the skin and subcutaneous tissue from the hyoid bone to the first or third ring of the trachea. With an exact stoppage of hæmorrhage and an avoidance of injury to the anterior jugular veins, the incision is prolonged between the sternohyoid and sternothyroid muscles to the thyroid cartilage, the thyrohyoid and cricothyroid membranes. The latter membrane is punctured in the median line and with the scissors the thyroid cartilage is divided in the median line and between the vocal cords. Schuchard divides the thyroid cartilage in the median line with a scalpel from without inwards, after which he divides the thyrohyoid membrane and the mucous membrane of the larynx from above downward to or through the cricothyroid membrane (Volkmann, *Sammlung Klinischer Vorträge, Chirurgie*, 1894). The cartilages are now pulled apart by retractors and the interior is exposed. If the process involves the contents of the larynx and upon one side only, it may be removed by the knife and the hæmorrhage stopped with the cautery or ligature. If more extensive but not yet involving the cartilage to any extent, nor showing lymphatic deposits over the thyroid or cricoid cartilages nor at the greater horn of the hyoid bone, the cartilage is freed of its perichondrium externally and is cut out together with the tumor which it encloses. If at any time more room is required than can be given by the usual thyroectomy, the cricoid cartilage should be split and a greater exposure of the interior of the larynx obtained.

The hæmorrhage is stopped with the cautery and the wound is packed with iodoform gauze. Providing the anæsthesia has been local and according to the method adopted by Kocher, an ordinary tracheal cannula is introduced into the trachea at this time. If general anæsthesia is used at the beginning of the operation, it may be discontinued when the larynx is opened. From this time until the growth is removed and the hæmorrhage is stopped, local anæsthesia may be used. After this is accomplished, a tracheal cannula may be introduced and the wound packed (Krönlein, *loc. cit.*). If the general anæsthesia is to be continued throughout the operation, a tracheotomy is done when the larynx is to be opened

or after it has been opened (E. Cutler, Boston, 1871. *Thyroectomy for the Removal of Laryngeal Growths*).

The wound treatment is always an open one. The dressings are changed sufficiently often to keep them dry. In all the partial operations, especially the resections, nourishment is taken within forty-eight hours of the operation by mouth. After two weeks the tube is removed.

For the local anæsthesia Kocher has used a one-per-cent. solution of cocaine for the median incision and a solution consisting of cocaine and antipyrine 5, acid carbolic 1, distilled water to 100 for painting the surfaces of the larynx. Krönlein uses a ten-per-cent. cocaine solution. The posture of the patient during operation has been the Trendelenburg-Rose which has very thoroughly avoided the aspiration of blood and mucus into the trachea.

Since 1897 Kocher has used local anæsthesia in four cases of resection and in one unilateral laryngectomy. Where more than resection of the soft parts has been made a general narcosis has been the rule and has been used throughout the operation.²

The technique of incomplete unilateral laryngectomy and the resection of the soft parts has been so much improved by the posture, by the anæsthesia, and by the avoidance of the old tampon-cannulæ, that they may be considered to represent the slighter and severer forms of a single method in which the mortality ranges between 8.3 per cent. and 20 per cent., and the permanent cures between 44 per cent. and 21 per cent.

When we compare the complete unilateral and total laryngectomies as representing the extremes of another method from the above, we find that our mortality ranges from 8.5 per cent. to 35 per cent., while our permanent cures vary between 10 per cent. and 20 per cent. Though the mortality is high in many instances and the permanent cures are low, I believe that the operation of total laryngectomy in some instances, and of the unilateral laryngectomy in many instances, can be considered justifiable measures. In these cases the glandular involvement, if present, is limited to the prelaryngeal or lateral laryngeal glands, and cannot be said to exist in the deep cervical or in the peritracheal glands. Under such conditions a total or a unilateral laryngectomy can be done with the chance of success.

The technique best fitted to relieve the dangers in the total removal has been about as follows: A light general anæsthesia with chloroform is most frequently used and is to be preferred. The anæstheti-

² If general anæsthesia is employed ether should never be used, and chloroform should be given in mild degree, so as not to inhibit the tracheal and bronchial reflex. In my own opinion it is well to precede the anæsthetization by a subcutaneous injection of atropine, gr. $\frac{1}{100}$, especially if no cocaine is used to the mucous membrane of the larynx during the excision.

zation is preceded by a hypodermic injection of atropine, 1-100 grain. The patient is placed in the Trendelenburg-Rose posture and an incision is made from the hyoid bone to the third or fourth ring of the trachea in the median line of the neck. This incision is carried through the subcutaneous tissue, and the anterior jugular veins are avoided or ligated. The ranhe between the sternohyoid muscles is seen, and the thyreoid cartilage and the cricothyreoid membrane are exposed. With the scissors the cricothyreoid membrane is punctured and the thyreoid cartilage is divided in the median line. The cavity is now exposed by lateral retraction and the interior of the larynx is inspected.

If it is impossible clearly to define the limits of the growth, a solution of cocaine may be used to diminish the reflex and to still the bleeding until an exact opinion can be formed.

If a partial or unilateral laryngectomy can be done with a prospect of removing the mass and of obtaining a sufficient view of possible lymphatic deposits, it is preferably performed because of the retention of the voice in more or less perfection. If the disease is extensive, or involves both sides of the anterior or posterior halves of the organ, it will be necessary to arrange the remaining portion of the operation so as to expose and to remove any accompanying lymphatic involvement. This necessarily brings us in connection with the lymphatic supply of the larynx and the possible glandular enlargements which may accompany the varied location of the tumor. I can quote upon this point no better authority than Most (*Deutsche Zeitschrift für Chirurgie*, No. 56), who carefully reviewed the subject from an anatomical and pathological point of view. He says,

I. The cavity of the larynx is divided into two lymphatic districts, an upper and a lower, which are almost completely separated from one another, except by means of the lymphatics beneath the mucous membrane of the posterior wall. The dividing line of these two districts is the vocal cords over which the lymphatics are very fine and few in number.

II. The lymphatics of the upper district (the false vocal cords, the sinus of Morgagni, the sides and posterior surface of the epiglottis) collect in branches upon the sides of the epiglottis near the aryepiglottic folds and leave the larynx through the pharyngoepiglottic folds and through the thyreohyoid membrane. The lymphatics of the lower district, which are of smaller calibre than those of the upper district, pass through the cricothyreoid membrane. The lymphatics of this district communicate freely with those of the trachea. The lymphatics upon the posterior wall of the larynx, which communicate with both districts, communicate freely with the lymphatics of the œsophagus and of the pharynx. The lymphatics in both districts communicate freely across the median line, so that no barrier to glandular enlargement upon the opposite side of the median line exists.

III. The lymphatic vessels collecting the lymph from the upper district accompany in the main the superior laryngeal artery, and end in glands situated in front of and upon the internal jugular vein at the level of the bifurcation of the carotid arteries. Frequently, one of these vessels courses to the lesser horn of the hyoid bone beneath and behind the hypoglossal nerve, and ends in a gland situated upon the posterior belly of the digastric muscle and to the side of the internal jugular vein. Most repeatedly found a small gland below the tendon at the attachment of the digastric muscle to the hyoid bone or on the lateral border of the thyreohyoid muscle. A further condition found was glands upon the thyreohyoid membrane and upon the anterior and lateral surfaces of the thyreoid gland. Some branches from this district may enter the glands below the bifurcation of the carotid artery and upon the internal jugular vein.

IV. Beneath the vocal cords the subglottic mucous membrane of the anterior portion of the larynx sends its lymph through the cricothyreoid membrane to one or two glands in front of the larynx, which may communicate over the isthmus with pretracheal glands, or beneath the lobes of the thyreoid gland with the deep cervical glands upon the internal jugular vein.

V. Beneath the vocal cords and upon the posterior portion of the larynx, the vessels pass to glands situated in the interstice between the trachea and the œsophagus or behind the œsophagus. These vessels pass through the cricotracheal membrane or the membranous portion of the trachea. They may extend as far as the thoracic aperture or communicate with the supraclavicular glands. Hence, the first region to be exposed in laryngectomy is the thyreohyoid membrane and the superior carotid triangle. This will expose the glands into which the four to six vessels of the upper district empty. The second region is that holding the prelaryngeal and pretracheal glands. The third region is that behind the lateral lobes of the thyreoid gland and between the trachea and œsophagus. The fourth region is that between the œsophagus and the trachea or behind the œsophagus.

Up to this stage, in either the partial or the complete operation, the steps are the same. From this time on, however, I believe that the best results will be obtained when the following methods are adopted. In the total laryngectomy, to the vertical incision already made, a transverse one is added, passing 1 centimetre below the hyoid bone from the sternomastoid muscle of one side to that of the other side. This incision is carried through the subcutaneous tissue and platysma muscle, exposing the sternohyoid and omohyoid muscles. Here, the communications between the submental and the anterior or oblique jugular veins are ligated, after which the sternohyoid, the thyreohyoid, and, if necessary, the omohyoid muscles are divided 1 centimetre below the hyoid bone.

The sternohyoid and omohyoid muscles, together with the skin over them, are raised and retracted outward, and the posterior borders of the thyreohyoid and sternothyreoid muscles are exposed. The

superior thyroid artery and vein is now ligated close to the carotid, at least before its superior laryngeal branch is given off. Its branch over the thyrohyoid muscle and the continuation of the artery upon the thyroid gland are also ligated. The attachments of the thyrohyoid and of the sterno-thyroid muscles to the oblique line of the thyroid cartilage are now separated from the cartilage without destroying their continuity. A further retraction of the flaps, together with these two muscles, exposes this region from the hyoid bone above to the lower border of the isthmus of the thyroid gland below, and from the internal jugular vein upon one side to that of the other side. The upper two thirds of this region is freely exposed. The lower third is covered by the isthmus and lobes of the thyroid gland. At this stage, the glands which would receive the lymph from the upper district of the larynx are looked for, namely:

- I. Upon the thyrohyoid membrane.
- II. Near the lesser cornu of the hyoid bone.
- III. Beneath the posterior belly of the digastric muscle.
- IV. Upon the posterior border of the thyrohyoid muscle.
- V. Over the carotid artery at its bifurcation.

This area comprises, therefore, mainly the triangle formerly marked out by the sternomastoid, the posterior belly of the digastric and the omohyoid muscle, but now destroyed by the division of the omohyoid muscle. In the lower portion of the exposed area we look for the glands receiving the lymph from the lower district in the larynx, namely:

- I. Over the cricothyroid membrane and the isthmus of the thyroid gland.
- II. Over the cricothyroid muscles and the lateral and posterior surfaces of the lateral lobes of the thyroid gland.
- III. Behind the lateral lobes of the thyroid gland in the interval between the trachea and the œsophagus.

To examine this latter region it will be necessary to raise the lateral lobes of the thyroid gland, which can be safely done since its arterial vessels from the superior thyroid have been ligated and divided. If the peritracheal glands are enlarged at all, or the deep cervical to any extent, I believe it best to desist from all attempts at a radical cure. Operative treatment is of no avail when these glands are enlarged, and the operator should content himself with purely palliative measures. Incalculable harm has come to surgery in the neglect to fully appreciate the contraindications to operations for malignant disease. In this operation, the beneficial results will only be obtained when we fully appreciate that the lymphatic involvement must be limited to prelaryngeal and lateral laryngeal glands, which can be completely re-

moved with the growth in the larynx. If the glandular enlargement is such as to allow of a probable radical operation and a total laryngectomy is decided upon, the capsule of the thyroid gland is divided above the isthmus and the isthmus is pushed down sufficiently to allow the trachea, when divided transversely through the cricotracheal membrane, to be pulled forward easily and have its lumen sewed by six or eight silk sutures into the lower end of the skin incision. It may be necessary, in order to bring the lumen of the trachea forward to the skin, to loosen its connection with the œsophagus behind, and to split the isthmus of the thyroid gland in front. This can be done, however, without danger or increased risk to the patient save in exceptional instances.

This method of treating the trachea in total laryngectomy, I believe, is superior to the usual tracheotomy and tamponing of the lumen above the cannula. No statistics, so far, have approached those of Glück, who has performed in this manner 34 cases with 31 recoveries (*Deutsche Zeitschrift für Chirurgie*, 1900). The cricoid cartilage is now pulled forward, and after tamponing its lumen a careful separation is made of the mucous membrane of the œsophagus covering its posterior surface, together with the inferior constrictor of the pharynx and the posterior cricoarytenoid muscles. During this dissection the recurrent laryngeal nerve is divided. This separation from the sides and back of the cartilage is continued until the pharynx is entered. The larynx may now be easily raised from below and the attachment of the inferior constrictor of the pharynx, the stylopharyngeus and palatopharyngeus muscles to the thyroid cartilage severed, leaving the larynx attached by the thyrohyoid ligaments and membrane. The superior laryngeal nerve is divided and the thyrohyoid membrane is cut transversely just below the hyoid bone from before backward. The larynx is now turned from below over the hyoid, exposing the aryepiglottic folds, which are preserved or cut away with or without the epiglottis. If the epiglottis is involved, it should be brought into the wound and its anterior surface exposed, so that it may be removed by dividing the linguoepiglottic mucous membrane, the submucous fatty tissue and the hyoepiglottic ligament as far away from the epiglottis as possible. The wound left after the removal presents below a good flap of the mucous membrane of the œsophagus. Above is seen the cut edge of the linguoepiglottic mucous membrane, if the epiglottis was removed, or, if not, the cut edge of the aryepiglottic mucous membrane. Laterally are seen the pharyngeal walls. What should be done with this wound has been a matter of a good deal of thought. Formerly, it was allowed to heal by granulation. It was soon found out that the discharge

from the mouth and pharynx infected the cellular planes about the œsophagus and trachea, and attempts were made to prevent this by separating the mouth and pharynx from the trachea and from the cellular tissue of the neck about the wound. The earliest attempts were those of Glück and Zeller, consisting in the resection of the trachea and the suture of its lumen into the lower angle of the wound (1881). The advantage of this method was seen in the entire separation of the lumen of the trachea from the discharge from the mouth and pharynx, and its efficacy was seen in the diminished number of deaths from aspiration pneumonia.

Another advantage advocated for this resection was seen in the possibility of doing away with the use of a tracheal cannula after operation, since the lumen of the trachea does not undergo stenosis. There was, however, something still wanting in this operation and that was the closure of the œsophago-pharynx and the prevention of infection in surrounding cellular tissues. To accomplish this, Bardenheuer (*Deutsche medicinische Wochenschrift*, 1891, No. 21) preserved as far as possible the mucous membrane of the anterior wall of the œsophagus and that of the aryepiglottic folds, and sutured these surfaces together. In case of necessity he made use of the inverted epiglottis, the freshly pared edges of which were sutured to the walls of the pharynx and the anterior wall of the œsophagus. In this manner, the mouth, the pharynx, and the œsophagus were closed from the wound. The wound was now packed with gauze and allowed to granulate.

Poppert (*Deutsche medicinische Wochenschrift*, 1893, No. 35) adds to this method a double row of sutures, securing in a more lasting manner the parts in apposition.

Rotter (*Berliner klinische Wochenschrift*, 1895, No. 6) adds to the above described method a suture of the divided muscles (the sternohyoid and the thyrohyoid and possibly the omohyoid) over the mucous membrane. Over these muscles the skin is united, leaving as small an area as possible to be packed with gauze.

Sacchi (*Policlinico*, No. 3, 1897) attempted to close the lumen of the upper end of the trachea by suturing together the mucous membrane of the anterior wall of the œsophagus, the sides of the pharynx, and the skin flaps over the end of the trachea. They were fixed in this position by several sutures passing through the trachea in addition to those uniting the skin and mucous membranes. Glück (*Verhandlungen der deutschen Gesellschaft für Chirurgie*, 1900, p. 78) in his later cases, has added to his resection of the trachea an immediate closure of the mouth and pharynx. This he attains by superimposed skin flaps taken from the sides of the wound in a manner similar to that used for urethral

fistula (Szymanowsky). His good results (8.5 per cent. mortality) he ascribes in large measures to his careful dissection, to his resection of the trachea, and, by no means the least, to his plastic closure of the mouth and pharynx.

Fœderle (Langenbeck's *Archiv*, lxiii) after extirpation of the larynx, has in one case been able to loosen the trachea from its peritracheal connections and to unite its cut end to the hyoid bone. Where the epiglottis and the aryepiglottic folds have been preserved, the mucous membrane of the trachea is sutured to their mucous membrane.

Fœderle's patient remained in hospital two weeks and was discharged cured. Were it possible in all cases to fix the trachea in this manner, it would easily solve the complete separation of the œsophagus and trachea, and would provide also for a column of air within the mouth which, with proper instruction (Goldstein's case), would bid fair to do away with the artificial larynx so distasteful to the patient, and in no small degree provocative of infections and recurrences.

Unfortunately, this operation has been only once repeated (von Keppel, Langenbeck's *Archiv*, 63) and in this instance the stitches which held the trachea to the hyoid bone tore through the tissue from undue tension upon them and the trachea became gangrenous. The gangrene was thought to be due purely to the tension and not to infection. The patient remained in the hospital two months and a half before the wound was healed.

In the last case here reported, an attempt to follow this method was made, but it was impossible to lift the trachea sufficiently to bring it in contact with the hyoid bone. The method of closing the oro-œsophagopharynx was therefore changed, and the suggestions of Sacchi and Bardenheuer adopted.

Which of these suggestions for closing the oro-œsophagopharynx from the trachea and the wound is the best, it is very difficult, indeed, impossible, to say at present, could the trachea be united to the hyoid, and should the epiglottis and aryepiglottic mucous membrane be sutured to that of the trachea (Fœderle's method), it would give the very best conditions for healing and for the production of a voice without artificial means. As this cannot be accomplished in many instances, owing to the tension upon the trachea, some one of the suggestions of Bardenheuer, Rotter, Glück, or Sacchi must be selected. Of these, Rotter's method appeals to me more forcibly than the rest, unless it be Glück's.

(To be concluded.)

A Merger of Journals.—The Philadelphia Medical Publishing Company has purchased the *Therapeutic Monthly*, which will henceforth be incorporated with the *Philadelphia Medical Journal* as a monthly supplement.

THE PRESENT STATUS OF GENITOURINARY THERAPEUTICS.*

By EUGENE FULLER, M. D.,

NEW YORK.

A surgeon is generally supposed to put less reliance on drugs than the physician. Hence it sometimes happens that the physician taunts the surgeon for a too hasty resort to the knife, while on the other hand the surgeon commiserates the patient for the time previously consumed while resorting to drugs under the care of the physician. Anyone who essays to stand high in the management of genitourinary affections should be a surgeon. He should, however, not let the reproach of a too hasty resort to the knife lie against him. He should know the value of therapeutic measures and be able to discriminate early between the cases which can be cured by therapeutics and those that cannot. I know of no instance wherein a surgeon loses greater prestige than in connection with the case where a cure is wrongly said to be possible only through operation and where the individual refusing to accept the issue goes elsewhere and is cured by therapeutic means.

In the present brief communication it has seemed better to choose a few important points for consideration rather than to try to cover the whole field in a general manner. The points selected are the elimination of the gonococcus, the dissipation of general infection from the genitourinary tract, the sterilization of the tract in connection with operation, and the limits which should be put on the administration of anodynes in this branch of practice.

As regards the elimination of the gonococcus through the direct result of therapeutic measures, I am frank to admit the results have so far been disappointing. Ever since the differentiation of the germ of gonorrhœa very active efforts have been made by the direct application of antiseptics to the involved area to terminate the disease in short order through the entire destruction of the infective principle. Every year and usually many times a year some professional enthusiast has raised the cry that his method of treatment will accomplish this happy result. After each such announcement the profession generally, in greater numbers formerly than at present, has sought by following the heralded method to obtain the same results that the sponsor for the treatment had reported. But in all these instances subsequent investigations have failed to get the satisfactory results reported by the originators, and queerly enough it has been found in most instances that the originators themselves shortly after their premature outbursts have quietly abandoned the methods they had initiated. The chief reason for the failure of

these methods in so many cases lies in the quality possessed by the gonococcus of so burying itself under the epithelial layers or in the mucous follicles as to avoid the germicidal effects of the antiseptic solutions with which the mucous surfaces are bathed. Practically all these methods, the object of which is the direct destruction of the gonococcus, attempt to accomplish their purpose either by the voluminous irrigation of the tract involved with a weak antiseptic or by the topical application to the part of a strong antiseptic. It may be that the former of these methods depends for its efficacy more on washing away germs than on destroying them. If the gonococcus is washed by such treatment out of the genitourinary tract, well and good. If, however, the germ is simply washed from its primary lodging place and deposited viable in another and remote part, more harm than benefit results.

Treatment based on the latter of these methods has from a scientific standpoint much more to recommend it. If carefully administered, it does not run the risk of enlarging the area infected. It is properly applicable, however, only to cases where the area infected is still limited.

The antiseptic solutions formerly employed, when sufficiently concentrated to directly destroy the gonococcus, were also so irritating to the mucous membrane as to prevent their frequent repetition. This objection, however, does not apply to the recently discovered organic salts of silver, and when solutions of these are properly and systematically applied in the early stage of a gonorrhœal infection, that is, while the area infected is well defined, good, and in fact striking results are often attainable.

In treating gonorrhœa one should always be mindful that Nature herself is the great and chief factor in the elimination of the gonococcus, the germs being cast off in the pus cells and in the desquamated epithelia. Consequently an expectant treatment, which may do nothing more than leave Nature alone, is much better in its results than a spectacular one which thwarts her.

The elimination of general infection from the genitourinary tract is a problem which demands much attention. In order to be able to deal intelligently with its varied aspects, one should be thoroughly familiar with the physiological and the pathological conditions which govern it. In the first place, it should always be borne in mind that the normal tract is sterile, and if normal functional conditions persist, that a spontaneous elimination of a general infective principle promptly occurs, should by chance or otherwise such germs have gained access to the part. In other words, if one finds in a given instance a lasting general infection grafted on the genitourinary tract or any portion of it, he must know that some cause exists, aside from the

* Read before the 1902 meeting of the American Therapeutic Society.

general infective principle itself, to account for the persistence or propagation of the infection, and it is upon the diagnosis of that cause that the therapeutic or surgical management of the case depends. Defective urinary drainage, traumatism, special infections, and communicating infections are headings under which these accounting causes can be grouped.

Among the agencies causing defects in urinary drainage are congenital anomalies, strictures, prostatic hypertrophies or tumefactions, neoplasms, calculi, movable kidneys, etc. Traumatisms may result from blows, falls, direct injury, or the presence of calculi, neoplasms, foreign bodies, etc. Special infections bring in the element of mixed infection, the lodgment of the special germ allowing of the propagation of the secondary or general infective principle. The tubercle bacillus and the gonococcus represent the special germ in most instances. Communicating infections are those which are primarily connected with the bowels, the female genital apparatus, or some adjacent structure, and which communicate with the urinary tract either by sinus or by juxtaposition, being separated by a layer of tissue too thin to interfere with the influx of infection. It is consequently easy to see that failure or temporary alleviation will attend any treatment, therapeutic or otherwise, which concerns itself simply with the direct elimination of the general infection, overlooking or leaving undisturbed the primary factor on which the propagation of the infection depends.

The removal of the primary factor in most instances can be accomplished only through a resort to surgery, and after that has been radically accomplished a gradual spontaneous disappearance of the general infection will follow in the natural course of events. In a minority of instances, as for instance where the primary factor is a special infection, the entire management of the case is relegated to the province of therapeutics and hygiene. In the former of these instances, where for one reason or another surgery is not resorted to, palliative treatment can be tried. Such treatment consists of measures the object of which is to combat as far as possible the propagation of the general infection. Treatment of this last description can be grouped under the headings of diuresis, the administration by the mouth of drugs to inhibit germ proliferation in the urine, vesicle and urethral lavage, and attention to general conditions.

Diuresis is best effected by imbibing a large volume of bland soft water, and not by the administration of drugs for the purpose of stimulating or congesting the kidneys, since the element of congestion serves the cross purpose of stimulating germ proliferation. If it is found impossible to make a patient drink sufficiently, owing to nausea or vomiting, high

saline enemata or even subcutaneous injections of normal sterilized saline solution in large volume may be substituted to tide over an emergency. Many drugs are given by the mouth for the purpose of inhibiting germ proliferation. The fact in itself that so many are by various authorities recommended leads to the inference that no one in particular is generally efficacious. It is not infrequently observed that a certain drug, while very efficacious in one case will prove inert or disappointing in another. Urotropin at the present time probably stands near the head, or perhaps at the head, of drugs of this class. If infection is confined to the lower urinary tract, voluminous lavage, the fluid used being medicated by a bland antiseptic, is very effective provided access by catheter can be had to the involved area without provoking traumatism. Attention to general conditions signifies regulation of the bowels and liver and the maintenance of a high degree of nutrition, together with a supervision of hygienic requirements so that the condition of the individual may be made as resistant as possible to the systemic absorption of infection.

By many authors much stress is laid on the question of sterilization of the urinary tract just previous to operation in cases of infection. The term sterilization in such a connection should always be interpreted relatively, as it is impossible to really sterilize an infected tract in such instances. I personally do not longer aim to make the vain attempt. What I do try to accomplish is to have the general conditions as favorable as can be for operation, to make the operation itself as little of an ordeal to the patient as possible, and to have the patient at the end of the operation, through the removal of the primary factor accounting for the infection and through the temporary establishment of free urine drainage, in such a condition as will allow of the gradual and natural elimination of infection. I do not by this statement wish it to be inferred that I am not an advocate of operative antiseptics, for I am an ardent advocate of it. I consider that "dirty" is the most objectionable term that can be applied to a surgeon. Perhaps, to better illustrate my point, I may cite a case.

Suppose one has to deal with an old man suffering from prostatic obstruction and secondary phosphatic calculous formation, whose urine is so foul when voided as to render the atmosphere of the room immediately objectionable. Daily repeated lavage has little effect in reducing such infection. If such a patient is under an anæsthetic, the bladder can by ten to fifteen minutes of washing be so cleansed that the return flow through the catheter is reasonably clean on inspection. The advocates of sterilization of the urinary tract as a preliminary to operation would do that. I personally would not, but should have my

operation completed by the time they had finished their washings of the bladder. The advocates of sterilization would have the advantage over me of opening a bladder relatively much cleaner than that of my patient. I should have the advantage over them of keeping my patient under the anæsthetic ten or fifteen minutes less than theirs. The thorough lavage would have in all probability caused a reflux of septic fluid into the renal pelves, as the ureters in most such cases are dilated. Consequently from that cause my patient would run less risk of post-operative renal suppression and death from uræmia. After the bladder has been opened it can be thoroughly washed in one minute without any danger of producing a reflux of fluid into the ureters. As my patients do not suffer from postoperative sepsis, it cannot be argued that the method I advocate has great risk in that respect.

The limits which should be put on the administration of anodynes in this branch of surgery is the final special topic for consideration, and although last on the list, I do not thereby wish one to infer that I consider it of minor importance. In fact, I have considered it a matter of so much importance that in the hospitals where I visit I have issued the following standing order to the house staff: "No anodynes are to be prescribed in operative cases." The drug of this class to which I have chief objection is opium and its derivatives. If a patient is being prepared for operation, anodynes sadly interfere. They check diuresis and thwart Nature in her attempt to prevent an infection confined to the urinary tract from becoming systemic. Consequently if a patient is brought on to the operating table narcotized, there is an added risk of postoperative death from uræmia or sepsis or from what is perhaps more frequent, a combination of the two. The same argument prevails against anodynes given after operation. Among the uninitiated there is apt to be a strong tendency displayed to give a hypodermic injection of morphine during the boisterous and intoxicated stage, which lasts for an hour or two after the immediate recovery from the anæsthetic. Such advocates argue that the patient is suffering and needs drug relief. If, however, the anodyne is not given and the patient is asked next day if he suffered severely during the boisterous stage after the anæsthetic, he will generally tell you that he has no recollection of suffering at that time or even of being demonstrative. If a patient suffers for any length of time after operation or has attacks of suffering, then something is wrong with the operation, with the dressings, or with the drainage, and the giving of an anodyne simply masks the cause and does not remove it. It merely staves off, as it were, the evil day. The intelligent thing to do in such a contingency is to correct what is surgically wrong,

thus relieving the patient; the stupid and weak thing is to "dope" him so that he cannot comprehend what is wrong. A great safeguard to the surgeon in these cases is mental alertness on the part of the patient. If anything then goes wrong, the patient by his complaint directs the surgeon's attention, thereby helping in a rectification of it. If after a urinary operation a patient is drowsy and supremely comfortable, I am always alarmed, being fearful of uræmia, and to aid him into such a dangerously blissful condition by the administration of anodynes is the last thing to be thought of. I admit that there may be contingencies, largely of a medical complicating nature, where the postoperative administration of anodynes may be required.

The remarks just made apply to my operative practice. There are, of course, many cases not of an operative character, such as acute gonorrhœal conditions of the deep urethra and adjacent parts, where the temporary administration of opium is most advisable.

THE TREATMENT OF EXTENSIVE RECTAL STRICTURES.

By EMIL RIES, M. D.,
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Extensive strictures of the rectum are troublesome by producing constipation and purulent discharge. They undermine the general health by toxæmia, due to absorption from the overloaded intestinal tract, and by sepsis produced by the associated ulcerations, abscesses, sinuses, and fistulas. They ultimately endanger life by termination in intestinal obstruction or, more acutely, by perforation into the peritoneal cavity.

There are three conditions which make the treatment of these extensive rectal strictures a dangerous task and are apt to lead to disappointment in the results. These three conditions are so intimately connected with the nature of the disease, and vary so greatly in their extent, that the operator is liable to encounter appalling obstacles, to surmount which any one of all the various methods of intestinal surgery may have to be employed in a given case.

These three dangers result from the septic condition of the field of operation, the changed anatomical relations of the parts, and lastly from the menace of recurrence.

The danger of sepsis is of particular importance in this class of work, because to the chance of sepsis inherent in all ordinary bowel surgery there is added here a further risk from the ulcerations with resulting abscesses and sinuses. Whereas in ordinary bowel surgery we have to keep a watchful eye mainly on the bowel contents, we may encounter in this special work septic foci at varying distances from

the bowel, abscesses having burrowed in unexpected directions and threatening every operative endeavor with virulent sepsis.

While these abscesses and sinuses constitute one change in the normal anatomical relations of the parts, they are not the only pathological metamorphosis. In consequence of chronic indurative inflammation in the tissues of the rectal wall and its surroundings, the rectum, ordinarily a fairly movable organ which may be detached with reasonable ease, becomes a rigid and immovable tube. It is then glued to the surrounding tissues by absolutely unyielding and hard newly formed masses. The normal landmarks are wiped out. Sometimes it is even hard to say where bone begins and exudate ends. These pathological changes are apt to extend so high up that it becomes questionable whether a certain part is rectum or sigmoid flexure bound down by exudate. The sigmoid may be so changed that, instead of the normal mobility, it presents the appearance of a much shortened and rigid organ.

After operations in such problematic surroundings, recurrences occur with disappointing frequency, due especially to the fact that whenever any part of ulcerated or indurated bowel is left behind, the natural progress is toward reformation of a stricture. As all operators in this field know, it is very difficult indeed to be absolutely certain that no diseased bowel has remained behind. Whenever any diseased portion of the bowel is left, it may, under the irritation of the faecal current, again break down in an ulceration, again lead to formation of inflammatory exudate, the shrinking of which must reproduce the original stricture.

The methods at our command, which are to be considered here, are those which attempt to replace diseased bowel completely by healthy bowel. I leave out of consideration methods which by diverting the faecal current are intended to give the bowel a chance to heal and recover normal functions. The really severe cases never yield to treatment by colostomy or linear proctotomy. The really severe and extensive cases require plastic operations on the continuity of the bowel, by which the faecal current is conducted throughout along healthy bowel.

In order to achieve this, two methods have been in use, until I devised the new operation to which we shall presently come. These two methods are end-to-end anastomosis after resection of the diseased portion and side-to-side anastomosis without resection.

The first method of resection of the diseased bowel, though absolutely correct in its principle, is practically often extremely difficult, sometimes impossible. It may become impossible in consequence of great extent of the stricture and of the associated conditions of ulceration, formation of abscesses and fis-

tule, and infiltration of the surrounding tissue. In uncomplicated strictures it is often satisfactory, though its usefulness is endangered by the possibility of diaphragm formation in the rectum, if the end-to-end anastomosis does not in reality amount to pulling down the rectum from above to the anus itself.

The side-to-side anastomosis without resection is a clever invention of Dr. Bacon's. Its principle is to get around the stricture by pulling a loop of intestine above the stricture down to a point below the stricture and joining them by a Murphy button. An additional feature is the enlargement of the opening thus made by producing pressure necrosis of one side of the strictured bowel by a clamp. The latter procedure is not entirely free from danger and is of doubtful value. But aside from minor objections to this method, the greatest disadvantage is to be found in the fact that the available loop of bowel above the stricture, which is utilized for the anastomosis, has to be doubled upon itself. This feature of the operation makes it useless wherever the stricture is extensive and the bowel above the stricture is not exceedingly movable.

The case which gave me occasion for the development of a new method, based on a different and more novel principle in intestinal surgery, is the following:

Mrs. I. N., twenty-five years old, married at the age of eighteen, confined at the age of nineteen at a hospital of this city. The confinement was accompanied by considerable hemorrhage. Seven years ago the patient acquired syphilis from her husband. Since the confinement she notices the escape of faecal matter through the vagina. For years she has had trouble with her rectum, the main complaint being of constipation. Of late this has grown so bad that she is unable to pass any solid faecal matter and the bowels move only when she produces a liquid condition of the faeces with the aid of drugs. She is extremely emaciated and pale; she is frequently nauseated and has no appetite. She has not menstruated for several months. She weighs 82 pounds, being about 5 feet 3 inches in height.

Examination reveals a number of scars on the body, some due, in all probability, to the syphilis, some to accidental injuries. The pelvic organs present the following condition: Vulva patulous; the perineum consists of an upper part composed of skin only and a lower portion containing part of the sphincter, the two portions being separated by an opening leading into the vagina, a vulvovaginal fistula. The posterior wall of the urethra is torn away from the anterior wall to the extent of about one inch, and the orifice of the remnant of urethra is so narrow that an ordinary catheter cannot be inserted—stricture of the urethra. The posterior column of folds of the vagina is torn away from the perineum. Immediately below the end of the column of folds a narrow fistula leads into the rectum and discharges (during the examination) liquid faecal matter. A finger introduced into the rectum about two centi-

metres is arrested by a callous stricture, which is so narrow that it does not even admit the fifth finger. Its calibre is of about the size of a match. The portion of the rectum immediately above the stricture is felt through the vagina as a hard string extending upward for more than 5 centimetres. The vagina is wide, the uterus small and atrophic. Bimanual palpation of the pelvic organs reveals as an additional and somewhat puzzling finding high up on the brim of the pelvis a hard, immovable mass around the rectum which is assumed to be an exudate around the rectum caused by ulcerations which in their turn were

then dissect out and remove the entire strictured portion of the rectum, pull it down and sew it to the anal mucosa, then do a perinæorrhaphy. This would do away with the fistula, the rectal portion of which would come away with the removed portion of rectum and the vaginal portion of which could be dissected out and then sutured with the perinæorrhaphy.

I began my operation accordingly on June 19, 1897, at the Post-graduate School, in the presence of our students. I split the perinæum and posterior vaginal wall until the fistula was laid open in its entire length. A short internal fistula in ano was dis-

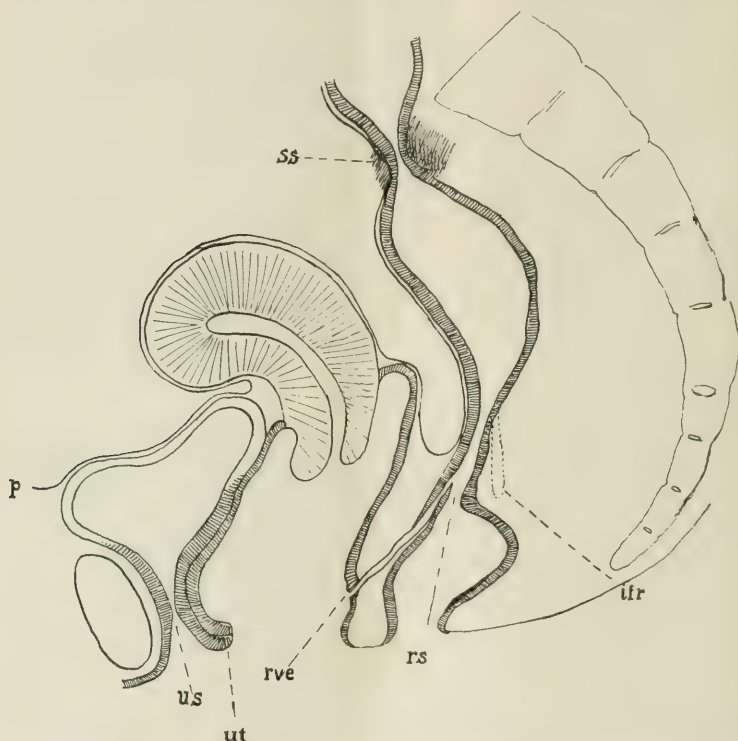


FIG. 1.—Condition before operation. p—Peritonæum. ss—Stricture of sigmoid. rs—Stricture of rectum. ifr—Internal fistula. rvf—Rectovaginal fistula. ut—Urethral tear. us—Urethral stricture.

caused by the syphilis and kept up by the stagnation of faeces above the stricture.

The rectal orifice of the rectovaginal fistula could not be felt below the stricture, and I could not tell how far up the stricture extended. It was evident that stricture and fistula ought to be done away with by one operation, and the one which presented itself to me as the most natural and useful one was an operation which is frequently done for neoplasms of the rectum and which has been utilized by Segond in rectovaginal fistula without stricture, and by Schede and others in cases of stricture and fistula. I intended to cut the rest of the sphincter ani and the rectovaginal septum up to the fistula and higher up if necessary, follow the stricture to its upper end,

covered immediately below the stricture. It was carefully curetted. The incision had now laid bare the rectovaginal fistula, but I had not arrived at the upper end of the stricture. I therefore continued my incision through the rectovaginal septum, working in cicatricial tissue outside and along ulcerated mucous membrane inside the rectum. I had reached the peritonæum of the cul-de-sac, but I had not reached normal rectum which could be utilized for plastic work. I therefore made a change in my plan and intended to get hold of the sigmoid. I found that I could pull it down a short distance, but then it did not yield any further, and when I inserted my finger into the peritoneal cavity and palpated the sigmoid, I found that there was a second stricture in

the sigmoid, very hard and immovably adherent to the underlying structures at the point where I had felt the mass before the operation. That explained why the sigmoid would not follow my tractions, and it obliged me to change my plan again. It was necessary to go higher up for a healthy portion of the bowel, and therefore the vaginal route had for the moment to be abandoned.

It would have been the simplest thing to perform a colostomy, and it would have undoubtedly saved the patient's life. But what would it have meant for a young woman of twenty-five years to have a more or

in a healthy portion of bowel with healthy mesentery, the bowel was cut in two, the assistants providing against the escape of faecal matter from the cut ends. The incision was continued through the mesentery and the bleeding vessels of the mesentery were ligated. The strictured portion of the bowel was closed above with three layers of continuous, inverting cat-gut sutures.

Now a long artery forceps introduced through the vagina and the opening in the cul-de-sac took hold of the healthy colon and pulled it down toward the anus. There was hardly any tension of the bowel,

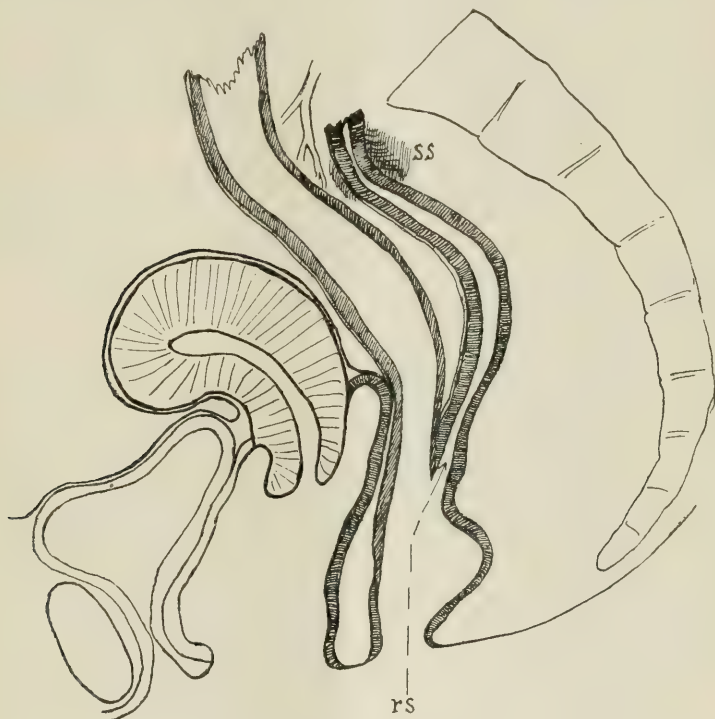


FIG. II.—Operation completed. rs—Rectal stricture. ss—Stricture of sigmoid.

less constant discharge of feces through an abdominal opening, with the prospect of having to keep this filthy condition until her death? It would have been little short of cruel to be satisfied with a colostomy, and I decided to try a more complicated operation.

After a median abdominal incision about 10 cm. in length, I inspected the condition of the sigmoid and found an extremely narrow, hard stricture about 4 cm. long intimately adherent to the pelvic wall, its mesentery so shrunken that this portion of the gut was absolutely immovable. Above it the bowel was somewhat distended and remarkably freely movable as high up as I could feel. It was provided with well formed mesentery with numerous blood vessels. I proceeded now in the following way: About 3 cm. above the upper end of the stricture of the sigmoid,

so that it could be expected that stitches would hold the colon down until it had become firmly adherent. The abdomen was closed with silkworm sutures and the operation was completed through the vagina.

On returning the patient into the lithotomy position I found the lower end of the healthy bowel very close to the anus, and the entire length of the healthy gut fitting snugly into the opening in the cul-de-sac and the incision of the anterior rectal wall, so that I did not even close the peritonæum by any suture, but relied on the bowel and its mesentery to prevent leakage into the peritoneal cavity. The rectum and sigmoid were washed out and iodoform gauze was inserted. The descended end of the gut was fastened to the rectum below the lower end of the rectal stricture by four silkworm sutures. The vaginal edges

of the rectovaginal fistula were cut away, and so the entire incision in the vagina formed one straight line from the cervix to the anus. It was now closed with silkworm sutures and the sphincter also united by such sutures after a rubber tube had been inserted into the colon. Therewith the operation, which had lasted about an hour and a half, was concluded.

The condition created by the operation was therefore as follows: The vagina contained a row of sutures along its posterior wall, the perineum was closed by sutures, a rubber tube and a strip of gauze protruded from the anus. The rubber tube led into the lower end of the rectum and from here forward and upward into the sigmoid and colon. The strip of gauze lay behind the rubber tube in the lower part of the rectum and then went up into the original rectum and sigmoid, covering the ulcerated surfaces. The function of the original rectum and sigmoid was to be performed by the descended sigmoid and colon, the feces escaping through a sort of short cut while the original rectum and sigmoid were switched off and were expected to become atrophied, much in the same way as other portions of the colon eliminated after the method of v. Eiselsberg, Obalinsky, Hackler, and others.

The convalescence was comparatively uneventful. The sphincter healed incompletely, as the repeated spontaneous expulsion and subsequent reinsertion of the rubber tube was too much of a strain on the sutures. There was some suppuration of the perineum and rise of temperature as high as 104° on two days before the collodion dressing of the abdominal incision was removed, under which some stitch abscesses had formed. Nevertheless the patient was able to leave the hospital nineteen days after the operation, and she has continued to improve since then. She gained 35 pounds in five months and was able to do her work two months after the operation. Five months after the operation she reported that her bowels moved once or twice daily, that there was no incontinence, and that she did not have to use any laxatives. An examination at that time showed that the new rectum admitted one finger easily. The old rectum had shrunk so that the finger could not enter it. It secreted a small quantity of mucus which appeared only at the time of the daily evacuation. The patient was put under antisyphilitic treatment in order to prevent renewed syphilitic affection of the parts.

Now, about one month ago, over five years after the operation the patient has been seen again. She now weighs 140 pounds, that is to say, has gained 58 pounds since the operation. She has daily natural passages, there is no more discharge of mucus, and the patient has no incontinence.

I take this occasion to report the case, because reports of such cases observed for years subsequent to the operation are somewhat scarce and are of the greatest importance when it comes to judging the value of different methods.

Since I have performed this operation, J. Rotter, of Berlin, has published three cases of an operation which he calls "sigmoideorectostomy." His publication appeared in the *Archiv für klinische Chirurgie*, Vol. lviii, 1899. His first paper was read May 13,

1898. His first patient was operated upon on July 25, 1897, about one month after my first operation and before I had published anything about my operation. However, his operation is in all essential features identical with mine. Two of his patients have recovered; one died of peritonitis. In the two cases in which the patients recovered, and which were reported fifteen and six months respectively after operation, the switched off bowel had not healed completely and continued to discharge some mucus. He therefore considers the resection of the rectum to be the preferable procedure where feasible, but regards the sigmoideorectostomy as superior to proctotomy or colostomy. He objects to Bacon's operation on account of the danger inherent in the button, when employed in the large intestine, and thinks the operation useful only in strictures located above the cul-de-sac.

In conclusion, therefore, we find a place for the sigmoideoproctostomy in cases in which an end-to-end anastomosis or Bacon's side-to-side anastomosis would be impossible and in which an artificial anus would formerly have been considered the sole hope of the patient.

100 STATE STREET.

Therapeutical Notes.

Powdered Cuttlefish in Intestinal Catarrh.—Dr. George Herschell (*International Medical Magazine*, October), of London, speaks of the use of powdered cuttlefish bone in the treatment of chronic diarrhoea and dysentery, especially those, such as hill diarrhoea and sprue, which are acquired in tropical climates. By the use of powdered cuttlefish bone we are sometimes enabled to cure in a very short time many intractable cases of chronic diarrhoea which have resisted all other means of treatment.

The author then reports a case of intractable enterocolitis in which after a thorough trial of ipecacuanha and of antiseptics given by the mouth, and irrigations of bismuth, quinine, nitrate of silver and several other agents, treatment was commenced with half an ounce of castor oil at bedtime. Cuttle bone was then given in drachm doses three times a day. After six days' treatment the stools were reduced to four in the twenty-four hours, contained no blood and had become semi-solid. The dose was now reduced to half a drachm. After fourteen days' treatment the stools were practically normal, and the patient was put upon ordinary diet. Treatment was discontinued and the patient had experienced no relapse six months afterwards.

In cases of sprue he has seen several remarkable cures. It appears to act in a mechanical manner upon the intestinal mucosa, and although its use is purely empirical, Dr. Herschell thinks that it deserves a trial in any case which resists more usual and orthodox measures. During its use castor oil should be given every two or three days.



Dr. Adolf Lorenz

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PROFESSOR LORENZ.

Often as it has been recorded that a career changed by reason of the unexpected and the unwelcome has finally shaped itself most auspiciously, we seem to need a frequent repetition of such a sequence of events to reconcile us to apparent misfortunes. An example that is likely to remain memorable in the annals of medicine is furnished in the life of Professor Adolf Lorenz, the eminent Viennese orthopædist, who for a number of weeks past has given demonstrations of his skill in several American cities and is expected to arrive shortly in New York. At the outset it was his ardent ambition to be a general surgeon, but an idiosyncrasy that caused him to suffer exceedingly from the effects of the antiseptics that were so copiously used in operative work at the time forced him to relinquish major cutting operations and devote himself to orthopædics. The result has been that he has made for himself greater renown that often falls to the lot of the general surgeon and has made an advance so conspicuous in his specialty as must forever associate his name with the cure of a deformity which, though uncommon, is so noticeable as to lead to real disability.

Dr. Lorenz, whose portrait we present in this issue of the *Journal*, is a native of a small town in Austrian Silesia. In his youth he had to contend with straitened circumstances and often to suffer privation to gain entrance into the University of Vienna and to meet the expenses of the academic and professional courses, a task in which he was finally assisted by a scholarship that he had won. Soon after his graduation in medicine it was his privilege to work under Billroth and Albert, and from those

masters of surgery he cannot have failed to learn much that afterward proved of more practical worth than the formal teachings of the university faculty. It is from his appointed instructors that a young man gets much of his knowledge, but it is commonly from those of his seniors with whom he is subsequently associated that he sucks in wisdom.

Lorenz is now in the prime of life, a man fifty-two years old. He is tall and of massive build and possessed of muscular power much above that of the average professional man. This power, said to have been largely due to enforced manual labor in his youth, stands him in good stead in the special manipulative operation known by his name, that of the "bloodless" reduction of congenital dislocation of the head of the femur. Certain steps in the operation call for great strength, and at other junctures more than ordinary gentleness is required. The strong are apt to be also the gentlest. This is strikingly exemplified in the use of the obstetric forceps; a strong man makes regular and efficient traction with the instrument, guiding it as he draws to conform to the course of the parturient canal, while a weak man exerts himself fitfully, pulling by jerks and with but little regard for the proper direction. It is by main force that Professor Lorenz has sometimes to accomplish the reposition of the head of the thigh bone, but we may be sure that it is by nothing that we should call violence.

In consonance with the physical gentleness of which we have spoken is the winsomeness of his character. In nothing could this be better shown than in the willingness with which the little cripples among whom his work lies submit to his manipulations. While it is true, of course, that they are anesthetized for the major procedure, they are subjected subsequently without anesthesia, not perhaps to processes that are really painful, but certainly to those that would frighten them if administered by a man in whom they did not wholly confide. Hardly second to this tenderness toward children as a manifestation of Professor Lorenz's goodness of heart is the forbearance he habitually displays toward those who work under him and the urbanity with which he treats those who resort to him for instruction.

But still higher than his amiability is his modesty. Paracelsus himself could never have been more loudly and fulsomely heralded than Professor

Lorenz has been during the whole course of his stay in the United States, and there are but few men who in his position would not have had their heads turned. The medical profession have treated him with unvarying honor and deference, the newspapers have constantly lionized him, and those of the laity who have sought his aid for their crippled children have in many instances approached him as if he were a demigod. All this has not turned him a hair's breadth from his natural dignity and modesty. While he is strenuous—and properly so—in enthusiastic insistence on his views of the mechanism of the proper procedures for reducing congenital dislocation of the hip without a cutting operation, he lays claim to no personal witchery of his own in the execution of those procedures, though every other surgeon would willingly concede it to him. All that he practises he seeks to enable others to practise, patiently demonstrating the steps of his operation and explaining the rationale. In short, his enthusiasm is for the advancement of orthopædic surgery, not for the aggrandizement of himself. He might enrich himself by taking fees for all sorts of orthopædic work if he chose to remain in Chicago, where he is a licensed practitioner, and doubtless he might readily secure the license to practise in any of the States. His fame would speedily bring him all that he could attend to in the way of practice, and his popularity would not wane. But he has not suffered himself to be tempted into any such course; rather has he given his time and his strength ungrudgingly—nay, zealously—to spreading blessings for which he is to reap no material reward.

It is to congenital dislocation of the head of the femur alone that Lorenz's operation applies, and to that deformity has he confined his attention during his American tour. Many of the laity, however, have confounded that condition with hip joint disease and have sought to obtain Professor Lorenz's services in cases of morbus coxarius, a totally different thing. Instances in which the dislocation is due to violence inflicted during parturition are included among the cases of congenital dislocation, but they are rare. The ætiology of congenital dislocation of the head of the femur is obscure, but probably the accident generally depends upon an original laxity of the ligamentous and capsular structures, as is shown by the frequency with which dislocations of other joints are observed in new-

born children that show the hip lesion. Perhaps, too, there is sometimes in foetal life a primary lack of conformity between the head of the femur and the cavity of the acetabulum, the latter being unnaturally shallow. An astonishing feature of the deformity is its overwhelming preponderance in girls; seldom is a boy found to be affected with it. Though the laxity of the female's tissues as compared with those of the male is much less decided in infancy and in intrauterine life than it subsequently becomes, possibly this strikingly increased frequency of congenital hip dislocation in girls may be looked upon as supporting the view that the displacement is owing to an unduly yielding condition of the ligaments and of the articular capsule.

Naturally, the task of remedying the deformity is more difficult to perform than in cases of traumatic dislocation. Not only as regards the reduction itself, but also and chiefly as concerns the retention of the bone in its socket. Hence, though attempts were made years ago, and largely by American surgeons, to secure good results by manipulation and subsequent fixation, the "bloodless" method of treatment failed to meet with wide adoption until Lorenz perfected his operation. We have as yet no statistics founded on sufficiently extended observation to enable us to say positively that the Lorenz operation is destined to supplant cutting operations entirely. Lorenz himself appears to feel confident that that will virtually be the result. While the replacement of the dislocated bone is perhaps the step in the operation that calls for the greatest amount of skill on the part of the operator, the after-treatment is of paramount importance, including as it does such a degree of fixation as to guard against speedy recurrence of the dislocation, and yet allowing of such movements of the femur and such bearing of the weight of the body on it as may hollow out a new acetabulum, so to speak, in place of the original blocked or shallow cavity. Finally there is the massage, and in this there is probably little less need of accuracy.

What are we to gain by Professor Lorenz's visit to us? In the first place, a comparatively large number of our orthopædists will have grasped a greater mastery over the Lorenz operation than they had before supposed to be possible. They will consequently be able to render more efficient aid to a particular class of cripples. In the second place, the general practitioner will be more keenly on the look-

out for cases of congenital dislocation of the thigh bone and more mindful of the need of submitting them early to the specialist's treatment, when the prospect of lasting benefit is greatest. Finally, orthopædic surgery will be elevated in the public esteem, and, as has already been shown, wealthy men will be all the readier to endow orthopædic hospitals and dispensaries and to provide liberally for the teaching of orthopædics. In all these respects our profession and the people will profit by the visit, and we should feel thankful to our Austrian confrère that he has been willing to spend so much time among us and to take such pains for our benefit.

WOMEN AS MILITARY NURSES.

We have more than once insisted on the decided superiority of women to men as nurses in the military service. Officers of high rank in the medical corps of the army and in that of the navy have unreservedly avowed their preference for women as military nurses, but until recently it has not been certain that the officers of those corps in general coincided with their seniors on this point. It is gratifying to learn that they do, as appears from an article published in the November number of the *Journal of the Association of Military Surgeons of the United States*, by Lieutenant Commander John W. Ross, a surgeon in the navy, who, after putting on record his own high appreciation of women nurses for the military service, says: "About the first of February, 1902, the chief surgeon of the Division of the Philippines summoned all the medical officers in Manila to a conference, and there asked if they could not run their hospitals without the female nurses. This inquiry was *unanimously* answered in the *negative*." Speaking for himself, Dr. Ross says: "It seems to me that the medical officer who, having within the last four years served in the army or navy with trained women nurses, remains honestly opposed to their permanent and extensive employment in military hospitals must be a direct descendant of the old Scotchman who thanked the Lord that he was not open to conviction."

Another article on the subject, published in the same journal, is by Anita Newcomb McGee, M. D., who was for a time an acting assistant surgeon in the army and in charge of the Army Nurse Corps. Prospective legislation which became operative near-

ly two years ago enabled her to resign in the confident expectation that the permanent Nurse Corps of the army would be suitably organized. Her confidence has been justified, and she speaks of the present superintendent of the corps, Mrs. Dita H. Kinney, a graduate nurse of the Massachusetts General Hospital with subsequent experience as a chief nurse in the army, as having been very effective in enhancing the efficiency of the corps. It is Dr. McGee's opinion that trained nurses in the army might be used to a larger extent than they are at present as practical teachers of the enlisted men in the wards of certain large hospitals. The permanent teaching force of the Nurse Corps, she says, including perhaps a hundred nurses, should be of the highest possible standard, and those nurses should hold their positions virtually for life, as is now the case in England. "They should be regularly stationed at certain specified hospitals, but whenever an officer at a smaller hospital needs them for an epidemic or a critical case, he should—as he now can and does—telegraph for two or more nurses to be sent from the nearest large hospital." In addition to the permanent force, definite provision should be made for a war reserve corps of perhaps two thousand nurses drawn gradually from among the trained nurses of civil life and given special instruction in a military postgraduate course.

In the discussion which followed the reading of Dr. McGee's paper at the association's meeting Captain Myles Standish, M. V. M., spoke particularly in support of the author's teaching idea. It was an absolute necessity, he said, that the men who were to serve as nurses should be taught by trained nurses. Lieutenant Colonel Valery Harvard, of the army, said it had always been his idea that women nurses should by all means be employed in large hospitals, in base hospitals, in stationary hospitals, and possibly in field hospitals after the close of a campaign, but he very much doubted the propriety of introducing them into smaller hospitals, and of course they were out of the question at the ambulance stations and on the field of battle. He did not think they should be employed in ordinary post hospitals, where the patients were comparatively few and could generally be tolerably well attended to by the Hospital Corps men. The president of the association, Lieutenant Colonel J. V. Hoff, of the army, said he thought it would be agreed

that "God made the nurse and that she was a woman." In the great army hospital and medical school that it was hoped would some day be built up in Washington there should be a department devoted to the training of women nurses.

AN EXCEPTIONAL DEATH FROM URÆMIA.

The case of the late Hon. Thomas B. Reed, who is understood to have died of uræmia, furnishes an exceptional example, we should say, of exemption from much of the suffering, often recurrent and long continued, that is apt to precede the fatal issue of Bright's disease. Although a practised eye would long ago have suspected from Mr. Reed's appearance that he was the subject of a renal affection, he was able to continue his professional work without interruption up to within a very few days of his death.

MIDSHIPMAN AIKIN AND VIVISECTION.

Dr. W. W. Keen, of Philadelphia, has kindly furnished us with a copy of his recent open letter to Senator Gallinger in which he cogently sets forth the fact that in the case of Midshipman Aikin he would have been unable, but for his studies on the lower animals, to come to a conclusion as to the situation of the blood clot of which he relieved the sufferer by trephining. He points out that in all probability the patient would have died if it had not been removed, and remarks that in the practice of other surgeons the like ability to recognize the situation of an intracranial lesion remediable by operation has depended upon such studies. He very properly, therefore, calls upon the senator, who is a physician, to desist from further efforts to unduly restrict the practice of vivisection in the District of Columbia. It is to be hoped that the senator will see that it is more humane to allow vivisection, under such restrictions as are not hampering, than to hedge it about with practically insurmountable difficulties.

News Items.

Society Meetings for the Coming Week.

MONDAY, December 15th.—New York Academy of Medicine (Section in Ophthalmology and Otolaryngology); New York County Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society.

TUESDAY, December 16th.—New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Kings, N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, December 17th.—Woman's Medical Association (N. Y. Academy of Medicine); New York Society of Dermatology and Genitourinary Surgery (private); Medico-Legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

THURSDAY, December 18th.—New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, December 19th.—New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital; Manhattan Medical and Surgical Society, New York (private); Baltimore Clinical Society; Chicago Gynaecological Society.

Dr. Adolf Lorenz left Chicago a week ago, his first stop being in Washington, where, after an interview with the President, he performed three operations at the Providence Hospital before an audience of about three hundred physicians. Only one of these was for congenital dislocation of the femur, the other two being cases of club foot. A dinner was given to him at Bauscher's by the Medical Society of the District of Columbia before he left Washington, about two hundred physicians being present. On December 6th Dr. Lorenz operated on a case of congenital dislocation of the femur in the amphitheatre of the Medical Department of the University of Maryland, at Baltimore, before an audience of about four hundred practitioners. The clinic lasted about fifty minutes, half the time being devoted to an explanation of the methods about to be used. On Monday, December 8th, Dr. Lorenz performed two operations for the reduction of congenital dislocation of the femur in the amphitheatre of the Johns Hopkins Hospital; one of these was quite obstinate, and he said that he was not very hopeful of the results. He arrived in Philadelphia on Tuesday afternoon, being met by a committee of arrangements consisting of Professor James W. Holland, Dean of the Jefferson Medical College; Dr. Joseph S. Neff, Medical Director of the Jefferson Medical College, and Dr. H. Augustus Wilson, professor of orthopædic surgery at the Jefferson Medical College. A reception was tendered to him at Hotel Bellevue on Wednesday night by the Philadelphia Medical Club, about four hundred physicians being present. Dr. Lorenz was introduced to the guests and members by Dr. Duer, president of the club, and made a brief address of an autobiographical character, in the course of which he deprecated the prominence that had been given him here, saying, "You make too much of my work. I feel ashamed when I feel you praising my work beyond its merits." In the course of his remarks he also made the following comment upon the possible results of his work here: "I am an ardent admirer of women, and I especially adore the beauty of the American women. It makes me happy to know that my work will do much for the future of many a little American girl's beauty. You make it hard for me to remain modest, which I have always tried to be. But I take the honors you have bestowed upon me not personally, but for the Vienna Medical College, at which many of you have been students."

On Thursday afternoon Dr. Lorenz gave a clinical lecture at the Jefferson Hospital, treating several cases. It is expected that he will arrive in New York this (Saturday) morning, and it is announced that he will give clinics at the Hospital for the Ruptured and Crippled, the Post Graduate Hospital, the Cornell University Medical College, and the New York Orthopædic Hospital. It is expected that Dr.

Lorenz will remain in this city about a week or ten days. He has accepted an invitation to visit Boston after leaving New York, and proposes to reach there about the middle of the month. He will probably operate in Boston at the Children's Hospital on Huntington avenue.

The American Medical Association.—The local Committee of Arrangements at New Orleans has been organized and is actively at work perfecting the arrangements for the meeting which is to take place in that city next May. It is proposed to establish a systematic bureau of information regarding boarding houses, a list of which is already being made.

The New York Academy of Medicine.—The Section in General Medicine will hold a stated meeting on Tuesday evening December 16th, at 8.15 o'clock, when the following papers will be presented: "A Brief Review of some of the Etiological Factors in Intestinal Indigestion," by Dr. Edward Franklin Smith; "Intestinal Indigestion and its Relation to Arterial Sclerosis and Renal Disease," by Dr. Leonard Weber; "The Treatment of Intestinal Indigestion with Preliminary Remarks on the Diagnosis," by Dr. John C. Hemmeter, of Baltimore.

The Grand River Medical Society held its twenty-seventh annual meeting at Chillicothe, Mo., on December 3d and 4th. A number of papers were read and the following officers elected for the ensuing year: President, Dr. J. H. P. Baker, Salisbury; first vice-president, Dr. C. C. Leeper, Braymer; second vice-president, Dr. J. W. Lane, Linneus; Secretary, Dr. P. L. Patrick, Brookfield; Treasurer, Dr. J. L. Burke, Laclede; curator, Dr. B. N. Stevens, Chillicothe. Hamilton was chosen as the place of the next meeting to be the first Thursday and Friday in December, 1903.

Official News.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending December 6, 1902:

DISEASES.	Week end'g Nov. 29.		Week end'g Dec. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	118	19	90	16
Scarlet fever.....	137	7	191	12
Cerebro-spinal meningitis...	0	0	0	0
Measles.....	132	3	160	0
Diphtheria and Croup.....	354	38	397	40
Small-pox.....	5	1	1	0
Tuberculosis.....	213	136	259	164

Army Intelligence:

Official List of Changes in the Station and Duties of Officers serving in the Medical Department of the United States Army for the week ending December 6, 1902:

ARTHUR, WILLIAM H., Major and Surgeon, having reported in person to the Surgeon-General in compliance with orders heretofore issued, will proceed to New York City and assume the duties of Attending Surgeon and Examiner of Recruits to relieve T. C. Lyster, First Lieutenant and Assistant Surgeon.

BORDEN, WILLIAM C., Major and Surgeon, is detailed to represent the Medical Department of the United States Army at the third annual meeting of the American Röntgen Ray Society at Chicago, Illinois, December 10 and 11, 1902.

LYSTER, T. C., First Lieutenant and Assistant Surgeon. Relieved from temporary duty as Attending Surgeon and Examiner of Recruits, New York City, and ordered to proceed to Fort Schuyler, N. Y., for duty.

RUTHERFORD, H. R., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month.

VAN DUSEN, JAMES W., First Lieutenant and Assistant Surgeon. Granted leave of absence for thirty days.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending December 5, 1902:

Smallpox—United States.		Cases.	Deaths.
Dates.			
California—Los Angeles.....	Nov. 8-22	3	
Colorado—Denver.....	Nov. 15-22	10	
Florida—Jacksonville.....	Nov. 20-22	1	
Georgia—Atlanta.....	Nov. 19-26	7	
Illinois—Chicago.....	Nov. 22-29	1	
Indiana—Indianapolis.....	Nov. 22-29	3	
Kentucky—Covington.....	Nov. 1-20	64	
Louisiana—New Orleans.....	Nov. 24-29	2	
Maine—Biddeford.....	Nov. 22-29	5	
Maryland—Cumberland.....	Nov. 1-30	1	
Massachusetts—Boston.....	Nov. 22-29	11	9
Massachusetts—Cambridge.....	Nov. 22-29	1	
Massachusetts—Chelsea.....	Nov. 22-29	1	
Massachusetts—Lawrence.....	Nov. 22-29	1	
Massachusetts—Marlboro.....	Nov. 22-29	2	
Massachusetts—Newton.....	Nov. 22-29	2	
Massachusetts—Quincy.....	Nov. 22-29	1	
Massachusetts—Taunton.....	Nov. 22-29	5	
Michigan—Grand Rapids.....	Nov. 22-29	5	
Michigan—Detroit.....	Nov. 22-29	57	1
Missouri—St. Louis.....	Nov. 23-30	9	
Nebraska—South Omaha.....	Nov. 23-30	3	
New Hampshire—Nashua.....	Nov. 22-29	17	1
New Jersey—Camden.....	Nov. 22-29	1	
New Jersey—Newark.....	Nov. 22-29	1	
New Jersey, Hudson County—Jersey City.....	Nov. 23-30	1	
New Jersey, Hudson County—Bayonne.....	Nov. 23-30	1	
New York—Binghamton.....	Nov. 22-29	2	
New York—New York.....	Nov. 22-29	5	
Ohio—Cincinnati.....	Nov. 21-28	3	
Ohio—Cleveland.....	Nov. 22-29	15	5
Ohio—Hamilton.....	Nov. 22-29	1	
Pennsylvania—Altoona.....	Nov. 22-29	1	
Pennsylvania—Erie.....	Nov. 22-29	9	
Pennsylvania—McKeesport.....	Nov. 22-29	1	
Pennsylvania—Philadelphia.....	Nov. 22-29	5	1
Pennsylvania—Pittsburg.....	Nov. 22-29	35	10
		Four cases imported.	
Rhode Island—Providence.....	Nov. 22-29	2	
South Carolina—Charleston.....	Nov. 22-29	2	
South Dakota—Sioux Falls.....	Nov. 22-29	2	
Wisconsin—Milwaukee.....	Nov. 22-29	9	

Smallpox—Foreign.

Ecuador—Guayaquil.....	Nov. 8-15	1	1
Canada—Quebec.....	Nov. 8-15	1	1
France—Paris.....	Nov. 8-15	2	1
Great Britain—Dundee.....	Nov. 8-15	2	
Great Britain—London.....	Nov. 8-15	2	
Great Britain—Manchester.....	Nov. 8-15	2	
Italy—Naples.....	Nov. 10-17	1	

Yellow Fever.

Columbia—Panama.....	Nov. 18-24	4	
Ecuador—Guayaquil.....	Nov. 8-15	4	4
Mexico—Tampico.....	Nov. 15-22	13	
Mexico—Veracruz.....	Nov. 15-22	16	11

Cholera—Insular.

Philippines—Cebu.....	Sept. 29-Oct. 14	5	2
Philippines—Manila.....	Oct. 12-18	19	18
Philippines—Provinces.....	Oct. 12-18	3,793	2,563

Cholera—Foreign.

China—Hongkong.....	Oct. 21-28	1	1
Egypt—Alexandria.....	Nov. 1-8	1	1
Turkey—Gaza.....	Oct. 25-Nov. 1	449	
Turkey—Jaffa.....	Oct. 25-Nov. 1	75	
Turkey—Lydda.....	Oct. 25-Nov. 1	5	

Plague—Foreign.

Africa—Cape Colony, Port Elizabeth.....	Sept. 25	1	1
China—Hongkong.....	Oct. 21-28	1	1
Egypt—Alexandria.....	Nov. 1-8	1	1
Japan—Yokohama.....	Oct. 19-Nov. 1	2	

ten years ago the mortality was from six to about eleven and one-half per cent. To-day it is less than one-half of one per cent. Relapses used to be from 40 to 50 per cent., but are now practically *nil*. While our author uses a special method, he considers that of those generally employed, Bassini's operation for inguinal hernia is the most popular and gives the best results. He does not consider that many of the so-called contra-indications to operation are valid. Cocainization, either regionally or by subarachnoid injection, makes the operation safe and feasible under most conditions. Therefore neither age, chronic bronchitis, emphysema, tuberculosis, cardiovascular changes of marked degree, chronic nephritis nor many other impaired physical conditions can any longer be considered as contra-indications. One of the chief contra-indications to operation for inguinal hernia in the adult is the very large irreducible scrotal hernia. With regard to children he quotes the opinions of Dr. Coley with approval. Children under four years should rarely be operated on. From four years to fourteen the wearing of a truss for one or two years should be advised, at the end of which time, if the hernia still comes down and the ring is large, there is little to be gained by waiting and an operation should be advised. Reducible hydrocele or fluid in the hernial sac precludes the hope of cure by truss treatment and calls for operation. Adherent omentum, though comparatively rare in children, calls for an operation without delay.

Cures by Bassini's method are placed at 95 per cent. Of 840 traced cases from the clinic of Professor Carle, 94.29 per cent. remained sound, and 5.71 per cent. showed a recurrence. He quotes Dr. Coley as authority for the statement that out of 500 traced cases of inguinal hernia operated on by Bassini's method, there were only 8 recurrences. The author's method is a modification of Halstead's. He has used silver wire for the buried sutures and has had no trouble with it. He does not use silk-worm-gut or drainage. Umbilical hernia in children should rarely be subjected to operation, certainly not until mechanical devices have been conscientiously tried. The best appliance is a strip of adhesive plaster two inches wide which goes around the body and has a circle of wood as large as a half dollar placed in it at the site of the hernia. The author gives a table of 116 cases of hernia operated on by him. There are no deaths in the unstrangulated cases.

The Treatment of Carbuncles Without Incisions.—Dr. Salvatore Gucciardello (*Gazzetta degli ospedali e delle cliniche*, October 5th) describes a method of treating carbuncles without any surgical intervention. It consists essentially in spraying hot solutions of carbohc acid upon the affected areas by means of an apparatus which he has devised for the purpose. This treatment is combined with hot application of antiseptic compresses, and, according to the author, very good results have been obtained therewith. His apparatus consists essentially of a brass kettle, communicating with a reservoir to which four elongated tubes that narrow down towards the distal ends are attached. The kettle is usually filled with a two per cent. solution of carbohc acid, the apparatus is placed upon the fire and allowed to remain there until the solution begins to boil and the tubes to emit vigorous streams of vapor.

The affected area should be exposed to these streams at a distance of about 25 to 50 cm., so that the steam is neither too hot nor too cold. The jets of steam may be protected from currents of air, which may tend to divert them through the room, by means of appropriate screens. The patient usually experiences the sense of grateful warmth, and the droplets of steam penetrate the infected tissues, being propelled with considerable force from the kettle. The sittings of vaporization should be continued for about half an hour at each treatment, or they may be prolonged to an hour, and they may be repeated three or four times daily. In the intervals between the treatments the parts are to be covered by hot compresses of cotton soaked in 1-2,000 bichloride solution or in two per cent. carbohc acid solution. The more frequent the sittings with the vaporizer, the quicker will be the cure.

Amputation Through the Shoulder-Joint as a Routine Procedure in Axillary Carcinoma, Secondary to Mammary Tumors. By Dr. John B. Roberts (*Philadelphia Medical Journal*, November 22d).—Dr. Roberts first advocated this procedure in 1897. He, however, first put his views into execution in 1899, and records the case in detail. The patient died two hours after the operation without reacting. Dr. Herman Mynter, of Buffalo, is cited as having twice performed a similar operation. The first in 1895; the patient died one year later of cancer of the liver. The second patient died two days after the operation. The points Dr. Roberts wishes to emphasize are that the procedure he suggests should be adopted as a routine measure in all cases of axillary carcinoma, secondary to malignant disease of the breast, and that the subclavian artery and vein should be ligated above the clavicle before the disarticulation is done. A flap from the outer aspect of the arm may be retained to cover the axilla and chest.

On Late Recurrences of Cancer.—Dr. V. N. Heinatz (*Roussky Vrach*, October 26th) reports a number of cases in which cancer recurred many years after radical operations. He concludes as follows: (1) Cancer may recur at any time during the life of the patient. Even twenty years without recurrence after an operation is no guarantee that the malignant growth will never recur. (2) The teaching of Volkmann, who regards as permanently cured, patients who have had no recurrence for three years after an operation, is not correct, for in over 15 per cent. of the cases, a recurrence occurred after the period of three years' probation had elapsed. (3) The longer the period after operation, the less probable is a recurrence. (4) The course of recurrences late in the patient's life does not vary from that of early recurrences, and they require prompt and radical operations. (5) All the varieties of cancer are equally predisposed to late recurrences. (6) The origin of late recurrences does not differ essentially from that of early recurrences. Both depend upon the further growth of portions of the original tumor left after the first operation. (7) These particles of growth may remain latent in the tissues for many years, but do not lose their property of growing under favorable conditions. (8) Late recurrences are seen especially in persons of robust con-

stitution, who have not been weakened by exhausting disease and syphilis. (9) The statistical data contained in literature concerning late recurrences of cancer should be revised, for they are based on the rule that a cure is effected if the patient does not manifest any recurrence for three years after the operation.

Case of Probable Hæmorrhage into the Pons Varolii Following Traumatism.—Dr. Angelo Cipollina (*Gazzetta degli ospedali e della clinica*, September 21st) reports the case of a man, aged twenty-one years, who fell from a scaffold, striking the pavement with the left temporal region. He was admitted in a comatose condition with hæmorrhage from the left ear and a hæmatoma of some size at the site of the injury. After three days of coma, the patient presented the phenomena of stupor and delirium, but these gradually disappeared and he was transferred to the medical ward, the local injury having healed. The patient's walk was uncertain, his speech impaired, and his memory weak. On examination the lower portions of the facial region on the left side were found affected with a slight paresis, and there was motor incoordination in the upper and lower limbs of the right side. On the left side of the body a reduction of the sense of pain and of ordinary sensory impressions was discovered. The left ear was completely deaf and the sense of taste was abolished on the left side of the tongue. In the author's opinion these sensory and motor symptoms were so complex that a localization of the lesions was impossible with any degree of certainty. The probability was, however, that there had been a hæmorrhage into the Pons Varolii.

OBSTETRICS AND DISEASES OF WOMEN.

Repeated Ectopic Gestation. By Dr. Brooks H. Wells (*Medical Record*, November 22d).—Dr. Brooks gives the history of a case of repeated ectopic gestation, and takes it as a text for reviewing the literature on the subject. He has collected ninety-nine well authenticated cases and gives a review of the most widely held opinions as to the ætiology of the condition. None of the theories so far advanced are satisfactory. From the study he has made of the collected material he formulates the following conclusions: (1) Recurrent ectopic gestation is not extremely rare, and may be expected in a large proportion of pregnancies that occur subsequent to a tubal implantation of the ovum. (2) We are not justified in taking out the remaining and apparently normal tube at the first operation. Yet the fact that recurrence is liable to occur makes it necessary to watch with unusual care the early progress of any subsequent pregnancy. (3) Most reports of recurrent ectopic pregnancy have been so wanting in detail as to be of only slight value for purposes of study. For the sake of possible light to be thrown on the ætiology, operators should make careful written records of the conditions found in the remaining tube at any operation for ectopic gestation, and should submit the specimen itself to competent pathological examination. They should also record cases of normal pregnancy occurring subsequent to ectopic gestation. (4) It is probable that the most frequent ætiological factor leading to the

abnormal implantation of the ovum is a mild infection of the tube, which, causing a change in its epithelial lining, increases the time occupied in the passage of the fertilized ovum through the tube.

The Removal of Ovarian Dermoids by the Vaginal Route. By Dr. A. A. Anoufrieff. (*Concluded. Roussky Vrach*, October 19th).—The author says that the vaginal route must remain, on account of its comparative safety, as one of the possible methods of removing ovarian dermoids. The presence of an exudate, either normal or pathological (pus), in the dermoid, bulging the cyst into one or other vault of the vagina, or into Douglas's pouch is not a contraindication against the vaginal route, as this method allows of more perfect drainage than the abdominal. In large dermoids not pressing upon Douglas's pouch it is more convenient to operate in the anterior fornix than in the posterior. In cases in which there is endocervicitis after the operation, a posterior incision is indicated. Abdominal operations are indicated in cases of dermoids situated at the brim of the pelvis, with suspicious or positively purulent contents, and in dermoids that have undergone malignant degeneration or that are extensively adherent to the surrounding intestines, etc. The walls of the growth in such cases must be preserved as far as possible, and in case they are perforated, the cavity must be drained through the vagina. The choice of the method of operation must be made in each case individually.

NERVOUS AND MENTAL DISEASES.

Serum Therapy in Epilepsy.—Guido Guidi, of the Psychiatric Clinic of Rome (*Annali dell' Istituto Psichiatrico*, VI, 1902) recently employed the method of Cerri—serum therapy—in a case of epilepsy in a child, in which none of the other methods of treatment had made any impression. The attacks had remained unchanged in intensity and had occurred twice in every twenty-four hours in spite of the use of the methods of Bechterew, Flechsig, and of Richet and Toulouse. The serum to be injected was taken from a robust epileptic, aged forty years, who had been suffering from the disease for nineteen years. He was having an attack daily when he was not taking bromides, and an attack every eight or ten days when taking these drugs. The patient was a girl of six years, and the average dose was two cubic centimetres of serum injected daily at first, afterwards increasing to nine cubic centimetres daily, but on alternate days, so that in thirty-eight days she took altogether 73 cubic centimetres. There were no unpleasant symptoms whatever, except a slight depression of spirits after each injection, especially after the nine cubic centimetre injections. The effect of the treatment was to diminish the intensity and frequency of the paroxysms, not only during the time she was under treatment, but also for some time afterwards. During the periods of treatment, thirty-nine days, she had only 30 attacks instead of 60, as during a preceding period of the same length. During the period of treatment with serum this girl did not take any bromides, whereas during the period preceding she had been taking considerable doses of these salts. This case therefore shows distinctly that serum therapy can be of marked benefit in cases of severe epilepsy.

The Surgical Treatment of Epilepsy. By Roswell Park, M. D., LL. D. (*American Medicine*, November 22d).—The author regrets that so little help can be gained from statistics on which to base a close estimate of the value of either the medical or the surgical treatment of epilepsy. This is not because statistics are so unreliable, but because they are misleading. A limit, though an arbitrary one, should be set to the time which should elapse without seizure before a case is pronounced cured. At present this limit is three years. By this canon actual cures are made. But one must not forget the great benefit to a patient if the number and severity of seizures are only notably reduced. Regarding prognosis it is very difficult to speak. The operation is not one of great hazard, save in exceptional cases. Dr. Park's conclusions are as follows: (1) Epilepsy is the last disease to which surgical measures should be indiscriminately applied. In judiciously selected cases, radical operations of various kinds, suited to the individual needs of each case, have given far more satisfactory results than has non-operative or medical treatment. (2) Every case must be studied as a problem by itself. The only general laws applying are those regarding the removal of peripheral or local foci of initiation and the destruction of paths of conduction which convey disturbing impulses. In each case we must decide as to the operative method by which we may best meet these indications. (3) In order to attain the best results patients should be seen early. It would be well to have every epileptic carefully studied by an accomplished surgeon, who should review the case with a view to the possibility of surgical intervention. (4) Operation, when indicated and undertaken, should be regarded as a first measure, to be followed, and often preceded, by others looking to a correction of all faults of diet, elimination, etc. Long continued attention to these matters is the price of eventual success. (5) In those cases characterized by blanching of the face, when the seizure can be warded off or mitigated by the prompt use of amyl nitrite, we may well consider the propriety of an excision of the cervical sympathetics.

LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

A New Method of Treatment in Catarrhal Conditions of the Nasopharyngeal Passages. By Dr. Della Vedova (*Gazzetta degli ospedali e delle cliniche*, September 28th).—The author regards the methods at present used for the application of medicated sprays to the nasopharynx as unsatisfactory, and has devised an apparatus which throws a medicated steam spray at a pressure of from $\frac{1}{2}$ to 1.2 atmospheres into the nasopharynx. The apparatus has a metallic chamber which is held in place in front of the stream of medicated steam, from which two tubes lead to rubber tips that are introduced into the nostrils. The inhalations of steam are made in the usual manner. The steam enters the nostrils and is projected by virtue of its pressure into the nasopharynx. The temperature and the pressure of the stream used, contribute to a penetration of the medicament and to a congestion of the mucosa, resulting in a freer and fuller discharge of the secretion. This method is therefore especially applicable

in chronic catarrhal conditions of the nose and nasopharynx. Any medicament may be used in the steam, and any number of combinations of treatment may be made in this way.

OPHTHALMOLOGY.

Hysterical Amaurosis.—A case is reported by S. Blanco (*Revista de Especialidades Médicas*, November 5th) in which sudden blindness occurred at intervals throughout the patient's life. The affection was preceded, in every instance, by some distress or shock to the nervous system; the initial attack having followed hysterical convulsions at the age of ten. Noteworthy features of the case are sudden onset and disappearance of amaurosis, together with its occurrence as an isolated symptom, without accompanying paralyses, contractures, anæsthesias, or other eurous ocular symptom.

GENTO-URINARY DISEASES.

The Treatment of Diseases of the Testes and Adjacent Parts.—Dr. I. V. Zabloudowsky (*Roussky Vrach* October 19th) gives an interesting summary of the value of massage in the diseases of the testicles, particularly in functional disturbances, such as impotence, resulting from such diseases. He found that these functional disturbances were often present in men who had or had had some lesion or another in the testes or cord. In some cases, for instance, he attempted to tear the adhesions that surrounded the vas deferens, and found when the vas was so freed, that the functional condition of the patient improved to a corresponding degree. But his main reliance was placed upon a method of treatment that involved an alternation of anæmia and hyperæmia in the sexual organs, thus counteracting the stasis that was present in them in cases of impotence, and helping to absorb inflammatory products. This was secured by tying a rubber band or tube around the root of the penis and removing the rubber compress after fifteen or twenty minutes. In the cases characterized by atrophy due to the contraction of connective tissues, friction, and kneading with a view of facilitating the absorption of the deposit of connective tissue gave good results. The same was found in the softening and shrinking of the testes that characterize certain forms of atrophy. Passive and active muscular movements of the adjacent muscles of the abdomen and thighs also assisted in the cure. Even after operations for hernias and other serious lesions that caused the atrophy and the impotence, the patient's improvement functionally took place only after massage of the sexual organs. The author described the technics of this local massage in detail, giving the various methods that he employs. They include: Compression with rubber bands, milking, twisting, interrupted compression, friction, vibratory motion, kneading, tapotement, and exercises of the adjacent muscles. The indications for massage in diseases of the testis and neighboring structures are defined as follows by the author: (1) Chronic inflammations of the testes, epididymes and vasa deferentia, of traumatic or gonorrhœal origin, in the stage of retrograde development. (2) Marked functional disturbances, such as impotence, or priapism, with slight anatomical changes in the parts. (3) Cases in which sexual disturbances, dif-

faculties in the act of coitus, etc., appear primarily, sometimes with disturbances in the urinary function, as local symptoms of nervous or psychical disease, and in which functional disturbances after a time produce anatomical lesions. (4) Cases in which bad habits or overtreatment produce local irritation or general depression. (5) Cases with acquired or even congenital shortness of the vas deferens. (6) Disturbances of sensation, in the form of anæsthesia or hyperæsthesia of the urethra, testis, etc., or spermatorrhœa, of emissions, etc. (7) Chronic urethritis of gonorrhœal origin, and prostaticorrhœa. As a rule the treatment lasts from two to eight weeks, and the sittings last from ten to twenty minutes each.

Two Cases of Prostatic Hypertrophy Cured by Means of Resection of the Vasa Deferentia. By Dr. Pietro Comandini (*Gazzetta degli ospedali e delle cliniche*, September 28th).—The author sums up the pathological studies that have been published concerning prostatic hypertrophy by saying that as yet the ætiology of this affection is very obscure. The theory of Velpeau, endorsed by White, that prostatic hypertrophy corresponds in the male to uterine fibromyoma in the female, cannot be accepted, for the prostatic utricle, which embryologically corresponds to the uterus, is least affected in prostatic hypertrophy, and besides, while fibromyomata always begin as such, the first stage of prostatic hypertrophy begins with a glandular growth of an adenomatous type. Histologically, it seems that prostatic hypertrophy involves an increase in the amount of all the elements of the gland. The treatment of this affection is a matter of great diversity of opinion, but the author confines himself to the consideration of castration and similar methods as giving very satisfactory results, and being more easily accomplished than the endoprostatic operation. The results of vasectomy and angeioneurectomy, as given by White, Bruns, and Calmiti, gave cures in 88 per cent., 83 per cent., and 74 per cent., respectively. The histological changes found in hypertrophied prostates after vasectomy are atrophy of the glandular, muscular, and connective tissues. According to White, this atrophy depends on an altered nutrition of the genital apparatus; according to Meyer, on an altered condition of the circulatory system; according to Bruns, on the reflex influence of vasectomy on the nerves that accompany the vas. The author reports two cases of prostatic hypertrophy in which he performed resection of the vasa deferentia. The first patient was a man, aged seventy-two years, with a very markedly enlarged prostate. Ten days after the operation this organ was diminished considerably in size, and there were but a few grammes of residual urine. The patient was discharged cured after ten days. A year and a half later, the prostate had become reduced to its normal size and there was no difficulty in urination. Occasionally, however, the patient would lose a drop of urine involuntarily. The second patient was a man aged seventy-one years, with a very large prostate. Bilateral excision of the vas deferens was performed, and the recovery from this operation was uneventful. There was no spontaneous urination afterward, but the frequency of the desire to urinate was lessened, and the patient did well with the use of a catheter. In this case, the growth was of too long

standing and the bladder already paralyzed, so that the operation was of no value. Although in both patients there was a diminution in the size of the prostate, the gland remained in a state of induration in both instances.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Clinical Report on the Use of Argyrol (Silver Vitelline) in Diseases of the Nose, Throat, and Ear.—By Dr. M. D. Lederman (*Medical Record*, November 22d). Argyrol is a proteid salt of silver. It contains 30 per cent. of silver, which is twice the amount found in any other proteid silver. It is extremely soluble, and even concentrated solutions do not precipitate albumin or chloride of sodium. It, therefore, has no caustic effects on mucous membranes. It is said to have been used with excellent results in diseases of the eyes and genitourinary tract. Dr. Lederman has used this silver salt for five months in the treatment of acute and chronic catarrhal disturbances of the nose, pharynx, and larynx, and in chronic purulent disease of the middle ear. He says it possesses, bactericidal, antiphlogistic and stimulating action on mucous glands. A ten per cent. to thirty per cent. solution caused no irritation in a patient who was unable to stand a one-per-cent. solution of silver nitrate without considerable discomfort. From his experience he concludes that argyrol is a worthy substitute for the nitrate of silver, the good qualities of which it possesses without the latter's unpleasant irritating features.

The Treatment of Ague by the Hypodermic Injection of Quinine. By Dr. J. Smyth (*British Medical Journal*, November 15th).—The author's method of using quinine hypodermically is as follows: Either the hydrobromide or the bisulphate is used. The former is more soluble but the latter is more powerful, and is freely soluble in warm water. The solution must be used warm to prevent the injection of crystals, which cause pain. The dose for an adult is five grains. The skin is cleansed with bichloride of mercury or carbolic acid, the site of injection being the back of the upper arm or flank. The syringe is warmed by being washed out with hot water, and the needle is smeared with carbolized oil. The solution is then injected into the subcutaneous tissues, the resulting bleb being gently dissipated by friction. As thus done, the injection of quinine is hardly more painful than that of morphine. Quinine thus administered is more efficacious, dose for dose, than when given by the mouth, while the cost of treatment is very much less, and the ordinary disagreeable symptoms of cinchonism are not developed.

Electric Hot Packs.—Dr. P. K. Rudkowsky, (*Rousky Vrach*, October 12th) describes a method of applying hot packs which he has devised, and which consists of the application of electricity to the surface of the body. The author has for some time used local heating compresses combined with electricity in local inflammatory processes. Probably these compresses act as alternatives to the metabolism of the parts concerned. General electric compresses or packs, however, act upon the skin, and through it

upon the nervous system. The technics of applying these compresses is as follows: The materials required are a portable galvanometer, a portable battery with galvanic and Faradaic currents, a bedsheet, a rubber sheet, and a warm blanket of sufficient size. The sheet is wrung out of hot water and the patient is wrapped in it, except his head and one hand. Over the sheet comes the rubber sheet, and over this the blanket. One of the electrodes, preferably the cathode, is placed next the sheet, to the feet of the patient. The other is placed in the patient's palm. The mixed current is used for twenty or thirty minutes; the constant current being of two or three milliamperes' strength, the interrupted of such strength that the patient may feel it distinctly in his palm. The author reports two interesting cases in which this treatment had a very marked beneficial effect upon psychical disturbances. In the first case, the patient was an unmarried woman, aged twenty-nine years, suffering from nymphomania, followed by alternating attacks of melancholia and violent mania. All available remedies, including hypnotic influence, had been tried without effect. The patient was very promptly and markedly benefited by the administration of the electric hot pack mentioned above. The packs were administered especially before the menstrual periods, when her condition seemed to be worst. Her symptoms entirely disappeared under this treatment in a few weeks.

Preventive Inoculation by Plague Serum.—Dr. Besredky, of the Pasteur Institute in Paris (*Rous-sky Vrach*, October 19th), sums up the results of a series of preventive inoculations against the plague in the following manner: (1) Injections of anti-plague serum produce rapidly an immunity which, however, is of very brief duration. No local or general symptoms are observed after the injections. (2) With injections of the dead cultures (Haffkine's vaccine, etc.) the immunity conferred is much longer, but it sets in only on the eighth or tenth day after the injections, during which period the resistance of the patient to the plague germs is lowered. These injections are accompanied by local and general disturbances. (3) Injections of the author's antiplague vaccine produce immunity in two days, and this immunity lasts for a long time. The injections do not lower the resistance of the organism to the plague germ during these two days, and there are no local or general untoward symptoms. There are two methods of making antiplague serum at present in use: Inoculation with serum and inoculation with dead cultures of plague germs. The serum is only useful when the length of time which immunity lasts is immaterial, but when immunity is to be obtained as quickly as possible, as for example on board ship, etc., Haffkine's method, the injection of attenuated cultures of plague germs, confers immunity after from eight to ten days only, and is therefore inapplicable in cases in which a rapid immunity is desired. The author's method of obtaining antiplague serum is as follows: Agar cultures of the plague bacillus two or three days old, are taken as starting points. Their surface is scraped, and the scrapings washed off with salt solution. The resulting thick emulsion is heated over the waterbath for an hour at 60° C., thus killing all the bacteria. The emulsion is next poured into a

thin cylindrical vessel in which has been previously placed a certain amount of strong agglutinating plague serum. Two layers are now formed, the lower of serum, the upper of microbes. Every layer of germs as it comes into contact with the serum, agglutinates in turn and falls to the bottom. In this manner all the germs are precipitated in a dense layer at the bottom of the cylinder at the end of twelve hours, and sometimes earlier. The supernatant clear serum is decanted and the flocculent deposit of germs is washed repeatedly with physiological salt solution in the centrifuge, until the deposit is perfectly white and dissolves in salt solution, giving a homogeneous emulsion. This emulsion is the author's immunizing agent against the plague and the conclusion stated above refers to its action.

The Treatment of Pneumonia. By Sir D. Duckworth (*British Medical Journal*, November 15th).—The treatment of pneumonia is strictly the treatment of the patient suffering from it. It is a simple disease in children; it is not a dangerous disease in the young or in those who have been previously healthy; it is more dangerous to those who have reached forty years of age; it is extremely dangerous in the old, and absolutely fatal in the drunkard. A warm bed and careful nursing are essential parts of the treatment. The appetite is lost, and there is no object in forcing food: the patients usually do well on a fever diet, milk and beef tea. A temperature of 102° or 103° F. appears to be a necessary part of the disease, and no steps should be taken to check it so long as it keeps within limits. But anything over 105° F. may be called hyperpyrexia and demands attention. Sponging with ice water, the use of a cradle under the bed clothes to which buckets of ice are suspended, or ice bags, are usually effectual. The best drug to use is quinine in five grain doses every two or three hours. A simple fever mixture of potassium citrate and ammonium acetate is often of service. Delirium is usually seen in elderly alcoholic patients, whose cases often prove fatal. Insomnia, especially if it occurs toward the crisis, is a very grave matter. The author advises the use of morphine in small doses in those cases in which there is no involvement of the kidneys. Failure of heart power is a serious thing, and manifests itself either by cyanosis or by irregularity and weakness of the pulse. For the former nothing is better than moderate blood-letting; for the latter strychnine given hypodermically, or musk, which is of the greatest value in pneumonia. As regards alcohol, some patients do not require it. In the majority of cases from two to four ounces of brandy are sufficient in the course of each day. In winter time hot poultices may be applied to the affected side; in summer, cotton wool sprinkled with spirits of camphor. Dry pleurisy is a constant accompaniment or part of pneumonia, and the pain of it may be relieved by the application of two or three leeches.

DISEASES OF CHILDREN.

Seventy-one Cases of Infantile Tetany with Six Autopsies. By Dr. P. A. Peters (*Rous-sky Vrach*, October 19th).—A study of this large series of cases of tetany leads the author to believe that rickets should not be given the weight in the causation of tetany in infants that has heretofore been

accorded it. In 20 per cent. of his cases in children below the age of three years there were no signs of rickets. Dyspepsia and other digestive disturbances are not the cause of tetany in most instances, and only in 27 per cent. were they found present. On the other hand diseases of the respiratory system, as Filatoff noticed long ago, play a more important rôle, for in from 60 to 70 per cent of cases, there have been such diseases in tetanic children. As a rule, the tetany came first, then there appeared bronchitis, and finally pneumonia. In many cases the tetany accompanied epidemic influenza, whooping cough, measles or diphtheria. In five cases there were no evidences of disease, except tetany and a slight temperature elevation. The author concludes from a study of the pathology and symptoms of this disease that (1) Tetany is an organic, not a functional disease. (2) The pathological cause of tetany lies in inflammatory lesions of the extradural space—external pachymeningitis. (3) The clinical picture of tetany shows that the lesions are chiefly localized in the anterior nerve roots of the cervical and upper lumbar nerves. (4) In exceptional instances the process may not affect these parts and then the clinical picture is not so characteristic. (5) The inflammation of the intervertebral ganglia is the first preparatory condition; the over-excitability of the nerves resulting from a compression of their roots is the second preparatory condition; and the coexistence of these two conditions gives rise to the occurrence of the convulsive seizures. (6) The causes of inflammation in the extradural space may be manifold, such as the action of toxins from the infectious diseases present, etc., and the point of entrance of these toxins is at the entrance of the vessels that supply the particular segments of the cord affected.

PHYSIOLOGY AND PATHOLOGY.

Saccharomycetolysis.—Dr. Francesco Sanfelice (*Riforma medica*, September 9th) sums up the work done by Russell and others on the so-called fuchsinophile corpuscles, which are intracellular structures staining brightly with fuchsin that Russell almost constantly found in carcinomas. These fuchsinophile bodies are found arranged in groups consisting of a varying number of elements. In a previous article the present author (*Centralblatt für Bakteriologie*, xxiii, 1898) showed that these bodies were present in the abdominal cavity of cats that had received inoculations of pure cultures of pathogenic blastomycetes. In another article he demonstrated that the inoculation of pure cultures of *Saccharomyces neoformans* after some time is followed by newly formed tissues, in which, in addition to the blastomycete, there are also found fuchsin bodies (*corpuscoli a fuchsina*). Notwithstanding the fact that he has shown that inoculations of pure cultures of blastomycetes into the abdominal cavity of cats are always followed by the development of the fuchsinophile bodies, some observers still assert that these bodies are products of cellular degeneration, and not parasites. Various observers have, indeed, encountered the fuchsin bodies in the cornea, the tonsils, etc., in simple inflammations. The trouble was that the author had stated a fact but had not determined the reason of this fact, and this he has done in the present research. He has found that, if cats are inoculated with blastomycete cultures after hav-

ing been given immunizing doses of serum from dogs that have been rendered immune with injections of blastomycete cultures, the cats do not show the typical morphology of the blastomycete in their tissues, but in the majority of cases exhibit the typical structures known as the fuchsin bodies. On the other hand, cats that are simply inoculated with the pure culture of blastomycetes, show only the capsular forms of the parasite. The author thinks that this is due to the fact that the serum of dogs injected into these cats after immunizing the dogs against blastomycetes stimulates the tissues of the cats to elaborate a substance that modifies the growth of the blastomycetes. The phenomenon of the transformation of the blastomycetes into fuchsin bodies is the same as that noted in the case of various other microbes that are altered morphologically by the injection of serums, etc. This alteration, transforming the blastomycetes in malignant growths into fuchsin bodies may be termed "saccharomycetolysis." The substance produced in the cat's tissue, whatever it may be, acts first upon the capsule of the blastomycete, destroying it; then on the protoplasm of the parasite, dissolving the chromatin substance and rendering the protoplasm homogeneous; thirdly, it acts upon the protoplasm and the chromatic substance fused homogeneously, producing a fragmentation of the cell body into the small bodies known as fuchsin bodies. It is not probable that the fuchsin bodies are pushed out of the capsules, the latter being altered chemically; for in that case many partly empty capsules would be found. This however is not the case. New researches, begun not long ago, will show also that the fuchsin bodies are capable of producing injurious effects upon the tissues. The fate of the blastomycetes which are injected into animals thus becomes apparent. Some of them are broken up into fuchsin bodies; others are eliminated through the kidneys; many capsules being found in the glomeruli and tubules of animals that have died after inoculation. Others, finally, become affected with calcareous degeneration, and it is far from rare to find calcified capsules in the kidneys of such animals.

Primary Medullary Carcinoma of the Lung.—Dr. A. Pitini and Dr. F. Mercadante (*Riforma medica*, September 18th) report a case of this kind which they saw in a woman aged thirty-seven years. She was markedly cyanotic and oedematous, especially about the face and the right side of the body. Six months previously she had begun to suffer from a dry cough and dyspnoea, which gradually grew worse. A month previously the cough had become moist and the oedema and cyanosis had developed. The dyspnoea grew so marked that she was unable to remain recumbent and had to sit up in bed. The diagnosis of malignant growth of the lung was made, and the findings of the autopsy confirmed it, the patient having died of exhaustion twenty days after admission. The surface of the lung showed numerous whitish nodules of the size of a nut and of hard consistency. On section, the same nodules were also present, and the right lung showed the same appearance, especially the superior lobe, which was a mass of new growth. The bronchial and mediastinal glands were also involved. Microscopically the growth proved to be a primary medullary carcinoma.

Book Notices.

Practical Obstetrics. A Textbook for Practitioners and Students. By EDWARD REYNOLDS, M. D., Visiting Surgeon to the Hospital for Women, etc.; and FRANKLIN S. NEWELL, M. D., Assistant in Obstetrics and Gynecology in Harvard University, etc. Illustrated with 252 Engravings and 3 Colored Plates. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. xi-17 to 553. (Price, \$3.75.)

Of textbooks on obstetrics there are many of all degrees of excellence. That the authors of this one have seen fit, in their preface, to give their reasons for writing the book is therefore commendable; for, aside from the practical data which they have included in their work and the excellent chapter on pelvic deformity, there is little in the book which differs from what is to be found in many others of its kind.

The first forty-six pages are taken up with anatomy and embryology, correct in details, of course, but not voluminous enough to give more than a fraction of the knowledge which a student, certainly a practitioner, should possess of these subjects. We believe that obstetric works should exclude them unless they are written along lines of encyclopædic magnitude or unless they represent some theme of original work on these topics. It is not pleasant or refreshing to read the same text and to see the same illustrations in each new textbook. In this instance we find the republication of some rather ancient illustrations.

We find many evidences of care in the preparation of the text. The chapter on asepsis of patient and physician is very thorough and very correct. The authors advise the use of gloves in the making of vaginal examinations, and emphasize the importance of a thorough asepsis of the hands in addition to this precaution. The description of the mechanism of normal labor is clear, and the chapter on delayed labor is particularly good. The obstetric operations are well described and the pathological conditions accompanying labor and pregnancy—eclampsia, hæmorrhages, etc.—are tersely set forth. One advantage the student will have in reading this book: he will not be confronted by a vast variety of expedients from which to choose in any given complication. But one method of treatment is given, and that is well and clearly set forth.

As to the chapter on deformed pelvis, of which mention has been made, we can state with candor that we know of no textbook in which the subject is more clearly dealt with than in the one under consideration. If the book has no other reason for its existence, it will find a good one here. The subject has become of importance in this country, and the medical student of to-day must become familiar with it. We can recommend him no better description than this.

We feel, in closing this too short review, that the authors have done their work well, but have been handicapped by the great profusion of oft-published cuts in illustrating their book. It is a good book on obstetric science and is thoroughly modern. Yet, considering the number of similar books which have come into the market in very recent times, we see no special reason for its publication.

Practical Diagnosis. The Use of Symptoms and Physical Signs in the Diagnosis of Disease. Fifth Edition, Revised and Enlarged. By HOBART AMORY HARE, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, etc. Illustrated with 236 Engravings and 25 Plates. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. xii-17 to 698. (Price, \$5.)

There is no phase of medicine to which the physician can more profitably devote his time and attention than diagnosis. The endeavor to ascertain accurately and exactly the pathological condition at the root of each case of human ailment is the rational and, in truth, the necessary step to its successful treatment. Every new fact and every new method devoted to perfecting our powers of diagnosis are distinct gains in enabling us to cure and prevent disease. Next in importance to the acquirement of new knowledge is the compilation and classification of what we already possess, in such a manner as to place it at the disposal of each and every practitioner.

Dr. Hare has provided us with such a work in the new fifth edition of his *Practical Diagnosis*. The object of the book is to present the symptoms of disease as they appear at the bedside, and from the group of symptoms to arrive at a diagnosis. For example, a patient presents the appearance of paraplegia: in the chapter on feet and legs, the reader will find a description of the symptoms of the various conditions causing loss of power in the lower limbs. This method is not well adapted to the needs of a student, for it requires some clinical experience to be appreciated, but on that very account it is of much interest and value to the practitioner.

The book is divided into two parts. Part I deals with the manifestation of disease in organs; Part II treats of the manifestation of disease by symptoms. The edition has been largely rewritten and its scope broadened by the description of important physical signs and clinical tests, microscopical and chemical. The work is profusely illustrated and neatly bound, and its value as a book of reference is especially enhanced by the addition of a very complete and exhaustive index of diseases and symptoms.

Textbook of Anatomy. Edited by D. J. CUNNINGHAM, F. R. S., M. D., D. Sc., LL. D., D. C. L., Professor of Anatomy and Surgery, Trinity College, Dublin. Illustrated with 824 Wood Engravings from Original Drawings, many Printed in Colors. New York: The Macmillan Company. Edinburgh and London: Young J. Pentland, 1902. Pp. xxix-1309. (Price, \$9.)

A scientific textbook of anatomy in which development, comparative morphology, and practical considerations are welded into a harmonious whole is certainly an achievement. The book before us represents such a labor. While the work is the joint effort of ten men who are all teachers of anatomy, the editing has been of a character to bring the various chapters into harmonious relation, and evident differences of opinion are but barely noticeable.

Sixty-six pages are devoted to general embryology, and these are illustrative of the character of the entire work. Outside of textbooks of embryology, we cannot conceive of a more lucid tale of the

development of the human body from the hour of impregnation to its full maturity. In each illustration the ectoderm is printed in black, the mesoderm in red, and the entoderm in blue, so that throughout the whole scheme of development the most complicated themes become easily traceable and readily understood. This is of special value to the student, for we have found in the teaching of embryological facts that the most difficult matter was to bring before the student the development of the various organs from the three layers in such a manner that he would comprehend the origin of the organs. It is difficult, for instance, to get the student to understand that the vagina, which communicates with the external world, is of entodermic origin; but in the book before us sketches and diagrams in color make the development not only of this organ, but of the entire genitourinary tract, easy of comprehension.

The editor takes the proper view, we think, of the teaching of anatomy. This should no longer be a mere sketch of the position and relation of muscles, nerves, blood vessels, and organs, but should embrace, as it does in this work, a correlated system of knowledge which includes development as one of the foundations of the study and comparative morphology as an important secondary substructure.

As to the text, there are naturally some differences between it and American teaching and German teaching. But these are of minor importance, since the great principles and facts of human anatomy are duly recorded and discussed. Difficulties are diminished to the greatest possible extent by suitable sketches and drawings. Appropriate drawings, in fact, are one of the essential features of the work, and the vast majority of them are entirely new in the sense that they are original. Those in black and those in color are well reproduced.

From what we have said, it is plain that Cunningham's book is a thoroughly scientific work, of more than usual interest and value, and is certain, therefore, it seems to us, to occupy an unusual place among books of its kind.

Dynamic Aspects of Nutrition and Heredity. By FRANK HORRIDGE. New York: William Wood & Company, 1902. Pp. xiv-175. (Price, \$1.50.)

In this volume the author has endeavored to apply to some of the problems of nutrition and heredity the theory of vibration and rhythm. In the opening pages he speaks of the atomic theory and the theory of ether. He cites various examples, *e. g.*, the effect of colors on the emotions. He regards the nervous impulse as a compound in which the elements are chemical, molecular, and electrical. He illustrates this point by the influence of contraction and expansion on oxidation, the effects of high altitudes, of diminished atmospheric pressure, etc. In his chapter on heredity he further elaborates his dynamic theory and says he believes that each part of the offspring owes its origin to a specific part of the nervous system of the parent. He thereby rather swings away from modern thought, which tends to take away from the central nervous system the responsibility in heredity, and give it to protoplasm as represented in the various body segments. The book is an interesting one, but some of the examples are not demonstrative, and its conclusions are rather inclined to be visionary.

Disinfection and Disinfectants. A Practical Guide for Sanitarians, Health, and Quarantine Officers. By M. J. ROSENAU, M. D., Director of the Hygienic Laboratory, etc. Illustrated. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xii-17 to 353. (Price, \$2.)

In writing this book, which is intended to help those who have to combat the infection of the communicable diseases, the author states that it has been his aim to record the results of an experience in the field and the laboratory in sanitary work, and to so state his facts that they may be of practical use to the disinfecter. He has considered the subject from the standpoints of the disinfectant used, the object to be disinfected, and the diseases for which the disinfection is done.

In the first chapter he describes the physical agents of sunlight, electricity, burning, dry heat, boiling, and steam as disinfectants.

The second chapter describes the gaseous disinfectants, including formaldehyde gas, sulphur dioxide, hydrocyanic acid, chlorine, oxygen, and ozone.

The third chapter reviews the use of various chemical solutions, including soaps.

In the fourth chapter the use of insecticides is considered as applied to disinfection against those diseases that are carried by insects.

In the fifth chapter the disinfection of houses, ships, and objects is considered; the various subjects are arranged alphabetically, and under each title the best method of disinfection is described.

In the sixth chapter the disinfection for each of the communicable diseases is reviewed.

The author emphasizes throughout the work the fact that the success of the disinfecter will lie in personal attention to minute details. He who is satisfied to leave the process in the hands of inexperienced persons, with but a few words of instruction, cannot expect to obtain trustworthy results. The disinfecter must give personal surveillance to the materials, the strength of solution, and modes of application, and should be present to guide and direct every step of the operation with the same conscientious thoroughness with which the surgeon assures himself of every detail in the operating room. Truly in this vigilance is the price of success.

The volume is well written, and admirably illustrated, and with its thoroughness and perspicuity it deserves a wide success.

A Nurse's Guide for the Operating Room. By NICHOLAS SENN, M. D., Ph. D., LL. D., C. M., Professor of Surgery, Rush Medical College, Chicago, etc. Chicago: W. T. Keener & Company, 1902. Pp. 9 to 127. (Price, \$1.50.)

This little book is an abstract of lectures delivered by the author. It instructs the nurse as to the manner of preparation of a room for an operation in a private house, and gives the technics of the methods of anesthesia and intravenous infusion. Drainage and sterilization and disinfection are discussed, and there are thorough chapters on antiseptics and dressing and suture materials. The more common wound complications are described, and then follow directions for the nurse as to the instruments and materials for all kinds of operations. The book is profusely illustrated with cuts of instru-

ments, to familiarize the reader with their appearance.

From its contents and its style, the book is well adapted to its purpose, and it would be a good thing if every nurse who had to do with surgical cases could possess it. It is full of valuable data.

Darmsystem. Erste Abtheilung. Athmungsorgane. Von FRIEDRICH MERKEL, in Göttingen. Mit 89 Abbildungen im Text. Handbuch der Anatomie des Menschen. Herausgegeben von Professor Dr. KARL VON BARDELEBEN. Sechster Band. Erste Abtheilung. Jena: Gustav Fischer, 1902. Pp. 182.

Harn-und Geschlechtsorgane. Erster Theil. Harnorgane. Von Professor Dr. J. DISSE, Marburg. Mit 86 Abbildungen im Text. Handbuch der Anatomie des Menschen. Herausgegeben von Professor Dr. KARL VON BARDELEBEN. Siebenter Band. Erster Theil. Jena: Gustav Fischer, 1902. Pp. 170.

The eighth and ninth instalments of this encyclopædic work on anatomy deal with the urinary organs and the respiratory organs respectively. There is the same wealth of illustration, in black and in color, as was found in the previous instalments, and there is the same careful attention to detail. Much space is given to embryological data and to sections of organs in various directions. The German onomatology will interfere somewhat with the general reading of the work, but its scientific accuracy and detail render it a work of unquestioned value to all students of anatomy.

Manual of Gynecology. By HENRY T. BYFORD, M. D., Professor of Gynecology and Clinical Gynecology in the College of Physicians and Surgeons, Chicago, etc. Third Revised Edition. Containing Three Hundred and Sixty-three Illustrations, many of which are Original. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xxiii-17 to 598. (Price, \$3.)

The third edition of Dr. Byford's work is much enlarged. While the anatomical and embryological material is necessarily very scant, we suppose that even the authors of manuals feel that they are compelled to insert these data, which in reality belong to another field of study entirely. An excellent feature of the work, as it has been in previous editions, is the insistence on pathological knowledge as the basis of a proper appreciation of gynecological disease. This is a step in the right direction which the writers of more elaborate books would do well to follow.

In the treatment of tubal pregnancy, the author makes no mention in this edition of his previous recommendation of the galvanic current or of the injection of morphine into the foetal sac. And in every other respect the book has been brought into harmony with the gynecological thought of the present day. Atmocausis is commendatorily spoken of, the improvements in operative technics are described, and the points in favor of certain operations are emphasized.

Altogether, the manual is entirely what it purports to be—a serious, scientific exposition of the princi-

ples of gynecology. The illustrations are well chosen and many are original.

But—if we have this but—some day a man will arise who will write a book on gynecology in the English language which will presuppose a knowledge on the part of his readers of the location of the female genital organs and of their derivation from the Wolffian body and Müllerian ducts. And this book will contain but one method for the operation for the relief of diseased conditions, and this method, if not his own, will be the one which the author employs. And, further, the book will be based upon pathological findings and will be a *résumé* of the author's work and experience. For such a book the reviewer waits in patience; it will be the most popular work of its kind.

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-graduate Medical School. Volume X. Skin and Venereal Diseases—Nervous and Mental Diseases. Edited by W. L. BAUM, M. D., and HUGH T. PATRICK, M. D. Chicago: The Year Book Publishers, 1902. Pp. 5 to 245. (Price, \$1.25.)

This book is one of the now well known series appearing during the course of the year and attempting to afford the general practitioner a concise *résumé* of the most important literature in the various specialties. It lays no claim to being a complete and exhaustive review, but aims only to present contributions of the year.

General Paresis: Practical and Clinical. By ROBERT HOWLAND CHASE, A. M., M. D., Physician-in-Chief, Friends' Asylum for the Insane, Philadelphia, etc. Illustrated. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xl-17 to 291. (Price, \$1.75.)

The author of this volume takes advantage of an experience of more than twenty-five years in the treatment of nervous and mental diseases to present to the profession a study of general paresis that is intended particularly for the practitioner and the student in medicine, with the view to present to them clearly and explicitly the special features of this distressing and too prevalent disease, which claims its victims from all grades of society.

He states that he has not sought to settle scientific questions that are still subject to investigation, nor has it been his purpose to advance original views and individual opinions except as they give the practical results of his own experience and research.

The subject is described under a prodromal stage, or period of moral and mental alteration, under the first stage of the established disease, where there is decided mental alienation, under the second stage, or that of chronic mental disorder, and under the third, or stage of fatuity. The varieties of general paresis are also described. Several chapters are devoted to the particular symptomatology. The diagnosis is considered in a separate chapter, and chapters are devoted to the etiology and to the pathology and pathological anatomy. Each of these topics is further elucidated by descriptions of characteristic

cases that are reported throughout medical literature; in fact in no recent volume has it been noted that such detailed attention has been given to recorded observations.

The book is very well illustrated and is a most useful monograph; in view of the importance of this subject, it should receive the careful reading of all general practitioners.

A Brief Necroscopy and its Medico-legal Relation.

Arranged by GUSTAV SCHMITT, M. D., Milwaukee. New York and London: Funk & Wagnalls Company, 1902. Pp. 5 to 186. (Price, \$1.)

In this little book the author has condensed practically all the essential facts connected with the medicolegal aspects of a postmortem examination. Besides giving minute directions for the performance of an autopsy, a large amount of necessary information in regard to postmortems in cases of poisoning, suicide, and accidental death is detailed with such clearness of statement and accuracy that the book cannot fail to be of great assistance to every pathologist who is likely to be called upon in such cases. To the lawyer, also, it will be of service in the examination of expert medical witnesses. The book is of such size that it can be carried in the pocket conveniently.

A Guide to the Practical Examination of Urine.

For the Use of Physicians and Students. By JAMES TYSON, M. D., Professor of Medicine in the University of Pennsylvania, etc. Tenth Edition. Revised and Corrected. With a Colored Plate and Wood Engravings. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xii-13 to 297. (Price, \$1.50.)

It is seven years since the ninth edition of this work was published, and the author has taken advantage of the new edition to include a description of Haines's test, Kowarski's modification of the phenylhydrazine test, the diazo-reaction, and the Squibb method for the estimation of urea. It is noted that in this volume the term indoxyl is used instead of indican. The author has accepted the investigations of Schwarz and others that go to show that the metabolism of fat in the body is probably the chief, if not the only, source of acetone excretion.

There are seven more illustrations in this than in the last edition, but figure 16 repeats the burette stand shown in figure 7, and seems to be of no use to the reader.

The volume is likely to continue to hold its well established position as a textbook for the student of urinary analysis.

BOOKS, ETC., RECEIVED.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second Series. Volume VII. Hernia—Inquiry. Washington: Government Printing Office, 1902. Pp. 1003.

The Elements of Bacteriological Technique. A Laboratory Guide for the Medical, Dental, and Technical Student. By J. W. H. Eyre, M. D., F. R. S., Edin., Bacteriologist to Guy's Hospital, London, etc. With 170 illustrations. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 11 to 371. (Price, \$2.50.)

The Mind of Man. A Text-Book of Psychology. By Gustav Spiller. London: Swan, Sonnenschein & Company. New York: The Macmillan Company, 1902. Pp. xiv-11 to 552. (Price, \$2.75.)

A Manual of Dissection and Practical Anatomy. Founded on Gray and Gerrish. By William T. Eckley, M. D., Professor of Anatomy in the Medical and Dental Departments of the University of Illinois, etc., and Corinne B. Eckley, Demonstrator of Anatomy in the Medical and Dental Departments of the University of Illinois, etc. Illustrated with 220 Engravings, 116 of which are Colored. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. viii-408. (Price, \$3.50.)

A Manual of Medicine. Edited by W. H. Allchin, M. D., Lond., F. R. C. P., F. R. S. Edin., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital, etc. Volume IV. Diseases of the Respiratory and Circulatory Systems. New York and London: The Macmillan Company, 1902. Pp. x-493. (Price, \$2.)

Diseases of the Pancreas and their Surgical Treatment. By A. W. Mayo Robson, F. R. C. S., Senior Surgeon, Leeds General Infirmary, etc., and B. G. A. Moynihan, M. S. Lond., F. R. C. S., Assistant Surgeon, Leeds General Infirmary, etc. Illustrated. Philadelphia and London: W. B. Saunders & Company, 1903. Pp. 13 to 293. (Price, \$3.)

Gynecology, Obstetrics, Menopause. Being a Revised and Enlarged Reissue of Three Serial Articles appearing in the *Medical Council*. By A. H. P. Leuf, M. D. Philadelphia: The *Medical Council*, 1902. Pp. xii-18 to 326. (Price, \$2.50.)

Diseases of the Bronchi, Lungs, and Pleura. By Professor Dr. Friedrich A. Hoffmann, Professor of Medicine in the University of Leipzig; Professor Dr. O. Rosenbach, of the University of Breslau; and Dr. E. Aufrecht, Chief of Clinical Medicine in the Maddeburg-Alstadt City Hospital. Edited with Additions by John H. Musser, M. D., Professor of Clinical Medicine in the University of Pennsylvania. Authorized Translation from the German under the Editorial Supervision of Alfred Steagel, M. D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 7 to 1029. (Price, \$5.)

Diseases of the Skin. A Manual for Students and Practitioners. By Joseph Grindon, Ph. B., M. D., Professor of Clinical Dermatology and Syphilis, Washington University, etc. Series Edited by Bern B. Gallaudet, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York, etc. Illustrated with Thirty-nine Engravings. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 5 to 377. (Price, \$2.)

Cancer of the Uterus. A Clinical Monograph on its Diagnosis and Treatment, with the After-results in Seventy-three Cases Treated by Radical Operation. By Arthur H. N. Lewers, M. D., Lond., F. R. C. P., Lond., Obstetric Physician to the London Hospital, etc. With 51 Original Illustrations and 3 Colored Plates. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xiii-328. (Price, \$3.)

The Development of the Human Body. A Manual of Human Embryology. By J. Playfair McMurrich, A. M., Ph. D., Professor of Anatomy in the University of Michigan. With Two Hundred and Seventy Illustrations. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xvi-17 to 527. (Price, \$3.)

The American Text-Book of Obstetrics for Practitioners and Students. Edited by Richard C. Norris, M. D., and Robert L. Dickinson, M. D. Second Edition, Revised. Philadelphia and London: W. B. Saunders & Company, 1902. Volume I. Illustrated. Pp. 7 to 554. Volume II. Illustrated. Pp. 7 to 547. (Price, \$3.50, each volume.)

The Pharmacological Action and Therapeutic Uses of the Nitrites and Allied Compounds, including the Croonian Lectures for 1893. By the late Daniel John Leech, M. D., Lond., D. Sc., Vict., F. R. C. P., Senior Physician to the Manchester Royal Infirmary, etc. Edited by R. B. Wild, M. D., Lond., M. Sc., Vict., M. R. C. P., Leech Professor of Materia Medica and Therapeutics in the Owens College, Manchester: Sherratt & Hughes, 1902. Pp. 187. (Price, 10s. 6d.)

The Medical Record Visiting List, or Physicians' Diary for 1903. New York: William Wood & Company, 1902.

Miscellany.

Southey's Tribute to Jenner.—*A propos* of the interesting paper by Dr. Dock published in the issues of this journal for November 29th and December 6th, the following which appeared in the *British Medical Journal* for November 22d is apposite. That journal is indebted for the following interesting communication to Mr. W. R. B. Prideaux, assistant in the library of the Royal College of Physicians, London: "Southey's tribute to Jenner is probably not widely known, and may be worth recording in your columns. It occurs in *A Tale of Paraguay* published in 1825, canto i, stanzas 1, 3.

Jenner! for ever shall thy honour'd name
Among the children of mankind be blest.
Who by thy skill has taught us how to tame
One dire disease—the lamentable pest
Which Africa sent forth to scourge the West,
As if in vengeance for her sable brood
So many an age remorselessly oppress.
For that most fearful malady subdued
Receive a poet's praise, a father's gratitude.

* * * * *

The hideous malady which lost its power
When Jenner's art the dire contagion stay'd,
Among Columbia's sons, in fatal hour,
Across the wide Atlantic wave convey'd
Its fiercest form of pestilence display'd:
Where'er its deadly course the plague began
Vainly the wretched sufferer look'd for aid;
Parent from child, and child from parent ran,
For tyrannous fear dissolved all natural bonds of man.

"The tale itself," says Mr. Prideaux, "is not without medical interest. It is founded on an account given by a Jesuit Father, Dobrizhoffer, who relates that an entire tribe of Guarani were carried off by smallpox except one couple, who lived in the depths of the forests, cut off from all human intercourse. To them were born a boy and a girl, who were still children when their father was killed while hunting. The three continued to live for several years in their isolation until the Spaniards came across traces of them and sent Father Dobrizhoffer to find out who they were. He brought them back to the Spanish village with him, but with disastrous results. In a few weeks' time they began to suffer from rheumatism, with pains in the eyes and ears, followed by deafness. Then their appetite failed, and extreme wasting set in. The mother died first and then the daughter. The son had apparently almost recovered from an attack of measles—a disease causing a heavy mortality in the town—when he earnestly requested to be baptized, as his mother and sister had appeared to him in a dream, and exhorted him to be baptized quickly. The priest after some hesitation complied with his wishes, and on that very evening the young man died. Their deaths were partly attributed to the change from the damp shade of their former dwelling to the open sunshine of the town."

In Memoriam Rudolphi Virchow.—In our issue for November 1st we published some Latin verses from the *Münchener medicinische Wochenschrift* in memory of Virchow. An Italian correspondent of the *Lancet*, who thinks that while the sentiment is

good, the versification and the Latinity can both be improved on, sends to that journal the following version in elegiac metre:

Morborem causas feliciter ille retexit;
Aegris ex ipsa morte paravit opem.
Reclussit vitæ penetralia caeca, fugando
Quod schola fallacis cumque vetusta daret.
"Cella fit e cella, sic fabrica viva creatur,
Hac patet ad Verum porta," magister ait.
Usque superstes erit nomenque operumque tropaea—
Tale decus nescit tangere longa dies.

These verses may be rendered into English as follows:

His the proud lot to disclose of diseases the ultimate
sources;
His to bring aid to the sick to escape from the
clutches of death;
His to roll backward the veil that shrouded Life's
intimate forces,
Scorning traditions of schools grown hoary 'neath
Fallacy's breath.
"Cell cometh only from cell, thus the fabric of Life
is created.
This way lies the portal of Truth!" Thus did the
Master proclaim.
His name shall endure, and his works in triumph
shall be celebrated,
Nor shall the passage of Time have power to tar-
nish his Fame. K. W. M.

Dental Facts Worth Knowing by Physicians.—R. Matthews, D. D. S. (*Wichita Medical Journal*, October) calls attention to the fact that the "second teeth" begin to come in very regularly at the sixth year, and so are called the "six-year molars." They come in such a way as to be liable to be mistaken for temporary teeth, and as they are subject to early decay they are often extracted, to the lifelong disadvantage of the patient.

The reason this mistake is made is that these teeth, four of them, one on each side of each jaw, come in before any of the temporary teeth are lost, and as they come quietly, the patient often not being aware of it, they attract no attention. In about six months the two lower central front teeth are lost and new ones take their place. This change is so apparent that it is noticed by the parents, child, physician, and everyone concerned, and so the growing of the second set is thought to begin with it. Oftentimes the six-year molar will be decayed and aching a year later and is then extracted because it is thought to be a "baby tooth."

It should, therefore, be remembered that there are three molars on each side of each jaw in a child's mouth from six years to nine or ten, and that the tooth farthest back is always a permanent tooth after the age of six years. None of these teeth should ordinarily be extracted, and least of all the one farthest back or sixth-year molar.

All teeth are of course best preserved for use. The temporary teeth are of as much consequence to a child as the permanent teeth to an adult. They need them properly to masticate their food; they need them for beauty and comfort; and they need them to develop properly and shape the jaw for the reception of the permanent set. Children's teeth should be filled and preserved until lost by natural

process. In the author's practice he finds it quite practicable to accomplish this, even for children of the fewest years. For one of his own daughters he has repaired teeth since she was two years and a half old. He has never extracted a temporary tooth in his family of five children until Nature has absorbed the roots and it is ready to fall out.

An Old-Time Ectopic Pregnancy.—We quote the following from the *Lancet*, November 15th, p. 1,332.

"In the *Transactions of the Edinburgh Obstetrical Society*, Vol. xxvii, Session 1901-02, just received, there is recorded a Case of Full-time Intact Extra-peritoneal Gestation Successfully Removed after Five Years' Retention, by Dr. D. Berry Hart, gynecologist to the Royal Infirmary, Edinburgh. It is accompanied by a reproduction of a photograph of the skeleton of the fetus, and amongst the literature quoted is the following: 'LOARING, H. J.—*Epitaphs: Quaint, Curious, and Elegant*, London, William Tegg (no date). In this curious work the following epitaph is given': In Père-la-Chaise Cemetery is the annexed inscription:

MADAME MILCENT,

Died March 10, 1824, aged 38 years.
Her death was accelerated by long sufferings,
Which she bore with great courage.
She carried in her body a child for eight years;
Twelve months living and seven years dead.
To prove the truth of this, Doctors Dubois and Believer extracted it at her decease, when it
Was found well formed and
Perfectly preserved.

This undoubtedly, says the *Lancet*, is the case referred to under the heading of "Looking Back," in the *Lancet* of August 2, 1902, page 298.

A Declaration Concerning Alcohol: Appeal to Physicians.—Four times during the last sixty years physicians of the world have declared their sentiments on the alcoholic question. The first declaration, in 1839, was signed by 79 physicians; the second, in 1847, received the signatures of 2,000 physicians; the third, in 1871, was signed by over 3,000 physicians. The fourth declaration has already been signed by over 1,000 physicians, 300 of whom are teachers in medical colleges on the continent and in England. Following is a copy of this declaration:

"The purpose of this is to have a general agreement of opinions of all prominent physicians in civilized countries concerning the dangers from alcohol, and in this way give support to the efforts made to check and prevent the evils from this source.

"In view of the terrible evils which have resulted from the consumption of alcohol, evils which in many parts of the world are rapidly increasing, we, members of the medical profession, feel it to be our duty, as being in some sense the guardians of the public health, to speak plainly of the nature of alcohol, and of the injury to the individual and the danger to the community which arise from the prevalent use of intoxicating liquors as beverages.

"We think it ought to be known by all that:

"1. Experiments have demonstrated that even a small quantity of alcoholic liquor, either immediate-

ly or after a short time, prevents perfect mental action, and interferes with the functions of the cells and tissues of the body, impairing self-control by producing progressive paralysis of the judgment and of the will; and having other markedly injurious effects. Hence alcohol must be regarded as a poison, and ought not to be classed among foods.

"2. Observation establishes the fact that a moderate use of alcoholic liquors, continued over a number of years, produces a gradual deterioration of the tissues of the body, and hastens the changes which old age brings, thus increasing the average liability to disease (especially to infectious disease), and shortening the duration of life.

"3. Total abstinence, other conditions being similar, can perform more work, possess greater powers of endurance, have on the average less sickness, and recover more quickly than non-abstainers, especially from infectious diseases, while they altogether escape diseases specially caused by alcohol.

"4. All the bodily functions of a man, as of every other animal, are best performed in the absence of alcohol, and any supposed experience to the contrary is founded on delusion, a result of the action of alcohol on the nerve centers.

"5. Further, alcohol tends to produce in the offspring of drinkers an unstable nervous system, lowering them mentally, morally, and physically. Thus deterioration of the race threatens us, and this is likely to be greatly accelerated by the alarming increase of drinking among women, who have hitherto been little addicted to this vice. Since the mothers of the coming generation are thus involved, the importance and danger of this increase cannot be exaggerated.

"Seeing, then, that the common use of alcoholic beverages is always and everywhere followed, sooner or later, by moral, physical, and social results of a most serious and threatening character, and that it is the cause, direct or indirect, of a very large proportion of the poverty, suffering, vice, crime, lunacy, disease, and death, not only in the case of those who take such beverages, but in the case of others who are unavoidably associated with them, we feel warranted, nay, compelled to urge the general adoption of total abstinence from all intoxicating liquors as beverages as the surest, simplest, and quickest method of removing the evils which necessarily result from their use. Such a course is not only universally safe, but is also natural.

"We believe that such an era of health, happiness, and prosperity would be inaugurated thereby that many of the social problems of the present age would be solved."

This is intended to show the general sentiment and sympathy of the medical men in the world with the principles of the anti-alcoholic crusade. It also aims to represent scientific movement in the higher sense above all personal partizanship. I have been asked to solicit signatures to this manifesto, and should be very glad to receive the names, titles, and addresses of any physicians who are willing to go down in history as advocates or assistants in the correction of this evil. The names will all be published in the coming year, and it is hoped that our country will be represented as fully as continental Europe. Send me notes or postal cards at once. Address, T. D. CROTHERS, M. D., Harford, Conn.

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Original Communications.

ENDOMETRITIS.*

By H. J. BOLDT, M. D.,
NEW YORK.

It is principally to Ruge, of Berlin, that we owe our more exact knowledge of uterine pathology. Ruge has made three main divisions of endometritis, namely, glandular, interstitial, and a mixed variety. These form the basis of all variations or special forms of endometritis.

In hyperplastic glandular endometritis the glands are increased in number to such an extent that the picture under the microscope is that which is usually designated as adenoma of the endometrium. The original glands may be and frequently are changed in their contour, becoming zigzag and extending into the muscular structure. The superficial epithelium as well as the lining epithelium remains unchanged, which is the chief feature distinguishing it from a malignant degeneration.

In hypertrophic glandular endometritis the contour of the glands is also changed, even more so than in the previous form; their calibre is distended in places, sometimes sacculated; these sacculations are occasionally filled with secretion. The distinguishing feature from hyperplastic endometritis is further based on the non-increase in the number of glands. Care must be taken that in sections made in a slanting direction the double or treble rows of epithelium sometimes seen under the microscope are not mistaken for a proliferation of epithelium as found in malignant degeneration; this mistake can be avoided by studying numerous fields. The two forms of glandular endometritis may be associated in the same patient.

I have in a number of instances found the uterine cavity filled with polypoid nodules in which the quantity removed aggregated from 15 to 20 c. c.; on microscopical examination the picture presented showed adenoma. Such conditions have been classed by some writers as a separate form, viz., polypoid, or fungous, endometritis. While clinically such designation may be correct, I see no reason for classing such change under another name than adenoma of the endometrium from the point of view of pathology.

Acute interstitial endometritis is recognized by the diffuse invasion of small round cells into the stroma. Frequently pus corpuscles are also seen, and the vessels are found to be pressed apart and compressed by the invasion of the inflammatory corpuscles. Sometimes the round cell infiltration is found more in the deeper stratum of the mucosa in patches, rather than in diffuse form. Later, when the disease passes into the chronic state, the glands become more or less obliterated, with atrophy of the endometrium. In another form of chronic interstitial endometritis, the stroma cells are enlarged, contain a centrally located nucleus, and resemble sarcoma cells to some extent. The mixed forms of endometritis show that changes are present in both the glands and the interstitial connective tissue.

Endometritis is the most common gynaecological disease coming under the observation of physicians. Most frequently endometrial inflammations are met with which are not due to the invasion of specific microorganisms into the cavity of the uterus. They may for the sake of brevity be classed under one general heading, chronic endometritis. The statement that non-specific endometritis is not caused by pathogenic organisms may find opposition, but in a large number of specimens obtained from patients having the ailment I have been unable to find microorganisms when necessary care was observed to avoid extraneous infection. I regard the examination of specimens taken from uteri which were obtained by hysterectomy as conclusive on this point. There were twenty such specimens examined. The uteri had been removed either for cancer or for myomata.

The usual forms of endometritis caused by invasion of microorganisms into the uterine cavity are the: *a*, gonorrhoeal; *b*, septic; *c*, tuberculous; and, *d*, diphtheritic. Syphilitic endometritis is added by most authors, but it has always seemed doubtful to me whether this as a special form was not questionable, because nothing in the changes of such uteri has been found which may be described as characteristic of syphilis.

We know that while numerous germs are present in the vaginal secretions, likewise in the secretions in the lower part of the cervical canal, the uterus above the internal os and the Fallopian tubes do not, under normal conditions, contain microorganisms. In fact, the vaginal secretions and still more so those of the cervix are more or less detrimental to their growth.

* Read before the Southern Surgical and Gynaecological Association at its fifteenth annual meeting, held in Cincinnati on November 11, 12, and 13, 1902.

It is obvious that these conditions are changed in a puerperal uterus; hence the great care necessary to prevent infection in puerperal patients.

For the occurrence of a septic endometritis a lesion, or rather an abrasion on some part of the endometrium, is necessary upon which the organisms producing the illness, namely, streptococci and staphylococci, become implanted. In the puerperal state such lesion is always extensive. Outside of infections implanted upon lesions caused by physiological processes, septic endometritis may be and frequently is similarly caused by cervical dilatations, curetting, the introduction of sounds into the uterus, in fact any traumatism which causes an abrasion of the parts.

The saprophytic form of endometritis is produced by ptomaines which cause their detrimental effects by being generated by dead or decaying animal products. Examples of this may be seen when membranes or placental tissue are retained in utero; likewise when disintegrating myomata or cancer in the process of breaking down are present in the uterus. Very little is known about the nature of such saprophytes; they are supposed to belong to the anærobic microorganisms.

Gonorrhæal endometritis is most frequently met with of all specific forms. A latent gonorrhœa is especially apt to be rekindled during the puerperal state.

While there are a few cases of diphtheritic endometritis on record, the disease is extremely rare; that which is usually called by this name is septic endometritis found during the puerperium and showing macroscopically a grayish-white coating resembling diphtheritic membrane. This is gangrenous tissue containing streptococci.

Of the forms of tuberculous endometritis, the ulcerative variety is usually met with, the acute miliary and the interstitial varieties being seen very seldom. In fact, primary tuberculous endometritis is a rare disease.

While the aetiology of all specific forms of endometritis is well understood, those not depending upon microorganisms and ptomaines, in many instances, have uncertain causative factors.

It is maintained by a number of authors that retroflexions of the uterus are not productive of endometritis nor, in fact, of any symptoms. That assertion is erroneous. If a patient with marked retroflexion is observed for a long time, it can usually be demonstrated that she has an endometritis. I maintain that it is caused by a disturbance in the uterine circulation. Therefore, continuous disturbance in the circulation of the uterus, from whatever cause, must necessarily be regarded as an important factor in the causation of chronic endometritis. Hence displacements of the uterus or inflammatory conditions of the

pelvic peritonæum or pelvic cellular tissue and all neoplasms of the uterus may be looked upon as ætiological factors of endometritis.

Pathological changes in the tubes and ovaries likewise cause the inflammation under consideration. Brennecke, in the *Archiv für Gynäkologie*, Vol. xx, 1882, called attention to functional disturbances in the ovaries as productive of endometritis. His statements have been corroborated by other observers. Another frequent cause of endometritis may be found in the continuous practice of interrupted coitus, so prevalent among those not desiring offspring. Further, infectious diseases and diseases of the circulatory system furnish additional contingent factors. Abortions with retention of particles of placental tissue likewise predispose to the development of endometritis.

Frequently recurring pregnancies at short intervals, especially if such women arise from the lying-in bed to attend to their household duties before the uterus and pelvic structures have undergone proper involution, give a fruitful source for the occurrence of endometritis.

Extensive cervical lacerations also have an important bearing upon the ailment under consideration. As a consequence of such tears, ectropium of the cervical lips may result, the inflammatory changes in the vaginal portion extending to the endometrium. It is in such instances that trachelorrhaphy becomes a curative operation, and it is for the reason given above that I so urgently commend intermediate trachelorrhaphy, an article on which was published by me in the *Transactions of the American Gynecological Society* for 1889.

The changes which take place in the uterus and its mucosa vary according to the form of endometrial inflammation and the time of its existence. In all cases there is an increase in the structure affected. The uterus in the beginning is more or less enlarged and its consistence, is relaxed, so that at times it feels as soft as a uterus in the first stages of pregnancy. Later the consistence changes, assuming in some instances a cartilaginous hardness; this condition is usually designated as chronic endometritis by the clinician.

The clinical diagnosis of endometritis is to be based more on the history which may be elicited from a patient than on the objective symptoms which may be present. Chief among the subjective symptoms, irregularities of menstruation should be mentioned. Women who formerly had been regular, with, for the respective patient, a normal loss of blood, bleed more profusely at the menstrual period; the period, which perhaps had formerly been of three or four days duration, continues five, six, or more days with greater loss of blood. The intermenstrual period becomes shortened, sometimes only two weeks or less elaps-

ing. Aside from this, various reflex symptoms manifest themselves such as disturbances in the digestive tract, indigestion, cardiac palpitation and headache; all these may probably be ascribed to the concomitant anæmia which results from the irregular loss of blood. When there is an increase in the size of the organ with a corresponding hyperplasia of the muscularis, as is the rule in those patients in whom the chronic metroendometritis is the outcome of a micrococcic infection, the patients frequently complain of a dragging sensation in the lower abdomen, backache, and bladder and rectal symptoms. The erosions which frequently are present on a voluminous vaginal portion as the result of the irritating cervico-uterine secretions may also give rise to some bleeding on slight traumatism, the cylindrical epithelium being at times very delicate. I have known the bleeding continue for an hour or more as the result of a bimanual examination in my clinic.

It is not uncommon, even if such patients do conceive, to have them abort, usually before the fourth month, because the diseased endometrium does not permit of the development of a healthy decidua and a consequent viable embedding of the ovum.

Inspection of the vaginal portion of the cervix frequently reveals it to be of a reddish-purplish hue; often numerous Nabothian follicles are seen upon it. Its size is usually increased, frequently to double, but rarely to treble the normal size, and, as previously stated, the erosions upon it may bleed quite profusely when touched. The endometrium, when touched with a sound, bleeds more or less, sometimes considerably and in some instances only sufficient to tinge the sound. Bimanual examination may show an increased size of the uterus, sometimes slight irregularity in the contour, and increased firmness in consistency of the muscular structure, if the inflammatory process is one which leads to induration; or its consistency may be greatly relaxed, so soft that one may at times be in doubt as to the existence of an early pregnancy, as in instances of hyperplastic metroendometritis.

Treatment.—The local treatment giving the promptest relief from bleeding in instances of chronic endometritis is undoubtedly to be found in the judicious use of the curette. I would caution, however, that although the operation is comparatively simple, it should not be resorted to indiscriminately, as is especially being done by many general practitioners; neither should it be done by one not trained in the technics of gynecological surgery, because we frequently see serious results following its improper employment. Further, before the operation, it is imperative that a careful bimanual examination be made, to determine whether or not a tubal swelling is present. I have known a tubal gestation sac and pyosalpinx to be ruptured as the result of the trau-

matism produced by the operation. In a few instances I have desisted from curetting and opened the abdomen subsequently, through the disclosures revealed by bimanual examination. If resorted to, however, the same precautions as to cleanliness should be employed as in a major operation. A dull curette, such as was formerly used and as is still employed by some, is a useless instrument to denude the interior of its hypertrophied endometrium. The curette should be stiff, but the hand guiding it over all parts of the endometrium should be gently used. One must be competent to judge of the consistence of the muscular structure and not go beyond the mucous membrane. In my experience about sixty per cent. of the women are relieved from atypical bleeding for a variable period of time by curetting. After curetting it has been my custom to make an application of pure carbolic acid to the interior of the uterus. In patients who have not obtained the desired relief by curetting, subsequent local treatment becomes necessary. This varies with the obstinacy of the condition. Usually applications of iodine or carbolic acid twice a week suffice, but in some instances bleeding at the menstrual period is so profuse that I have found it necessary to resort to more heroic measures. I consider the most heroic, among local measures, the application of chloride of zinc. I use solutions varying in strength from twenty to fifty per cent. The technics employed is to take a Braun's intrauterine syringe with a specially thin tip and having but one opening at the extreme end. Aspire about ten minims of the medicament into the barrel of the syringe, wipe off the tip, then anoint it with vaseline; wrap the tip with absorbent cotton; introduce the cotton-wrapped syringe into the uterine cavity and inject the solution. With a dressing forceps hold the cotton at the proximal end of the tip and withdraw the syringe, thus leaving the medicated cotton in the uterine cavity. The vagina should be first packed in its upper part with bicarbonate of sodium before a retaining tampon is inserted. The soda to some extent prevents the irritating action of the zinc chloride should any exude from the uterine cavity. After two or three days all packing is removed. The treatment should be renewed if the subsequent menstrual period indicates its repetition. In instances of long standing hemorrhagic endometritis, when the thickened endometrium is not sufficient to account for the menorrhagia and metrorrhagia, I have several times packed the cavity of the uterus with gauze moistened with chloride of zinc solution with the express purpose of obtaining a deeper destructive action by the zinc chloride, and while this has usually given satisfaction in regard to the bleeding, there are serious objections to it, inasmuch as there is danger of causing a cervical stenosis by the action of the zinc chloride, necessitating an

almost continuous treatment at intervals of four to eight weeks to keep the cervical canal patent. Further, there is danger of causing the occurrence of a parametritic or perimetritic exudate, which may take a long time to become absorbed. Vaporization has been used with good results; however, the few times that it has been employed by me, it did not impress me as better than the chloride of zinc treatment, which is one of the most satisfactory therapeutic measures which I have had occasion to employ. Existing displacements of the uterus which may be the cause of the endometritis should of course be remedied at the same time if possible.

The general condition of a patient in all instances requires careful supervision. Good food, proper exercise, baths, douches medicated or plain warm water as the case may be, are all important adjuvants.

Occasionally a patient may come under our care in whom nothing will be of benefit; the bleeding is made milder only temporarily, the large indurated uterus produces numerous symptoms which make life miserable; in such instances it may be necessary to resort to hysterectomy. The same may be said of tuberculous endometritis, if the tuberculous process cannot be cured by local treatment.

Patients having had a severe attack of septic metroendometritis frequently suffer from the results thereof for the rest of their life or until after the menopause has been passed. I have not found any method of treatment satisfactory with women who had such large indurated uteri, conditions that have been termed "fibrosis of the uterus" by some clinicians. If at all amenable to treatment, the best results may be obtained by massage according to the method of the late Thure Brandt. The treatment is long and tedious and requires much patience on the part of both the patient and the physician. If one can get such patients under treatment soon after the acuteness of the disease has passed off, I have seen good effects from the use of electricity, both the galvanic and the faradaic current, one electrode used within the uterus and the large clay electrode placed on the abdomen. The current should be used every second or third day for about ten minutes. But it is my opinion that unless the uterus is reduced to normal size and consistence in from four to eight weeks, it is useless to continue its employment.

The senile endometritis which is sometimes met with in women long past the menopause at times presents symptoms resembling cancer of the corporeal endometrium, namely, slight irregular bleeding and at times a very putrescent discharge from the uterine cavity. A careful microscopical examination of the scrapings by a competent pathologist will decide the question. A similar procedure is frequently necessary to distinguish between other forms of endometritis and cancer, malignant disease being

the condition from which a differential diagnosis is often requisite to properly treat such patients.

Neither tuberculous nor syphilitic endometritis shows distinctive subjective or objective symptoms from other forms of endometrial inflammation, the diagnosis of tuberculous endometritis resting upon the microscopical findings, that of the syphilitic form upon the history and perhaps other existing symptoms of syphilis. The diagnosis of diphtheritic endometritis is based upon the finding of Loeffler's diphtheria bacillus.

Endotrachelitis is of common occurrence and is usually found as a chronic catarrhal inflammation. It is obvious that inflammation of the cervical mucosa should be more frequent than that of the corporeal endometrium, because of its closer proximity to all deleterious influences which may act upon it from secretions present in the vagina. The secretion first becomes increased in quantity and varies in character according to the intensity of the endotrachelitis. In the most obstinate cases it is mucopurulent. The mucosa becomes somewhat hyperæmic and swollen. The glands become somewhat changed in their contour and slightly increased in number. The excretory openings may become obliterated and small retention cysts form as a result. Associated with endotrachelitis are the so called erosions found about the external cervical opening. Sometimes these seeming erosions are in small patches of the size of a pinhead, but more frequently they are larger, varying in size and sometimes covering the whole lower surface of the vaginal portion. The normal squamous epithelium covering the vaginal portion is changed into cylindrical epithelium. It is possible that the cylindrical epithelium in the cervical canal may be transformed into squamous epithelium. It should be borne in mind, however, that even without inflammatory changes the squamous epithelium may extend beyond the usual limits and into the cervical canal. It has been demonstrated by Ruge and Veit that the peculiarity of the transformed squamous epithelium into cylindrical epithelium consists in a tendency of the transformed epithelium to extend into the tissue of the vaginal portion.

An endometritis caused by gonorrhœal infection shows that the superficial cylindrical epithelium is destroyed to a greater or less extent, and occasionally the cylindrical epithelium is changed into squamous epithelium. The mucous membrane becomes hypertrophied, sometimes to a considerable extent. The interglandular connective tissue becomes infiltrated with round cells and pus corpuscles. Frequently gonococci may be found in the scrapings obtained by curetting. The uterus itself is enlarged; its walls are thickened and usually firmer in consistence. That the metritis is caused by the invasion of the

muscular structure by gonococci, as believed by Wertheim, has been proved by Max Madlener (*Centralblatt für Gynäkologie*. Vol. xix, p. 1316), who found gonococci in the muscularis in a patient with recent infection from whom the uterus had been extirpated.

The symptoms of gonorrhœal endometritis depend entirely upon the virulence of the gonococci which caused the infection. The gonococci of a latent gonorrhœa do not, so far as my experience goes, ever give rise to acute symptoms. It usually requires a long time, perhaps several months, before symptoms begin to manifest themselves of sufficient intensity for the patient to seek medical aid. The specialist is, in fact, seldom consulted until the disease has affected the Falloppian tubes. In such patients it is not always easy to make a correct diagnosis as to the cause of the existing leucorrhœa. The uterus, on examination, reveals the changes in size and consistence which one is likely to find in patients having endometritis, provided the microorganisms have invaded the interior. On using a speculum, we are apt to find more or less erosion about the external cervical opening; the plug of glairy mucus which in a healthy condition is generally found protruding from the cervical canal is found to be changed into mucopurulent secretion, which sometimes is quite profuse. The positive diagnosis, however, can only be made when it is possible to find gonococci upon microscopical examination of the secretion. The absence of them on a single examination would not, however, invalidate a gonorrhœal condition; only repeated negative findings would do this. In instances in which the secretion is scanty, I am an advocate of the use of Schultze's trial tampon. It is readily applied and certainly gives a result, so far as obtaining secretions from the cervical canal and uterine endometrium is concerned. It is made by taking a small tampon of absorbent cotton, saturating it with twenty-five per cent. of tannin in glycerin, applying it to the vaginal portion so as to cover the cervical opening, and placing over it a retaining tampon of non-absorbent cotton. After twenty-four to thirty-six hours the tampon is removed and the secretion on the trial tampon examined microscopically.

Patients suffering with an acute gonorrhœal infection present no diagnostic difficulties, especially if one resorts to the aid of a microscope, because in acute cases gonococci are plentiful.

The treatment of acute gonorrhœal endometritis should be as in all other acute endometrial inflammations—absolute rest in bed. The application of an ice bag to the hypogastric region, vaginal douches with a mild antiseptic solution, a 1 in 10,000 solution of bichloride of mercury, or a five per cent. boric acid solution. A bland diet is indispensable.

After the endometritis has become chronic, it should be treated with intrauterine applications of one of the usual remedies. I prefer a ten per cent. solution of carbolic acid. Frequent intrauterine irrigations with large quantities of a mild antiseptic solution also give a good result. If the secretions from the endometrium are very profuse, curetting, with subsequent local treatment, is generally beneficial. The diet, which in the acute stage should have been bland, should now be generous, plenty of nutritious food, but not highly seasoned, should be taken.

The endometrial changes caused by infectious diseases are mainly of a congestive nature, therefore the condition has usually been designated "hæmorrhagic endometritis."

Septic Endometritis.—Among the forms of acute endometritis, the septic variety is most frequently met with. It is found either after full term delivery, abortion, or surgical interventions on the uterus.

The pathological changes which take place in a uterus the seat of septic and saprophytic endometritis may be considered together. The ailments may likewise be considered under one designation, namely, puerperal endometritis. Puerperal endometritis differs primarily from the other forms in that the mucous membrane in the uterus is not intact. A denuded rough area is present upon which the disease-producing elements first exert their deleterious influence. The anatomical changes found in the uterus and endometrium vary according to the intensity of the infection. In intense instances of sapræmic infection the interior presents a putrid appearance; the same may be the case in septic infections, in which the surface frequently presents a mottled appearance. It may also at times present the appearance of being covered with a diphtheritic membrane. This is not likely to be anything more than gangrenous tissue in a drying-out process, caused by and containing microorganisms, and preparing itself to be cast off.

The bacteriological difference between the two forms of endometritis considered under this head consists in this, that septic endometritis is caused by infection with microorganisms, such as streptococci and staphylococci principally. Sapræmia is due to the absorption of ptomaines originating from decaying animal matter within the uterus, such as placenta, membranes, and blood. The lochia being made up of such constituents, their retention produces a similar effect. One should bear in mind that sepsis and sapræmia may be associated in the same patient.

If the infection is not too intense, the invasion of microorganisms is walled off by a zone of round cell infiltration, which is termed the reaction zone. In intense infections, however, the entire muscular wall

of the uterus may be traversed by microorganisms, and a conglomeration of the round cell infiltration, breaking down, may lead to the formation of an intramural abscess.

The uterus in all patients with acute puerperal endometritis is enlarged and greatly softened in consistence; metritis and endometritis being invariably associated in these infections. A puerperal metroendometritis of severe nature always results in chronic metroendometritis, if the patient does not succumb to the primary disease.

While from the point of view of a pathologist there is no difference between septic metroendometritis of puerperal origin and that of traumatic origin, except the partially denuded interior of the uterus in puerperal cases, I have never seen such intensity of the ailment in non-puerperal patients; therefore the prognosis is, so far as my observation goes, better in those patients in whom the infection is caused by some surgical intervention.

The symptoms vary with the intensity of the infection. More or less elevation of temperature is usually present; absence of fever is in fact an exception. Pain is not likely to be a marked symptom except upon pressure on the uterus, unless the peritonæum is involved. Usually one or more chills are present, but I have not always seen this symptom even in some very intense septic infections. The pulse varies with the intensity of the infection; in mild cases it is not likely to be much accelerated, if at all. The excretions from the uterus may be profuse, but unless the infection is of a saprophytic nature, no odor is inherent to the discharge. It is astonishing to see that so many general practitioners consider the absence of odor of the excretions as favorable, whereas the most serious septic patients have but comparatively little *odorless* discharge.

Patients who have a mild septic infection generally begin to recover in a few days after the first symptoms of infection have manifested themselves, the microorganisms having been prevented from traversing deep into the uterus, usually not beyond the endometrium, by the barrier of cell infiltration, the so called reaction or granulation zone. They are then thrown off with the secretions and the patient makes a good recovery without leaving any traces of the infection. It is different, however, with the more intense infections in which the microorganisms traverse into the muscular structure of the uterus, along the course of the lymphatics, and into the circulation. In such patients the temperature remains high with intermissions, the pulse rate remains increased, and lasting pathological lesions remain in the uterus. The illness is a long one if such patient escapes with her life.

The treatment in such cases should be general. Absolute rest in bed and the application of an ice

coil or a large ice bag applied on the lower abdomen should be resorted to. If the infection is of a sapræmic nature and if retained placenta or membranes are in the uterus, they should be removed manually if it is at all possible; then an intrauterine irrigation with a mild antiseptic solution at low pressure should be made. One must be governed by general conditions so far as local treatment is concerned. Intrauterine douches at intervals may be given to advantage in some instances. This holds good especially for those patients who have profuse uterine secretion accompanied by a temperature from 101° to 103° F., if it is found that an irrigation in such a patient has reduced the temperature and if she herself feels better after the douche. Light massage of the uterus (apparently severe infections excepted) has seemed to me to act beneficially by causing uterine contraction and thus making the consistence of the uterus firmer.

Soluble silver introduced into the uterus and applied externally in the shape of an ointment (Credé's ointment) is said to be satisfactory. Credé has reported excellent results from its use. I have not been able to corroborate this in my practice.

While curetting is strongly advocated and extensively made use of in such patients, I condemn this intervention very decidedly, having seen the condition of patients only made worse by it; it has, I believe, caused deaths, directly and indirectly. Fresh avenues of infection are made with the instrument. It is impossible, even with vigorous scraping, to remove all the streptococci and staphylococci, and on the fresh wounds made with a curette the remaining microorganisms multiply with great rapidity, aside from the danger of easily perforating a puerperal uterus. Hysterectomy is advocated, by Prochownick, of Hamburg, in instances in which patients have bacteriæmia, and if it seem probable that the source of infection is limited to the uterus. He has had some good results from this procedure. I, too, have done a number of operations under such circumstances, but in my opinion, it is as yet of doubtful utility, especially so, after having made careful observations, from a pure scientific standpoint, on a large number of patients, aided to a great extent by my house staff in the Post-graduate Hospital, and by Professor H. T. Brooks, to whom I here express my high appreciation for their services. I had two patients recently with a pure streptococcus infection, without a possibility of extraneous contamination of the blood, which was taken from the median cephalic vein at the time of making an intravenous infusion. Both recovered. A similar experience was had with a staphylococcus infection. No surgical intervention except the intravenous infusion was resorted to. I am still in doubt as to the proper or, rather, the best treatment for patients ill with bac-

teræmia. So much, however, is certain in my opinion, that the less local meddling done, the better are the chances for such patients to recover.

LARYNGECTOMY FOR MALIGNANT DISEASE.*

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(Concluded from page 1025.)

The complete unilateral laryngectomy is done in the same manner as the total extirpation, except that the operative work is confined to one side. In the less extensive cases it may be done subperichondrally. In the more extensive cases the technique is the same as in the total extirpation. This is especially so in the exposure of the regions of possible lymphatic involvement. In all cases a tracheotomy is made at the second or third rings, and the cricoid cartilage is saved if possible. The wound remaining is closed, as far as possible, by the mucous membrane of the pharynx. The remainder is packed as in the resections. In all other details, the measures adopted in the resections are applied to the partial laryngectomy. For three days following the operation, the patient rests in bed with the foot raised and without a pillow. Nourishment by rectum is given every sixth hour. Rectal irrigations of salt solution every third hour. On the third day an attempt to swallow is made—at first of water only. Provided the oroesophagopharynx is closed from the lumen of the trachea by any method, this will take place with ease. The patient takes small quantities in the mouth and with the bed in an exaggerated Trendelenburg position, he makes the attempt to swallow, as it were "up hill." If the wound is not closed, some leakage will occur, but this can often be overcome by compressing the sides of the opening with the fingers, or, where the opening is small, with the finger, during the act of swallowing. If this cannot be accomplished, or if the wound could not be closed at the time of the operation, a catheter must be used. If it is inserted at the time of the operation, it is best passed through the nose. If not, it must be passed at each feeding and through the mouth. It is preferable to avoid the use of the catheter, either at the operation or afterward. One is generally successful where the patient is taught to swallow in the Trendelenburg posture, in which position an escape of liquid from the wound has a tendency to flow away from the lumen of the trachea. What has made the partial operation upon the larynx justifiable has been the early diagnosis and the immediate removal of the disease.

Kocher, Bergmann, and Butlin have been particularly fortunate in having had referred to them cases in an early stage, where the removal of the soft parts of the larynx and, in a few instances, of the cartilage also, has been followed by better results than have been heretofore attained. We wish to obtain a similar showing in those cases where the early diagnosis has not been made, or, if made, operation has been denied by the patient so long that a partial removal of the larynx can no longer be done.

Under just such circumstances, providing the lymphatic involvement does not contraindicate operation, this operation of a complete unilateral or bilateral removal is justifiable.

This is more especially so now when we can observe such results as those of Glück and such a demonstration of the reestablishment of the voice as has been shown in Goldstein's case of total laryngectomy. In all operations before 1900, the intention to reestablish a communication between the trachea and the mouth was always considered, after which an artificial larynx was introduced. Such instruments, however, act as irritants and have been considered in a few instances as a cause of recurrence. They are difficult to keep clean and in order. During this same year Goldstein (*Verhandlungen der deutschen, Gesellschaft für Chirurgie*, 1900, ii, 652), relying upon the reported cases of Schmid (*Archiv für klinische Chirurgie* 38, 132) and S. Cohen (*Archiv für Laryngologie*, Bd. I, p. 276), where after the loss of the larynx a voice was acquired, attempted, in a case of total laryngectomy in which the trachea was not in communication with the oropharynx, by regularly applied exercises to obtain a substitute for the lost organs and to establish a pseudo-voice (Landois and Strubing, *Archiv für klinische Chirurgie* Bd. 38, 145). His patient developed a voice which could be heard a distance of from three to four feet. The patient enunciated distinctly consonants and vowels, especially well, consonants combined with vowels. This degree of proficiency required four months. Two months later, the patient could sing a simple song of more than two tones, in which he made tones and half tones. After from five to six syllables were pronounced by the patient, a pause of one fifth of a second took place, in order to "get his wind." At this time one heard a peculiar clucking sound as the air entered the reservoirs for air. Sometimes this noise accompanied a swallowing motion, and when it did, it lasted somewhat longer than when not attended by the act. Just where this sound was made was not at all certain. In Schmid's case the larynx was completely removed and the voice was thought to be made between the base of the tongue and the wall of the pharynx. In Goldstein's case it was

* Read before the New York Clinical Society at its May meeting, 1902.

thought that the voice was made between the pharyngeal wall and the remains of the epiglottis, all of which was not removed.

In both cases the air necessary to pass through the narrow slit representing the new larynx was believed to be collected in a dilatation of the pharynx below the tongue or epiglottis and above the œsophagus. A second or reserve dilatation was thought to be in the upper fourth of the œsophagus.

This remarkable adaptation of organs to replace the function of lost ones will be of the greatest benefit to this operation, and will add one more advantage which should not be lost sight of when we consider the necessity of surgical intervention in malignant disease of this organ.

The following cases of which I have the histories have been operated upon by me:

CASE I.—H. B., June 9, 1896, U. S. A., forty-nine years of age. A male.

Previous History. One year ago, became gradually hoarse and experienced difficulty in swallowing. The hoarseness increased. He was examined by two specialists; one diagnosed carcinoma of the larynx; the other substantiated this and obtained a specimen which proved microscopically to be carcinomatous. Patient avoided operation until this June, about one year from his first symptoms.

Present History. General condition good. Small gland over the cricothyroid membrane.

Laryngoscopic view. Left vocal cord covered by an irregular reddish and ulcerated tumor. The sinus of Morgagni and other portions of the larynx seem free from disease.

Operation June 13, 1896. Slight chloroform anesthesia. Median incision from hyoid bone to the isthmus of the trachea; exposure of the thyroid cartilage, the cricothyroid membrane, and the cricoid cartilage; excision of the small gland over the cricothyroid membrane. Tracheotomy at the second ring. Anæsthetization through the tube. The thyroid cartilage was now split in the median line together with the cricothyroid membrane and a part of the thyrohyoid membrane. The sides of the larynx were retracted. The ulcerated surface not only involved the left cord, but extended within the sinus of Morgagni, forming a more extensive mass than was suspected. The laryngeal cavity below the vocal cords was packed, and the thyroid cartilage, together with the vocal cord, sinus of Morgagni, and the aryepiglottic fold were removed. This was carried out in the following manner:

The growth was surrounded by a well-marked and deep cut to the cartilage with the galvanocautery. After the hemorrhage was stilled and the face of the growth was packed with gauze, the thyroid cartilage overlying the growth was removed subperiosteally. Iodoform gauze was packed in the wound, and was changed sufficiently often to keep it dry. Alimentation by rectum was used for two days. Trendelenburg posture was employed during swallowing. Swallowing was easily accomplished by packing the wound freshly, resting upon the back in Trendelenburg position, and supporting the larynx and the gauze with the fingers. On the fourteenth

day, June 27th, the tube was removed. Food was now swallowed with ease and in the erect posture without escape into the larynx. July 6th, the tracheotomy wound was healed and the larynx did not require further packing. Union was complete except for the skin. July 13th, the wound was healed and the patient left easily but without great force. The patient left the hospital on July 16th. Pathological examination—epithelioma.

Seen November, 1900. No recurrence, voice distinct, not loud; laryngological examination showed no recurrence, and did show a thin fold of mucous membrane upon the side opposite the cord. The examination of the neck for glandular enlargement was negative.

CASE II.—W. J. Sixty years of age. New York. Admitted to private hospital June 10, 1897 (143, W. 47).

Previous History. Patient has complained for a long time of a continuous cough and some difficulty in breathing. His present new complaint is a sticking pain in the neck during swallowing. This has lasted for a month.

Present History. Patient is a well preserved man. Heart and lungs and renal examination normal. Arteries good. In the neck over the cricothyroid membrane a small gland. No other glandular enlargement found. Laryngological examination shows the right half of the epiglottis, the right aryepiglottic fold, and arytenoid cartilage ulcerated, with polypoid granulations extending into the spaces between the aryepiglottic folds. The anterior portion of the right vocal cord can be seen involved. The remainder of the larynx is not involved. The movement of the right vocal cord is less than normal.

June 15th, Operation: Head well extended, Rose position. Median thyroectomy and extension of the incision to the hyoid bone. Excision of a piece of the growth. Examination of a frozen section—epithelioma. The vertical incision was now prolonged below and a tracheotomy performed, tube inserted and anesthesia (chloroform) given. Upon the right side of the vertical incision a second incision was added, passing beneath the right half of the hyoid bone to the border of the sternomastoid muscle. The body was raised in a slight Trendelenburg posture and the sternohyoid, thyrohyoid, and omohyoid muscles divided. The superior thyroid artery was tied. The sternothyroid muscle was now separated from the cartilage. No glands found in the superior carotid triangle or to the side of the trachea beneath the thyroid lobe. A small gland over the cricothyroid membrane was removed. A small portion of the pharynx along the posterior border of the thyroid cartilage was removed, and the cricothyroid and thyrohyoid membrane incised, so as to allow a removal of the thyroid cartilage, the right half of the larynx, the arytenoid cartilage and the epiglottis. This was accomplished without hemorrhage to any extent. The margin of the pharyngeal wall was sutured as far forward as possible to mucous membrane covering the cricoid cartilage. This was also done above to the mucous membrane covering the base of the tongue, the cut edge of which was seen behind the hyoid bone. Over this, the previously cut muscles were sutured in place. Over this again, the skin flap was replaced

and sutured, except over the limits of the left thyroid cartilage. The cavity of the larynx was packed with gauze. Patient recovered from the operation nicely. Trendelenburg posture was maintained in bed. Fluid food was swallowed in this posture. On the third day the drains were changed every four hours. The tracheal tube was removed on the tenth day. The tracheotomy wound was closed on the fourteenth day. The median wound was closed on the twenty-sixth day. *November, 1901*, patient still free from recurrence. Good voice.

CASE III.—J. H. A man aged fifty years. U. S. February 12, 1897 (private hospital).

Previous History. Has suffered for years with catarrh of pharynx and larynx. He has always been hoarse, but has never suffered pain or experienced any difficulty in swallowing. Was examined by Dr. C. C. Rice, who pronounced the process malignant. A portion was then removed by intralaryngeal manipulation and the microscopic examination confirmed the previous diagnosis. Patient is a well-preserved man. Heart, lungs, and kidneys negative. Examination of the neck showed nothing abnormal. Laryngoscopic examination February 14th, shows a small tumor, broadly attached to the right vocal cord and ulcerated upon its surface.

Operation, February 15th.—Chloroform anæsthesia. Thyreotomy by median incision. Head in Rose-Trendelenburg posture. The laryngeal cavity was exposed by retractors. The right vocal cord was seen involved by a vascular and ulcerated tumor involving its anterior half. The right vocal cord was movable upon the underlying tissue at all points except beneath the tumor. Tracheotomy, insertion of tube. Packing of laryngeal cavity beneath the cord. Circumventure of the tumor by the galvanocautery deep enough to touch the cartilage beneath it. The perichondrium was removed from the thyroid cartilage and the cartilages over the tumor were removed *en masse*. The hæmorrhage was slight. Iodoform gauze was packed into the cavity. Fluid nourishment was taken by the mouth on the second day. The gauze drain was changed twice daily. *March 5th*, the tracheotomy tube was removed. *March 25th*, the wounds were all closed. A letter received on *March 27, 1902*, states that the patient is still alive and in good health. No recurrence.

CASE IV.—A. C., a woman, thirty-six years of age. Canada. August 18, 1896. New York Hospital.

Family History is negative as regards new growths.

Present Personal History. Eight years ago some glands were removed from the right side of the neck. Three years ago a similar operation. Last April, five months ago, dysphagia appeared while swallowing solids. A few weeks ago she was obliged to use only fluids. No pain has been present until within a few days. No dyspnoea, no aphonia, no cough; a moderate loss of flesh. Temp. 98° F. Respirations, 20. Pulse, 84. Urine analysis is negative.

Laryngoscopic examination.—Some redness over the right aryepiglottic fold. A papillary tumor arises from the posterior part of the right vocal cord

and projects backward over the aryepiglottic fold into the pharynx. No cervical glands can be felt. The laryngological examination was made by Dr. Leonard Dessar, of New York.

Operation, August 18, 1896.—Tracheotomy and anæsthesia through the tube with chloroform. A median and vertical incision through the thyrohyoid membrane, thyrooid cartilage, cricothyrooid membrane, and cricoid cartilage. Retraction of the sides of the larynx. Verification of the laryngoscopic examination. A transverse incision passing beneath the hyoid and outward as far as the sternomastoid muscle was added. The sternohyoid, omohyoid, thyrohyoid muscles were divided. The sternothyrooid was also separated from the oblique line of the thyrooid cartilage. The right half of the larynx above the cricoid cartilage was removed, together with the growth. After the removal a small gland was found in the superior carotid triangle near the horn of the hyoid bone. This was removed and no other glands were found. The mucous membrane of the cricoid cartilage below, and of the epiglottis above, was sutured to the mucous membrane of the pharyngeal wall, covering as much as possible the denuded surface left by the removal of the one half of the larynx. Anteriorly, the pharyngeal wall was sutured to the skin and muscle flap covering it. When the skin and muscle flap was sutured in the median line the greater portion of the denuded area was covered by mucous membrane. The wound was packed through an opening left in the median incision. After operation, pulse 100.

August 20th, temperature 101° F. Pulse 90. Gauze changed every three hours. Rectal alimentation. *August 21st*, alternate sutures removed from median and lateral incisions. *August 24th*, all sutures removed. Treatment continued. Fluid food by the mouth. *August 28th*, tube removed. Treatment continued. *August 31st*, solid diet. Treatment continued. *September 11*, wounds healed. *September 17th*, discharged healed.

Microscopic examination.—Typical epithelioma.

October 11, 1897.—Patient has a swelling in the deep cervical glands which is undoubtedly malignant. Removal was considered impossible. Death ensued January 30, 1898.

CASE V.—M. S. B., forty-one years of age. Married. Scotland. Admitted to New York Hospital, December 5, 1901.

Past History. Twenty-five years ago, pharyngitis and laryngitis, lasting all winter. Fifteen years ago bronchitis, lasting ten days. No further throat trouble until 1901.

Present History.—*January 6, 1901*, grippé and bronchitis lasting several weeks (six or seven). Since this time voice has been only a whisper. Three out of eight medical men diagnosed her case as tuberculous laryngitis; five as a simple laryngitis. In April 1901, Dr. Frank Miller, of New York, saw the patient and discovered a growth. A section removed and examined microscopically proved to be epitheliomatous. An immediate operation was advised. An examination of the neck showed it to be normal without an observable glandular enlargement. Heart, lungs and kidney normal.

Laryngoscopic examination shows upon the right side an ulcerated and pachydermatous-looking growth, which involves the sinus of Morgagni, the

right vocal cord, and the adjacent portion of the ary-epiglottic folds. The polypoid outgrowths from this mass extend at the anterior limit of the vocal cord across the median line. Whether the growth actually extends across the median line can only be surmised.

Operation December 6, 1901. Anæsthesia, ether, changed to chloroform as soon as the tracheotomy was performed. A vertical incision made from the hyoid bone to the second ring of the trachea in the median line. Incision carried to the thyrohyoid membrane, the thyrooid cartilage, the cricothyrooid membrane and the cricoid cartilage. The interior of the larynx was exposed by incising the first three structures exposed and the growth examined. It was seen that the growth involved the right as well as the left side and necessitated a complete operation. To the vertical incision a transverse one was added at a point just below the hyoid bone. The sterno-hyoid, the thyrohyoid and omohyoid were denuded, and the flaps pulled aside so as fully to expose the anterior and lateral surfaces of the larynx, the thyrohyoid membrane, the cricothyrooid membrane and the muscles overlapping these structures. No glandular enlargements were found except in the right superior carotid triangle over the internal jugular vein, where a single gland was removed. The isthmus of the thyrooid was depressed and tracheotomy was performed. For anæsthesia chloroform was administered through the tracheal tube. The trachea was then divided between the cricoid cartilage and the first ring. When separated, the larynx was drawn forward and the upper end of the trachea plugged with gauze. A separation of the cricoid and thyrooid cartilages from their attached muscles, the constrictors, the cricoarytenoids, the stylopharyngeus, the palatopharyngeus, and the sternothyrooid muscle was made, keeping wide of the disease, and at the same time preserving as much as possible of the walls of the pharynx and œsophagus. When the thyrohyoid membrane was reached it was divided transversely below the hyoid bone. The larynx was now rotated upon itself in a sagittal plane, so as to present its posterior and superior surface, as well as the epiglottis, the glossoepiglottic, and aryepiglottic folds. It was found necessary to divide the glossoepiglottic folds and to remove both the epiglottis and larynx in one piece. At this time, an attempt to bring together the hyoid and trachea failed, because of the tension upon the trachea. The suture of the trachea into the lower end of the wound in order to avoid a tracheal cannula (Glück) was not undertaken, owing to the request of the patient for an artificial larynx. In order, however, to prevent the entrance of secretion into the trachea, the anterior wall of the œsophagus, *i. e.*, that portion originally attached to the posterior surface of the cricoid cartilage, was sutured to and over the cut end of the trachea, as well as to the subcutaneous tissue beneath the line of union of the skin flaps in the median line of the neck. Above this point the lateral walls of the œsophagus could be approximated, and were sutured completely except at a point just beneath the hyoid bone, where the approximation could not be made. Over this, the skin was sutured, except just beneath the hyoid bone. Insertion of tube through nose and into œsophagus.

Patient stood the operation well. Removed to the

ward. Placed in bed with foot elevated. Rectal alimentation every four hours. Constant changing and cleaning of that portion of the wound beneath the hyoid bone which was packed. The tube which had been placed in the nose was forcibly ejected by patient.

December 6th. The amount of pharyngeal secretion is enormous, requiring constant change of dressings. (Strychnine sulphate, $\frac{1}{25}$ of a grain p. r. n.)

December 9th. Fluid food swallowed through tube inserted into mouth and œsophagus. *December 10th.* Rectal alimentation stopped. *January 1, 1902.* Wound almost completely healed. *January 10th.* Patient taking lessons in articulation and phonation. Speaks in a whisper. *February 10th.* Wound completely healed.

March 11, 1902. Patient left the hospital having taken lessons three times a week in articulation and phonation. She is at present able to make herself understood at a distance of two feet, although the voice is still "whispering in character." She is able, however, to talk in quite long sentences, and to use a sufficient quantity of air to do it with ease. A subsequent report upon the character of this voice will be made. The patient at present does not wish to use an artificial larynx and is satisfied with her voice as it is. This patient was presented to the New York Clinical Society, where the members conversed with her. At the present time, the patient remains free from recurrence and talks more distinctly and with a louder voice than in May last.

NO. 52 WEST FIFTIETH STREET.

GYNÆCOLOGICAL MASSAGE.

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The glamour of gynæcological surgery, says a recent writer, has obscured the commonplace but equally important study of gynæcological medicine. The less dangerous and less showy treatment has been left in the background. Especially the subject of gynæcological massage has received too little attention from American gynæcologists, though Thure Brandt, in Stockholm, treated his first patient successfully as early as in 1861. Though we are living in an age of mechanics and it behooves the medical man to bring this progress of his time into his art of treating diseases, yet a great diversity of opinion exists among the prominent specialists with respect to the efficacy of massage. The enthusiasm over the successes of operative gynæcology gave a setback to all other therapeutic measures. Yet experience and knowledge teach us that the aim of rational therapeutics is to cure, not to shine by successful operative feats. The latter dazzle not by the curative results, but by the difficulty and danger of their performance, and excite the desire of imitation. These timely

words of Arendt's fit especially the case of the American gynecologists with their strong surgical tendencies. The knife is used here entirely too often. Though disappointment is frequently met with in operative proceedings, yet operative surgery is here looked upon as being the panacea for woman's ills. Especially to those gynecologists who often acquire an excellent surgical technique, but to whom prognosis is a lost art and diagnosis is only determined after the use of the knife, to this new school of surgeons only surgical exploits are worthy of consideration.

It may, therefore, not be considered presumptuous on my part if I attempt to address my fellow-practitioners upon a subject that has been talked over so often that it seems that nothing new can any longer be said about it. But free criticism cannot fail in the end to have a good effect.

The beneficial results obtained with gynecological massage and the fact that this method has gained a firm and extensive footing abroad lead me to reopen this question of massage, so important to the welfare of womankind. Thinking differently from the tyrannous majority, I may be regarded as eccentric and a crank, yet I consider gynecological massage a legitimate topic for dispassionate discussion.

Let us first consider the objections raised by the dissenting voices against gynecological massage.

It was first said that the procedure was indecent, but except the lifting of the uterus, which I never practise, I cannot see why massage should be looked upon as less decent than any ordinary gynecological examination.

Another objection was that it excited the woman's sexual desires. But how in the name of Æsculapius a procedure attended with more or less unavoidable pain should produce sexual excitement is beyond my understanding. When the rules are strictly adhered to, that the internal two fingers should press upon the posterior vaginal wall, which scarcely contains sensory nerves, that the fingers should only serve to steady the parts to be massaged, and that the movements should be carried out by the right hand only through the abdominal walls, when these rules are followed, I am very much inclined to doubt that sexual excitement, except in the erotic, could be provoked. In my limited experience at least I have never seen it. Gaudin says the authors who charge that massage produces pain or sexual excitement have probably tried to use one finger only. This is the best means to produce either painful sensation, because the attachment does not extend to a large enough surface, or a voluptuous sensation, which is the result of a too limited action, too frequent and too superficial.

A further objection to massage was that a correct diagnosis must precede it. But every gynecological

treatment has to be preceded by a correct diagnosis. Exploratory laparotomy, except in very rare cases, is only a cloak to cover ignorance. Besides, massage is the very means to make a diagnosis possible. We may begin with it as soon as pus and cancer have been excluded.

It was alleged that massage was unscientific. But what cares the average practitioner for the science? No one who has had any experience with gynecological massage will venture to deny its direct curative influence. If its action is not satisfactorily explained, this is likewise the case with regard to the action of many a remedy. Why cocaine paralyzes a sensory nerve and strychnine tetanizes a muscular fibre, we have no means of knowing. On the other hand, we know that massage facilitates the movements of the blood and lymph, and the curative effect of these movements upon the diseased genital organs cannot be denied.

The danger of massage was further pleaded against its employment in gynecology. But if we follow the rules laid down by Ziegenspeck, Arendt, and others, no danger can ensue from this procedure. If there are contraindications, it would be the height of folly to use massage.

The contraindications are: Never administer massage in acute inflammations, *e. g.*, *elytritis acuta*; in the presence of pus, as in *pyosalpingitis acuta*; in pelvic abscess; in malignant tumors, rectal ulcers, or vaginismus, in erotic patients, or in onanists.

If these anomalies are strictly excluded from the treatment by massage and only the proper cases are selected, there need be no fear of danger. The indications for massage are:

1. Chronic perimetritis and parametritis.
2. Chronic metritis and endometritis.
3. Subinvolution uteri and hyperæmia uteri.
4. Uterine hæmorrhages.
5. Retroflexion and prolapsus.

The general rules to be followed in the massage treatment are best laid down by Kellogg, and these I always follow.

1. The treatment should not be employed until two hours after eating.
2. The bladder must be emptied.
3. The fecal accumulations must be removed.
4. The patient has to breathe deeply and regularly.
5. too much pain should not be caused.
6. All deep kneading movements should be slow.
7. Finally, the patient must be warned that she may feel some pains after the first sitting, and told that cold compresses will alleviate them. She must also be told that at the second sitting the abdomen may be more sensitive than the first time.

Before proceeding with the massage treatment, we try to make the diagnosis. Here it is my habit to follow the rules of Ziegenspeck.

1. Inspection, palpation, and auscultation of the

abdomen.

2. Inspection of the introitus vaginæ, the carunculæ myrtiformes, and the columnæ rugarum anteriores and posteriores.

3. Search for the spina ischii. In pressing the perinæum back we are enabled to penetrate farther and higher into the pelvis and search for the spina by gliding the fingers up and down the ligamenta spinosa sacra. In this way we find the position of the cervix in regard to the median line.

4. Palpate the cervix by turning the surface of the fingers to the front. Move the fingers around the circumference of the cervix. One finger is now placed to the right, the other to the left of the cervix, moving the latter alternately to the left and right side. If pain arises upon the side of the stretched tissues, we have a case of still flourishing parametritis; if the pain is on the side toward which the uterus, is moved, we have to deal with oophoritis or salpingitis. We press now the cervix against the sacrum.

5. Try to enter the os of the cervix and ascertain its condition and form.

6. Now only the right hand gropes its way through the abdominal wall towards the fingers of the left hand, first in the inguinal region. The finger tips of the two hands meet at first without any tissue between them except the abdominal wall. We become in this way accustomed to the touch impression imparted by the latter. When we have succeeded in meeting the fingers of the left hand, we may proceed with the bimanual examination.

7. Ascertain the position of the body of the uterus. The hand laid upon the abdomen feels its way toward the finger in the vagina, not with uniform pressure but penetrating deeper and deeper by means of gentle circular massage movements.

8. Search for the tubes by beginning at the cornua of the uterus, allowing the external and internal fingers to meet again and examine sideways and toward the back.

9. Find the ovaries by depressing the wrist of the hand in the vagina as forcibly as possible for the purpose of reaching with the finger tips as high and as far to the back as possible, allowing the tissues to glide through the hands while groping with the external hand toward the inner one. We find then the right ovary, corresponding to the physiological slight dextrotorsion of the uterus, in most cases a little farther posteriorly.

When the diagnosis is made and massage is indicated, we prepare the patient and begin our treatment. The manipulations in massage are:

1. *Vibration*. The flat palm of the hand is applied to the surface.

2. *Percussion*, spitting, hacking, beating, clapping.

3. *Digital kneading*. Carry the hand upward in the direction of the ascending colon.

4. *Kneading with the closed fist*. The pressure with the hand is not released until the other hand has been placed down.

5. *Kneading with thumbs*. Grasp the loin on each side between thumb and fingers.

6. *Reflex stroking*. Light strokes with the end of the fingers about the umbilicus.

7. *Nerve compression*. Press upon the solar ganglion on both sides of the umbilicus, and upon the hypogastric plexus, which is located on the anterior surface of the sacrum.

8. *Gentle circular motions* in the direction of the venous circulation of the organ to be manipulated.

9. *Vibration of the uterus*, the thumb of the right hand making vibrations.

10. *Digital kneading* of the appendages and stretching of the adhesions.

11. *Circular movements* to remove the intestines.

12. *Circular rubbing* in the periphery of the ovaries.

13. *Lifting of the uterus*.

We best carry out these manipulations by placing the patient upon a lounge or gynæcological chair, the nates and back somewhat elevated, the legs bent and spread asunder, and by recommending regular respirations with the mouth open.

The operator sits at the left side of the patient and introduces two fingers of the left hand into the vagina behind the cervix. The purpose of the fingers in the vagina is to raise and fix the parts to be treated. The massage is done with the right hand, which is placed just above the pubes to impinge upon the fundus, the wrist resting upon the mons Veneris and the fingers toward the umbilicus. Gaudin requires that the fingers should proceed tangentially to the diseased organs, and not perpendicularly; the palms of the fingers should operate and not their extremities. Ziegenspeck, on the other hand, executes the rubbing movements with the finger tips of the external hand. Beuttner recommends the Trendelenburg posture in massage for the following reasons: The transverse abdominal muscles relax, the intestines fall toward the diaphragm so that even obese patients can be massaged, the patient feels less fatigued, and the uterus and annexa fall toward the head.

In massaging the uterus a series of circular movements is carried out upon the posterior surface of the organ. The fingers then try to compress the fundus from six to twelve times concentrically. This can be done when the uterus is still soft enough for the corpus and cervix to form still an angle and in retroversion, which arises by the uterus having rigid metritic walls. In retrodeviations the "tipping over" of the uterus is of great value. It consists

in placing the fingers with the touch surface backwards against the vaginal portion of the cervix in the anterior vaginal vault and pressing obliquely backward and downward, the cervix being used as a lever. In retroflexion the rubbing movements upon the uterus are executed from above. In subinvolution the uterus may be pressed toward the symphysis or promontory. In uterine hæmorrhages the massage must consist in very gentle manipulations, while in adhesions a sufficient force must be applied to stretch and break them up.

The soft and flaccid uterus thus manipulated will contract; circulation increases; the uterine congestion diminishes; the adhesions are solved; and the thickening and infiltration of all ligaments disappear. Ziegenspeck applies massage even during the period of menstruation.

The tubes are massaged in the direction from the periphery toward the uterus. In hydrosalpinx we can make out a cord extending from one of the cornua of the uterus toward the ovary, but there is no pain; in salpingitis the same cord is sensitive. There is a coliclike pain and a sense of oppression. In pyosalpinx the massage treatment should begin only after three months have elapsed since the infection. The circling and vibratory movements are first applied on the circumference of the tube, and are gradually advanced toward the centre of the painful organ.

The same circling and vibratory movements are applied in massaging the ovaries. In perioophoritis the ovary is not enlarged, but sensitive compared with the painless ovary of the other side. In oophoritis parenchymatosa the inflamed ovary is enlarged and its form is nearly spherical. The complaints in oophoritis consist of pain in the region of the diseased ovary, radiating from the groin in the direction of the lumbar vertebræ.

The beginning of the massage in parametritis, the inflammation of the connective tissue between the folds of the broad ligaments, should be in the periphery of the seat of the pain by rapid circular motions. The cardinal symptoms of parametritis are pain in the affected side, constipation, downward pressure, and vesical tenesmus.

The same mode as in parametritis is used in applying massage in chronic inflammation of the pelvic peritoneum. The latter is distinguished as perimetritis, perioophoritis, perisalpingitis, pericystitis, and periproctitis. Peritonitis manifests itself by sensitiveness on touch and vagueness of limits of the organs without enlargement.

In chronic constipation circular movements along the ascending, transverse and descending colon will regulate the action of the bowels.

The general rule of Thure Brandt, the father of gynæcological massage, is to begin every massage

gently at the periphery of the diseased organ and reach by degrees the seat of the disease. Increase the force only when the greatest sensitiveness has passed, make short pauses and decrease the force again. At the end of the massage, place the palm of the hand upon the diseased organ and execute a lenient vibratory movement.

If these rules are strictly adhered to, if the contraindications are strictly observed, and if massage is applied only when the indications require it, it will do a great deal of good. Massage, when badly applied, says Bouilly, is dangerous; but if we know the technique and the indications, we can obtain in certain determined cases the best results. Hertzsch says that though he never got a *restitutio ad integrum* in old pyosalpinx, yet he relieved the patient of her pain. He obtained the greatest success in parametritic exudates, and would not like to dispense with massage in fixations of the uterus. Rumpf says of massage: It is in many cases a helping therapeutic agent and deserves a place in the front rank of gynæcological therapeutics, for it helps to save many ovaries from extirpation. Dührssen sees the main value of gynæcological massage in the treatment of the residua of parametritis and perimetritis with connective tissue cords. As soon as the sensitiveness has passed, it is astonishing to see with what force we may soon begin to stretch the cords.

Massage is, therefore, indicated in every case in which pressure on any part of the internal genitals causes sudden and, perhaps, persistent pain. It is indicated in all cases in which it is desired to help Nature improve the circulation by absorption of the products of exudation and increase the tonicity of the tissues. By applying massage in all these cases the performance of a number of hysterectomies, dilatations, curettements, and oophorectomies will become unnecessary. The gynæcologist will have no need to remove a vast number of hyperæsthetic ovaries which were sensitive only because the patient was suffering from a general condition of malnutrition resulting in nervous irritability, from which she was not cured even after the operation. For recovery from operation and cure are not synonymous terms. The surgeon will not have to perform the dangerous operation for retroflexion. A retrodeviation in itself does not produce any symptoms whatever, only the concomitant inflammation causes pain. All the patient wants is to be relieved of the pain. The woman, in the end, does not care whether the uterus lies backward or in the front, provided only she is freed from pain. The surgeon must know the cause of the pain. More harm than good was done by the gynæcologist who meddled with neurasthenic women. The ovaries have, besides that of ovulation, some important function in metabolism to perform. The complete removal of both ovaries from

a young woman furnishes a greater source of nervous strain, mental and physical, than a pair of cystic ovaries can ever do. The ideal gynæcologist should strive to remove the patient's pain. Instead of this a new phenomenon is manifesting itself among us. The tendency of our time is to rely with confidence only upon the scalpel. We forget that the duty of the physician is comprised in efforts to alleviate symptoms. But, irrespective of the patient's welfare, fads dominate a large number of the members of the medical profession. The dream which the surgeon of the present day cherishes, says a recent writer, is to dazzle the world with some miraculous achievement which had remained as yet unrealized by the common physician. We forget that every time the abdomen is opened, there is a question of life and death, and that the physician must strive to reach the height of his profession, not only with the brain, but also with the heart.

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 6 WEST ONE HUNDRED AND TWENTY-THIRD STREET.

ALEXANDER'S OPERATION.*

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The part assigned to me in this discussion, that of the treatment of retroversion of the uterus by means of shortening the round ligaments through the external abdominal ring, is limited, in so far as the operation is applicable only to that class of displacements in which the uterus is free of adhesions. We recognize that the uterus is held in an anterior normal position by the uterosacral ligaments and by

the weight of the intestines, chiefly making up what is known as intraabdominal pressure.

The uterosacral ligaments by their attachments draw the lower segment of the uterus in a backward direction toward the sacrum. The body of the uterus, on account of this retracted position of the cervix, assumes a forward direction. In this position intraabdominal pressure is directed against the posterior wall of the uterus, pushing this organ still more forward, and, with the uterosacral ligaments, maintaining it in this position.

The broad ligaments and the included round ligament act more as guys to the fundus of the uterus, preventing too great a motion backward. Especially is this true of the round ligament, which is made up largely of muscular tissue.

It is reasonable, therefore, to shorten these ligaments (to "take up the slack," so to speak) when it is desired to restore to an anterior position a uterus that has been displaced in a backward direction. When the uterus is thus restored to the forward position, intraabdominal pressure and the uterosacral ligaments are given an opportunity to exert their restraining influence, the former at once and the latter as soon as these ligaments have regained their tone. The broad ligaments also regain a tone that had been lost by the malposition of the uterus.

The object, then, of replacing and retaining a uterus in an anterior position by shortening its round ligaments, is, that while thus held, the anatomical structures naturally holding this organ forward are given an opportunity to regain their normal tone, after which they will exercise their natural functions.

A striking example of what I have just stated came under my observation some years ago. It was as follows:

In the early portion of 1898, Mrs. H. came to me for a retroverted adherent uterus. The abdomen was opened, the adhesions were divided, and a diseased right tube and ovary were removed. The round ligaments were then shortened through the external abdominal ring. The patient consulted me, two years after this operation, for pain over the remaining ovary and tube. The examination revealed a small ovarian cyst, with the uterus in excellent position. I removed the cyst some two weeks later. It was of much interest to note the condition of the round ligaments within the abdomen after this lapse of two years. They were under no tension. The uterus could be even pushed backward without causing much tension on these ligaments. When released, the fundus would assume its anterior position. The uterus was plainly being held in its normal anterior position by the uterosacral ligaments that had regained their tone and by the guying influence of the round and broad ligaments.

From what has gone before it is evident that, in order to replace a retroverted uterus to an anterior position by shortening the round ligaments, the

* Read before the Obstetrical Section of the Academy of Medicine, June, 1902, as a part of the discussion of the treatment on Retrodisplaced Uteri.

uterus itself must be free of adhesions. This is a prerequisite for the proper performance of Alexander's operation. Patients having adherent retroverted uteri cannot be benefited by this operation unless the adhesions have been previously broken up and the uterus rendered free. In such conditions the course that I consider preferable is to open the abdomen, and, after severing the adhesions under the eye, to do either a ventral suspension or the operation lately suggested by Dr. Bissell, of the Woman's Hospital, which consists in taking out a section of both round and broad ligaments sufficient to hold the uterus in a forward position. The results of Dr. Bissell's operation are anatomically excellent, and it is undoubtedly founded on the sound surgical principles of accomplishing a result without establishing a new pathological state in order to attain this end. I mean the intentional formation of new adhesions to retain the uterus in an anterior position, as in rectal suspension.

The uterus while held in the normal anterior position by the uterosacral ligaments and the weight of the intestines, is in addition sustained in the plane in which it should exist by the cushion of connective tissue surrounding it, and by the support from below of the vaginal column. Whenever this vaginal support is impaired by an extensive unrepaired laceration of the pelvic floor, the constantly acting intraabdominal pressure exercised on a heavy uterus, surrounded by redundant connective tissue and subinvolved ligaments, must force the uterus to a lower plane, the result of which is often a retroversion.

In restoring such a uterus to a normal position it is, then, not only necessary to guy it forward by taking up the slack in the round ligaments which still remain subinvolved, but also to restore to it the support of the vaginal column, which was taken away as the result of the tear in its posterior wall.

It is for this reason that the posterior wall should be repaired when torn. As an illustration of this condition I cite the following:

Mrs. P. was brought to me in July, 1898, in order that I should arrange a day in which I could shorten the round ligaments for a retroversion. Having seen the patient at varying intervals, I was aware of the local condition, which was one of a long-standing movable retroversion, associated with a much relaxed and torn vaginal outlet. Being aware of this, I did not examine her at this time as I should have done.

When under ether and ready for operation it was seen that the patient was about two months pregnant and the uterus retroverted in the hollow of the sacrum. Neither the patient, her physician, nor myself, had suspected this condition.

After consulting with her physician, it was decided to shorten the round ligaments and leave the repair of the cervix and perinæum to some future time after the confinement. The ligaments were readily isolated and withdrawn for the desired

length, and the uterus restored to an anterior position. The size and vascularity of the ligaments were striking. They were fully three-eighths of an inch in diameter and gave an impressive ocular demonstration of the coincident increase in size of the round ligaments with the enlargement of the pregnant uterus. The patient bore her pregnancy well and in due time passed through a normal labor. Six months later I repaired the perinæum and cervix—at this time the patient stated that she had been relieved entirely of the constant back aches from which she formerly suffered, but still had the dragging sensation of former times. An examination gave the uterus in a forward position, though much lower in the pelvis than normal. The round ligaments had maintained the uterus in an anterior position throughout the involution, yet could not, without the support of the vaginal column, retain it in the plane in which it should exist. This patient is now in robust health, having no pains and being free from the marked nervousness that had been prominent for years previous.

Having reviewed the part the round ligaments play in the support of the uterus, and having a clear conception of how much one can expect to accomplish by shortening them, let us look at some of the results of this operation.

For ten years I have performed this operation; during this time I have made every effort to keep in touch with the various patients. This has been only partly successful, though as much so as could probably be expected in hospital patients. During this period I find records of more than 175 such operations as done by myself, both at the Woman's Hospital and in private. In the service of Dr. Cleveland at the Woman's Hospital, there have been done, by both Dr. Cleveland and myself, almost three hundred such operations. With this experience and the knowledge arising from an earnest effort to keep in touch with these patients after their discharge, I am convinced that, for a like condition, no operation can yield in my hands the same uniform clinical result.

Gravity of the operation.—The operation has no death rate other than that attendant upon any minor operation, and due to outside unlooked-for causes. During the ten years mentioned at the Woman's Hospital, there have been two deaths following this operation, one from tetanus, and the other from septic peritonitis, in which patient the abdomen was opened in order to break up adhesions. Neither of these deaths can be attributed to the operation itself. I show you two composite temperature charts each representing the recovery of ten unselected consecutive cases. In one, Alexander's operation alone has been done—together with curettage. In the other, in addition to the foregoing operations a repair of the cervix and perinæum has been done in each case. It will be seen that in no instance has the temperature during the recovery been above 99° F.

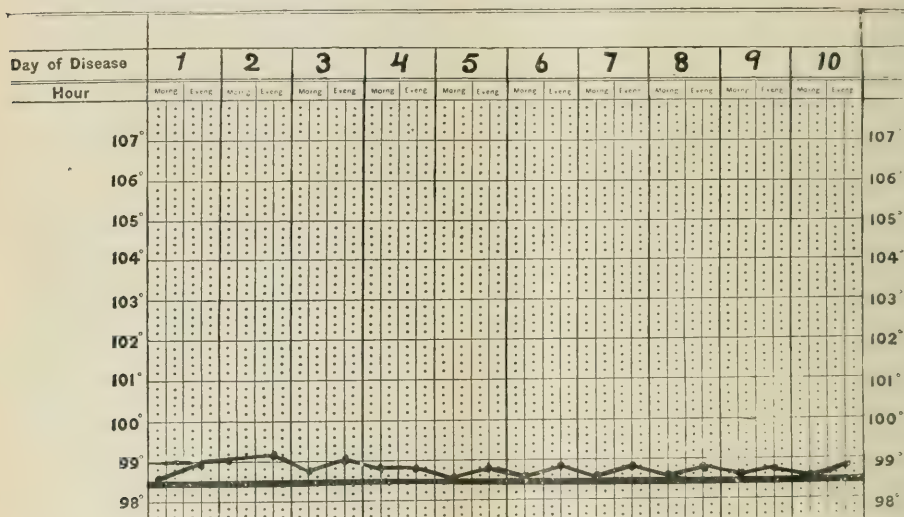
Pregnancies and subsequent behavior of the uterus.—The literature on this subject is enormous. I am not aware of any complications as attributed to this operation being reported; nor is it possible that any can exist. The shortened ligament increases in size and length with the advancing pregnancy, and involutes with the uterus after the confinement.

The subsequent position of the uterus following single and multiple confinements has in each instance remained forward, both in patients of my own and in all other reports of which I am aware. There has in no instance been a return to the backward position, for relief from which the operation had previously been done.

Hernia following.—It is recognized that hernia

Clinical result.—The relief from symptoms following this operation is most gratifying, both to the patient and the doctor. The pain over the scars, so often urged as following this operation, does not occur when the nerve emerging from the ring with the ligament, is carefully isolated and not included within the anchoring sutures.

Technique.—The method of performing the operation is simple, yet becomes difficult unless detail is closely adhered to. My custom is primarily to reassure myself that the uterus is free of adhesions and that the annexa are not diseased. This can be and is done before the patient is prepared for operation, yet it is my rule always to examine the patient a second time immediately before operation while under the anæsthetic. The great prevalence



Composite Chart of 10 Unselected Consecutive Cases of Alexander's Operation.

at times follows this operation. I am aware of four such conditions occurring in the number of operations here mentioned, three hundred. The chief cause of hernia is the laceration of the tissues in and around the external ring while searching for the ligament. There is no necessity for this. At the hands of one familiar with the operation the ligament can be withdrawn through a clean cut incision in which no damage is done to the surrounding tissues.

If, however, on the contrary, the operator is forced to continue a long search for the ligament, and in doing so not only slits up the ring, but lacerates the underlying muscle, it is but reasonable to expect hernia, on account of the weakened walls and floor of the canal. Under such conditions the strength of the canal can only be restored by accurately bringing together in a separate manner the various layers.

of adhesions, so frequently urged by opponents of this operation, is not in accord with my experience. More frequently it is found that in patients in whom the condition was thought to be a retroversion with adhesions, anæsthesia reveals a movable uterus with few if any adhesions about the appendages, the apparent fixation of the uterus being caused by the superimposed intestines.

The condition being such as will be benefited by an Alexander's operation, an incision of from an inch to an inch and a half is made over the spine of the pubes. This is continued down to the external oblique fascia, all bleeding being arrested as the dissection continues, otherwise the fascia may not be recognized when reached.

Both pillars and the external ring are exposed to view before any effort to pick up the ligament is

made. This being done, the intercolumar fascia is incised. The ligament, with the mass of connective tissue and possibly the nerve, is caught up and isolated from the surrounding parts by blunt teasing. The nerve is now isolated; it will be found attended by the veins, either within the grasp of the forceps, or to the outer side of the ligament, usually to the outer side.

It must be borne in mind that the ligament is composed largely of muscular tissue, hence, is easily lacerated and torn by the ordinary artery clamps having sharp teeth. If, however, the operator has taken the precaution to file down the sharp edges of a few clamps, he will find that a force of from five to ten pounds can be applied to the ligament without lacerating or breaking it.

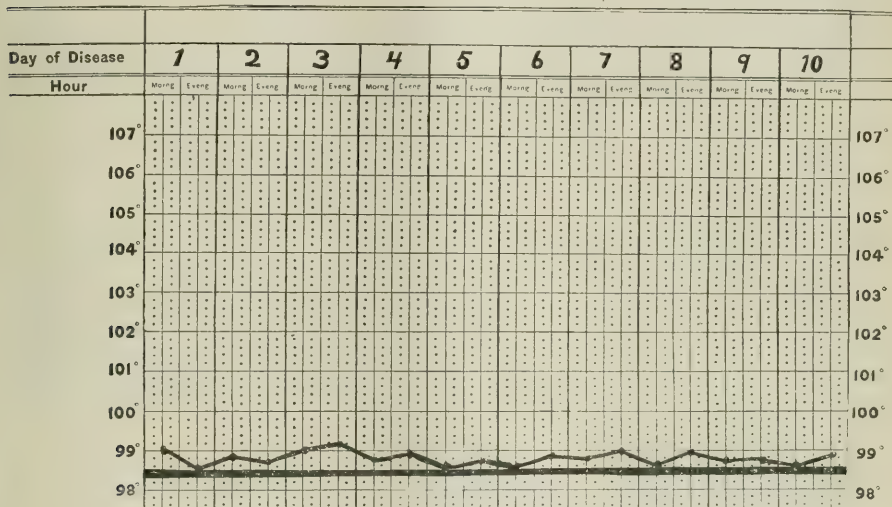
preferred. The patient is kept in bed on her back for three weeks.

For a more detailed description of the technique of Alexander's operation found most satisfactory to me, I refer to an article read by me before the Woman's Hospital Society, in January, 1901, and published in the *American Journal of Obstetrics*, No. 4, 1901, entitled Alexander's Operation.

If intraabdominal adhesions are to be severed, I prefer to open the abdomen, and, after breaking up the adhesions, to do the operation devised by Dr. Bissell, or to do a ventral suspension.

While the Alexander's operation is admissible after the abdomen is open, it has this objection, that the patient has three scars instead of one.

The method of breaking up the adhesions through



Composite Chart of 10 Unselected Consecutive Cases of Alexander's Operation with Repair of Cervix and Perineum.

The ligament is drawn out as far as the attachment of the peritonæum, which is stripped back. The length thus withdrawn is usually about four inches. At this juncture it is my habit to request an assistant to push back the intestines by bimanual manipulation; unless this is done, the forward and upward progress of the fundus is at times interfered with, on account of the intestines lying over it. This having been done, the ligaments are anchored with black silk, each suture including both pillars of the ring, the ligament, and the bottom of the canal, the nerve being pushed to one side.

Usually, two sutures on each side are all that are necessary. The extra portion of the ligament can be either cut off or dropped into the wound as may be

the cul de sac of the vagina and then doing the Alexander's operation, I have frequently employed, but have for some time abandoned it, since the results were not satisfactory.

In closing my share of this discussion it may be well to state that my preference for Alexander's operation in suitable conditions is based on the following facts:

First, The relief it affords patients from symptoms on account of which they seek counsel;

Second, The danger is nil, and the operation of far less gravity than other surgical means in use for the relief of the same symptoms.

Third, The anatomical result obtained is all that can be desired, and is effected without the estab-

ishment of new pathological adhesions, the intentional formation of which form the basis of all vaginal fixations or, ventral suspensions.

Fourth, That the much heralded danger of inguinal hernia as following this operation is greatly exaggerated, provided the operation is properly done, without laceration of the surrounding tissues in a long continued search for the ligament. If such laceration has taken place, hernia is impossible, if the operator (recognizing the possibility of such) continues his incision to the internal ring and does a Bassini operation, which does not prevent his shortening the ligaments at the same time.

Issues and Events of the Day.

REPORT OF THE CLINIC OF PROFESSOR ADOLF LORENZ HELD AT THE HOSPITAL FOR THE RUPTURED AND CRIPPLED ON DECEMBER

15, 1902.

By DEXTER D. ASHLEY, M. D., AND LEONARD W.
ELY, M. D.,

ORTHOPEDIC SURGEON AT THE ROOSEVELT HOSPITAL DISPENSARY.

The first public demonstration in New York by Dr. Lorenz of his bloodless reduction of congenital hip dislocation was given on Monday, December 15, at 3 p. m., in the operating room of the New York Hospital for the Relief of the Ruptured and Crippled. Temporary seats were arranged in the operating room, and about two hundred physicians witnessed the operations, among whom were many of the most eminent surgeons in the city.

Dr. Lorenz, accompanied by his assistant, Dr. Müller, entered the arena at 3.10. Reading from manuscript in English, Dr. Lorenz first gave a short general outline of his functional weight-bearing method, prefacing his remarks by complimenting the hospital on its staff. At 3.15 the first patient was brought in anesthetized, and placed upon the table.

CASE I.—M. S., a girl, six years of age. History of a short labor without instruments. The child presented the usual symptoms of a left congenital dislocation, including a marked limp and lumbar lordosis, which latter symptom, however, was not so marked as usual. Abduction in the affected limb was limited, and it was an inch and a half shorter than its fellow. The head of the femur could be felt upon the dorsum ilii, and was approximately of normal proportions, though slightly atrophied.

Professor Lorenz grasped the dislocated limb with his right hand, placing his left over the trochanter, and, calling attention to the shortening and slight atrophy, then pushed the limb by alternate relaxation

and traction, demonstrating the preternatural mobility in the up and down motion and in rotation and the limited abduction.

Placing a rolled sheet under the pelvis, with his left hand Dr. Müller made pressure over the anterior superior spine and the perineum, and with the right hand steadied the pelvis by holding the thigh in strong flexion and abduction of 45° to 60°.

Dr. Lorenz here called attention to the strong adductors and their contraction, and explained that they offered the greatest resistance to reduction, and that the first thing would be to overcome this adduction by tearing them subcutaneously. Standing on the left side of the patient and grasping the knee with his right hand, with his left making pressure over the origin of the adductors and kneading the tissues at that point, he forcibly abducted the thigh. The adductors were stretched or torn in about one minute and a half.

The posterior muscles were now stretched by strongly flexing the thigh upon the abdomen, with the knee extended, and the anterior muscles were stretched by strong superextension. A little traction was here exerted, to pull down the head opposite the acetabulum. He remarked that in older patients it was sometimes necessary to exert considerable force in this manœuvre, but that in this case, owing to the small amount of shortening and the mobility of the joint, this was not necessary.

With the thigh flexed at a right angle to the body, Dr. Lorenz strongly abducted the limb. "Observe," said he, "the rising of the head in what was just now a depression." With slight further abduction the head slipped with the characteristic snap into the acetabulum, the reduction having occupied just three minutes.

The professor pointed out that while in a traumatic dislocation the work would now be ended, the instability of the reposition in cases of this kind must be overcome by stretching the anterior portion of the capsule by further strong superabduction and superextension. He also drew attention to the fact that both limbs were now approximately of the same length, the reduced limb, owing to the shallowness of the acetabulum, being if anything slightly the longer; and to the flexion of the knee caused by the rigid contraction of the hamstring muscles. This, he said, was a good sign, and showed that the posterior muscles had been put upon the stretch by the entrance of the head of the femur into its socket. Their contraction disappeared upon relaxation and reappeared upon reposition. This contraction, however, must be overcome by repeated forcible extension of the leg upon the thigh. The stretching of these muscles forced the head deeper into the acetabulum. He deepened the acetabulum still more, and stretched the anterior portion of the capsule by

forcible abduction. He then laid the child on her side, and by superextension and direct pressure inward and upward he bored into the acetabulum and stretched the anterior portion of the capsule.

At 3.24, nine minutes from the beginning of the reduction, Dr. Müller received the patient from the hands of his chief and proceeded to apply the plaster of Paris dressings. Upon this plaster ban-



Professor Lorenz's Clinic at the Hospital for the Ruptured and Crippled.

He finally demonstrated the relative stability of the different positions, relaxating the joint by bringing the thigh down into extension by the side of its fellow, and again by adducting it in flexion toward the middle line.

dage and its method of application Professor Lorenz is wont to lay great stress, and with reason. The Lorenz spica differs essentially from the plaster spicas usually seen in this country. It has been described by each of us, in articles in the medical

journals,¹ but an exact description of the manner in which it was applied by Dr. Müller will not be out of place here.

The child was laid with its sacrum upon the pelvic rest, its shoulders resting upon a small cushioned stool, slightly lower than the pelvis, the reduced limb, held by an assistant, being flexed at right angles to the body and abducted slightly beyond the frontal plane. This is the so called "primary position" of Lorenz. The sound limb meanwhile hung in slight superextension and acted as a balance to hold the pelvis squarely upon the pelvic rest.

He first applied a stockinet reaching from the lower ribs to below the left knee. This stockinet when applied had the appearance of a pair of drawers with the leg cut off on the sound side. Under this were placed two strips of bandage, one running down the reduced thigh, coming out below and above, the other, on the sound side, running vertically under the pelvic portion. These are called the "scratch bandages," and by means of them the child's skin under the dressings can be kept in good condition, and, as Professor Lorenz aptly puts it, "can be given a dry rub down twice a day."

Taking his stand between the child's legs, Dr. Müller padded thickly the bony portions of the pelvis, the thigh, and the knee with strips of absorbent cotton, in lieu of his usual interlining of sheet wadding, and enveloped this with a bandage, drawing it snugly over the crests of the ilia. Over this he applied his plaster of Paris spica.

This spica included the pelvis and the reduced thigh. It extended from a point just above the crests of the ilia to the knee joint, being so moulded over the pelvis as to fit snugly over the iliac crests and anterior superior spines. The bridge over the pubes was made especially thick—about one inch—layer after layer being added to strengthen the spica at this point.

Dr. Müller then deftly trimmed the plaster, using a heavy, sharp scalpel instead of the customary pruning knife.

The upper border in front was made deeply concave, removing all pressure from the abdomen. The lower front border was trimmed to leave a bridge about two inches and a half wide over the symphysis pubis, clearing the perinæum, and on the outer side, permitting flexion of the sound limb to 90°. At the knee the line of incision was from the tip of the inner condyle, sloping in both directions, and exposing the patella, the popliteal space, and the outer condyle, and allowing free motion of the knee. The child was turned over, and the lines of incision were joined behind, the upper continuing nearly

straight across, and the lower trimmed out so as to expose the natal fold and avoid subsequent soiling of the plaster by the child. With his finger Dr. Müller turned out all the sharp edges of the plaster and brought the stockinet up over the spica, making a neat covering. The whole work of the reduction and of the application of the plaster showed consummate skill, and was greeted by a burst of applause.

While Dr. Müller was busy with the plaster, Professor Lorenz continued the reading of his manuscript, the main points of which are summarized as follows:

His first object is to place the head opposite the acetabulum. This is easy of execution in young children, difficult or impossible in older children. All contractions of opposing muscles must be overcome before the reduction is attempted. As the age limit is approached, he is compelled to use preliminary traction upon the leg. He has abandoned the custom of tenotomy, which he formerly practised. The usual age limit for unilateral cases is nine to ten years. In one case he succeeded in a reduction at twenty-three years. The usual age limit for bilateral dislocations is six to seven years.

The characteristic features of his operations are to bring the bones to their normal posture, to keep them there, and to make them do their work.

He leaves on his first case six months or longer. The duration of the whole treatment is one to two years. The time should be rather longer than shorter. One must allow plenty of time for the shrinking and adjustment of the soft parts.

At the end of the first period of fixation the plaster is removed and the leg brought into the "secondary" or more comfortable walking position of moderate flexion and abduction. "Here," the professor said, "is a time to be cautious." Be slow in bringing the leg to the anterior position. Rather let the child bring it down by its own efforts. In bilateral cases he would be pleased to see slight abduction persist.

While the child was still under the anæsthetic, Professor Lorenz put its feet upon the floor and emphasized the importance of exercise during the whole plaster of Paris period. Active and passive motion of the knee must be sedulously cultivated.

After the second plaster spica has been removed, the pelvirochanteric muscles must be regularly and thoroughly massaged and special care devoted to the motions of extension and abduction in the hip joint.

It is necessary to distinguish between anatomical and functional results. It is impossible to get a good anatomical result when the head of the bone is much ankylosed, and in these cases he is satis-

fied with a good functional result. He does not do subsequent osteotomy.

Of a thousand cases, he has had good results in the majority. Observations have shown that while with the open operation the anatomical results may be excelled at the time, the functional results are sometimes very poor. There is a tendency to contraction later, and frequent relaxations also occur.

He paid a delicate compliment to a few surgeons in this country who have done the operation, and alluded to America as the home of orthopædic surgery.

In conclusion, with characteristic honesty and fearlessness, he described the only two serious accidents he has met with—one a tear of the femoral artery followed by recovery without operation, and the other a case of gangrene from forcing the reduction and pressing the femoral artery between the head of the bone and the plaster.

CASE II.—M. D., a girl, aged seven, with left congenital dislocation. History of a long and hard



Röntgen Picture of Congenital Dislocation of the Left Femur, such as was Operated on by Dr. Lorenz.

labor, version finally being done. Began to walk at fifteen months. One sister also affected with congenital dislocation. The child presented a marked limp. The head was a little more anterior than usual and of good size. Abduction and extension were almost normal. Slight lumbar lordosis. One inch and a quarter shortening.

The steps of the operation were the same as in Case I, but the reposition was a little more difficult. The luxation was reduced in two minutes and three quarters. Professor Lorenz announced that he had a fair stability in this case, and turned it over to his assistant in six minutes after the beginning of the operation.

Owing to a lame wrist, he turned the third case over to his assistant, Dr. Müller.

CASE III.—H. K., a girl, nine years old, with left congenital dislocation. She began to walk at eighteen months. She presented the usual limp and a moderate amount of lumbar lordosis. The head of the bone was in good condition, and abduction and extension of the limb were both limited. Shortening of one inch and a quarter was present. The child had been subjected to preliminary extension for two weeks.

The reposition took two minutes, and three minutes later the application of the bandage was begun.

While admiring the marvelous skill exhibited by Professor Lorenz and his assistant, the impression that the ordinary observer carried away might possibly be that the operation was not difficult of performance, and not until he has himself attempted it will he appreciate the obstacles in the way of a successful performance. Those of us who have done it understand that it requires an exact technique not to be acquired without actual experience.

Therapeutical Notes.

Thyroid Extract in Psoriasis.—Dr. English (*British Medical Journal*, November 22nd) reports a case of intractable psoriasis, of four years' standing, in a young woman aged twenty-seven years. After trying, without avail, everything he could think of, Dr. English discovered a history of myxoedema in the patient's mother, which led him to try thyroid extract. "Recovery from this date was rapid, and in less than a fortnight the psoriasis had disappeared. The general health was good and there was no other evidence of thyroid deficiency."

The conflicting results reported as to the use of thyroid in psoriasis may receive a sidelight from this communication.

The Treatment of Acne.—Dr. J. V. Shoemaker (*Medical Bulletin*, November) says that the bowels should be well opened to begin with, and kept open; he recommends calomel or mercury with chalk, or a laxative mineral water taken regularly before meals. Locally, the affected part should be bathed with water as hot as can be borne; borax or boric acid may be added. Where the intestinal canal is sluggish, the following pill three times a week will be found useful.

R Mercurial pill.....12 grains;
Podophyllotoxine.....)of each 1 grain;
Aloin.....)
Oil of cinnamon.....1 minim.
M. ft. pil. no. xii. Sig. One pill at a dose.

To improve the digestive power the following is useful:

R Dilute phosphoric acid.....5 drachms;
Compound tincture of cinchona)of each 2 ounces.
Compound tincture of gentian.)
M. A teaspoonful, well diluted, after each meal.

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THE PROPOSED TOTAL ABOLITION OF THE PROFESSIONAL SECRET.

If there ever was one subject more than another concerning which the consensus of the medical profession, in common with that of the sister professions of law and theology in their respective spheres, was practically unanimous, we should have said that it was the propriety of the absolute inviolability of the professional secret. From the earliest ages the duty has been imposed upon the physician of preserving inviolate under all circumstances the confidences obtained about his patient whether indirectly or directly, in the exercise of his profession. Only within the past few years, in obedience to the strong feeling of the medical profession thereon, the law in certain of our States has not only given its express sanction to this ethical obligation, but made it a matter of legal compulsion. It is, therefore, somewhat startling to learn that a French physician, M. Charles Valentino, advocates its total abolition in his inaugural thesis at the Faculty of medicine of Bordeaux. We have not been able to see his thesis in full, for it is not yet published, but what appears to be a full and is certainly an appreciative, notice of it, with extensive and seemingly representative quotations, appears in *La Défense* for November, over the signature of the editor, Dr. G. Rolland.

The author bases his demand upon the modern striving for social betterment (*Le souci de l'amélioration sociale*). M. Valentino alleges that professional secrecy is established on the individualistic basis of the anxiety of patients, on the one hand, to dissemble their complaints, so as to avoid segregation (*sélection*), and of the desire of the physician, on the other, to avoid initiatives that must always be dangerous. He then essays to establish the posi-

tion that professional secrecy, by keeping concealed all morbid conditions, impedes the efforts of the social forces in the struggle against disease, and instances the ineffectiveness of the French law of 1892 for the compulsory notification of infectious diseases, the opposition made to the sanitary regulation of marriage, and the comparative immunity enjoyed by abortionists; and declares that the obligation to professional secrecy is the most powerful obstacle to all real hygienic progress. He draws a distinction, however, between professional secrecy and professional discretion. The suppression of the former should extend only to those circumstances in which it would be of public benefit; in other words, no such secrecy should be allowed to obtain "before social authorities capable of beneficent intervention." But professional discretion is still to forbid the physician to discuss the affairs of his patients in conversation or to satisfy any morbid curiosity.

The author realizes that "the suppression of professional secrecy, which is indicated as a potent means of social betterment, cannot be effected between one day and the next by the enactment of a law." We are thankful for that mercy, at any rate. Such a real suppression, he says, can only be arrived at gradually, tactfully, without offending public opinion, by turning in this direction the education of the masses. "The people must be taught," he says, "that the true interest of the individual demands the protection of each against the others, that there is no intelligent individualism outside of social morality, and that the suppression of medical secrecy is one of the exigencies of this morality."

Now, we think there can be no doubt that where a conflict of interests between the individual and the community is beyond question at issue, and where it is infallibly clear that one must be sacrificed to the other, there being no other possible way of adjusting the difficulty than by such sacrifice, the individual must properly be sacrificed to the common good; but, before forcing a conflict between the individual and the community, it behooves us to be certain of two things, viz., first, that the true interests in either case are what they are at the time supposed to be; and, second, that there is no way of adjusting the difficulty save by annihilating one of them, that one of course being the weaker. The current and almost universally held view at a given time as to what is "in the best interests of the community" has

too often been proved fallacious by history not to render this caution imperative. There can, of course, be no doubt as to the wholesomeness of laws for the segregation of cases of epidemic disease, for instance, because, even if a future time should prove all our current ideas as to germs and pathology as absurd as many of the old-time pathologies now appear to us, the simple fact that such diseases do in some manner spread from person to person is beyond the barest possibility of question. Theories come and theories go, but observed facts (explanations and hypotheses apart) go on for ever.

Again, granted that the respective best interests are as they are supposed to be, history still instructs us that many things once deemed irreconcilable have proved perfectly adjustable when further light has been thrown on the matter.

There is one point, however, on which we greatly doubt if M. Valentino will meet with extended support. Speaking of the moral stigma attaching to certain affections, he says: "The people must be imbued with the idea that an affection is never humiliating, even though it has its seat in those organs which our ancestors called sacred, while we—by some singular mental process—denominate them shameful (*honteux*). To destroy all these errors, people must be shown that we are not in any way responsible for our diseases. The constitution and temperament with which we are endowed are the resultant of ancestral influences intimately combined and modifiable solely by the forces which surround us; these forces, whether cosmic or vital, in any case eminently mobile, mould (*pétrissent*) the generations and create between them differences which heredity transmits; cold, sunshine, wretchedness, the infinitely little things, enmesh us in their entangling actions in such a fashion that, under our seeming autonomy, we are only a synthesis of strange forces the absolute masters of our lives; and all our manifestations—even those which appear to us the most personal—have their source in those forces which dominate us." The eternal controversy!

If this were so, if the only conclusion allowed us by modern science were that, of the two fundamental conceptions, the us and the not-us, the not-us was all and the us nothing, then we should prefer the other extreme position, viz., that which holds that the not-us is nothing and that the us is everything. But both doctrines, as it seems to us, do away at once

with all responsibility, and, failing that, what is the use of making any effort about anything? Why not just let everything "slide"? Why, in short, did the author take the trouble to spend all this energy to work out all we must do to ameliorate the social condition, when all we can do is nothing, and the external forces which are everything will work it all out in their own way with the most sublime indifference to our insignificant views and negligible strivings in the matter?

In conclusion, M. Valentino says: "Finally, to show the way to young minds, let our masters, in their works on deontology and in their counsels, take care to specify that professional secrecy is not an eternal principle; that it is a regrettable concession to the false ideas actually current, and that its destiny is to disappear as soon as the masses, better instructed, shall more clearly understand their interests."

There is a striking similarity in this last passage to the principle underlying Mrs. Eddy's recent decree that "until public thought becomes better acquainted with Christian Science the Christian Scientists shall decline to doctor infectious or contagious diseases." It has truly been well said that "extremes meet"!

THE PUBLIC CARE OF CHRONICALLY DISEASED CHILDREN AND THE VISIT OF DR. LORENZ.

The subject of the public care, by the State, of chronically diseased children is one that has at various times received considerable attention at our hands. In our issue for March 31, 1900, we referred editorially to the report made by Madame A. Schabanoff, at the International Congress for the Protection of Childhood, held at Budapest in 1899, showing what had already been accomplished in Russia, and we remarked that "The coming century should certainly see all the civilized countries in the world developing these principles to their fullest extent by an organized system of State care for chronically diseased children." This principle we still further enforced in our issue for April 14th of the same year, in an editorial on The Public Care of Chronically Diseased Children in the United States, in which we gave credit to Minnesota for being the pioneer State in America in this matter. Subsequently, in our issue for June 2, 1900, we ex-

pressed our satisfaction that on April 11th the State of New York had come "into line with this admirable march of progress by the passage of an Act to establish the New York State Hospital for the Care of Crippled and Deformed Children." We laid emphasis in that article on the great economic advantages that would accrue to the State from the conversion of so many juvenile public burdens into useful adult members of society, or, as we there expressed it, from "transferring many future adults from the liability to the asset columns of the national balance sheet."

Perhaps the visit to us of our distinguished Vienna *compère*, who has so fully and fitly demonstrated in a remarkable manner the cosmopolitanism of the healing art, will find its greatest triumph in an arousing of public attention and interest to this subject of the need of State care for chronically diseased children. In our article last cited, we referred to a letter which had appeared in the New York *Tribune* for April 2nd, in which the writer argued against the need of such State institutions, for the reason, among others, that the number of crippled and deformed children did not warrant it. A forcible commentary on this opinion is to be found in the fact that all over the country the announcement that Professor Lorenz would operate in a limited number of cases of congenital dislocation of the hip joint resulted in the sudden appearance of hundreds, nay, even of thousands, of cases of congenital cripples, whose friends were distressingly anxious that their own invalid should be among the lucky few to receive the benefit of the professor's ministrations. Of course, a vast majority of this number were not of the kind with which Dr. Lorenz's demonstrations were concerned; and of those that were, only a very limited number could be dealt with. But when we find that, on a public announcement that Dr. Newton M. Shaffer would select from those cases that should be presented at Cornell on a stated occasion certain subjects for demonstrative operation by Dr. Lorenz, over 2,000 crippled children put in an appearance, among them being 125 with congenital hip dislocation it is surely clear that no just opposition to the public care of chronically diseased children can be based upon the lack of a sufficiently large proportion of such sufferers to warrant it.

Dr. Shaffer's labor in selecting cases for operation by Professor Lorenz will certainly supply him,

the energetic advocate of State care for the cripples and other chronically diseased children and the author of the bill which established the State institution for that purpose in New York, with convincing arguments in support of the further advocacy of this principle so important to every civilized community in this enlightened twentieth century. This point of view is strengthened, rather than weakened, by the fact that, notwithstanding all the excellent work done in local institutions supported by private charity, this surpluseage of cases has been shown to exist.

FOOT AND MOUTH DISEASE.

It is to be hoped that the outbreak of this very serious disease among the cattle of New England will speedily be mastered. A notable means to that end is to be found in a circular recently issued by Dr. Salmon, the chief of the Bureau of Animal Industry. Although several European countries have suffered heavy losses from this epizootic, its ravages have been moderate in the United States, and for many years past it has been unknown among us. Hence the need of spreading such information as is set forth in Dr. Salmon's circular.

While the disease does not often kill, says the circular, it damages every cow it attacks to the extent of from \$10 to \$40, and the total damage to a herd is usually enough to do away with the dairyman's profits for a year or two. "It is not uncommon," says Dr. Salmon, "for the stock owners of England, France, or Germany to be injured by this disease in a single year to the extent of \$5,000,000." "With our larger holdings of live stock in this country," he adds, "the possible losses from this disease, if it were to become general, are stupendous and incalculable."

There is no other disease, Dr. Salmon declares, that is so readily and certainly conveyed by contact, and it is conveyed, too, by exposing healthy animals, even for an instant, to the stables, yards, pastures, or cars that have been occupied by affected animals, also by utensils used with diseased cattle and by forage exposed in mangers or even in distant parts of a stable in which infected animals have been kept. The disease is carried also by dogs, cats, rats, and birds and by the hands or clothing of men. Even a road over which affected cattle have passed may for several hours retain enough of the virus

to infect other animals driven over it, and premises that have been occupied by diseased cattle may convey the infection for months after the disease has disappeared.

It is, of course, of the greatest importance to prevent the infection of a herd. This can be done, says Dr. Salmon, by avoiding the purchase of affected stock, by excluding all other animals from the presence of the herd, by avoidance of contact with diseased animals by persons who come near healthy ones, and by excluding visitors. "Neither cows nor bulls should be moved from one place to another for service." But above all it is important to report the first evidence of the occurrence of the disease, so that its eradication and the removal of necessary restrictions of the dairy business may be hastened and the loss to owners reduced to the minimum.

RENAL AND APPENDICULAR INFLAMMATION.

The case of the late Hon. Thomas B. Reed has given rise to the following reflections by Dr. Robert T. Morris: "Acute nephritis frequently develops during the course of an acute attack of appendicular inflammation, as it does with other infections of abdominal viscera. The cause seems to be primarily irritation of the parenchyma of the kidney by excreted toxins and later perhaps by obstruction to the blood circulation at points where congestion is sufficient to interfere with the vascular integrity of the kidneys. In chronic nephritis an acute exacerbation commonly occurs on the appearance of appendicular inflammation, not only for the reasons already stated, but because an acute infection of the appendix seems particularly prone to irritate the abdominal sympathetic ganglia, with changes in the calibre of the blood vessels through toxic overstimulation of the vasomotors. The question as to the advisability of operation for appendicular inflammation in the presence of an acute or exacerbating nephritis is one that often comes up in consultation. In former years I was inclined to postpone operation in many cases, believing that the patient was less in danger from nephritis plus infection complications than he would be from nephritis plus the shock of operation and the irritation by anesthetics. With the modern refinements in technique in operative work the element of shock can be almost wholly excluded from appendicular work. The niceties of the newer anæsthesia at the hands of men who are really expert in that field have done away with the harmful influence of anesthetics to such an extent that as a rule I now operate as soon as possible after seeing a case of appendicular inflammation complicated by nephritis, and am con-

stantly surprised and gratified at the rapidity with which the nephritis comes under control when the exciting cause is removed, if the case is in charge of competent medical men."

Dr. Morris's opinion is that of a surgeon of ripe experience and of great thoughtfulness, and it ought accordingly to have great weight.

LODGE DOCTORS.

In both Germany and England sick benefit societies have come to be an important and disagreeable factor in the practice of physicians living in the poorer sections of the cities. Quite recently we observed news of the passage of resolutions by a medical society in a provincial city in England discountenancing the acceptance by any of its members of a commission to act as the medical officer of any such society where canvassing was allowed. It would seem that the effort to avoid paying the ordinary physician's fees by the organization of these sick benefit associations has grown to such an extent even in the United States as to become quite a serious matter in certain sections. Evidence of this is furnished by the fact that some of the physicians, and the pharmacists as well, of Jersey City, N. J., have recently found it expedient to formally undertake an agreement not to co-operate with such societies. While the basic idea of the sick benefit society is a good one, it unfortunately happens that in its application the idea is apt to become somewhat distorted with results prejudicial to the material interests of physicians without giving a corresponding benefit to the members. Experience has shown that where lodge members are permitted to call in the services of physicians without incurring any individual expenditure whatever they are quite apt to call in the practitioner in many cases where there is no adequate excuse for doing so, thus wasting both the time of the physician and the funds of the society. It would seem to us that this objectionable feature could be eradicated by making the patient pay at least a portion of the expense entailed on the society by the visit of his physician, thus giving the patient a personal interest in avoiding unnecessary recourse to the practitioner. Even with this modification the lodge doctor is an objectionable institution and the expansion of these sick benefit societies should be discouraged.

PROPOSED LEGISLATION CONCERNING KISSING.

We hope there is some error in the press reports concerning the introduction into the Virginia legislature of a bill making it a penal offense for a person with "weak lungs" to kiss another person. To attempt to carry sanitation to this extent seems to us to invite the contempt of the public.

News Items.

Society Meetings for the Coming Week.

MONDAY, December 22d.—Medical Society of the County of New York; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, December 23d.—Metropolitan Medical Society, New York (private); New York Medical Union (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Richmond, Va., Academy of Medicine and Surgery.

WEDNESDAY, December 24th.—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; New York Dermatological Society (private); American Microscopical Society of the City of New York; Philadelphia County Medical Society.

FRIDAY, December 26th.—New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, December 27th.—New York Medical and Surgical Society (private); Harvard Medical Society, New York (private).

The Lebanon Hospital.—Dr. William M. Leszynsky has been appointed neurologist to the Lebanon Hospital.

Bubonic Plague in this Port.—Three cases of bubonic plague are now under treatment in the Swinburne Island Quarantine Hospital in the Lower Bay. The patients are members of the crew of the steamer Saxon Prince which arrived in this port from Durban, South Africa, on Tuesday of this week.

The Chinese Hospital.—Dr. Bon Chang has applied to the New York State Board of Medical Examiners for license to practice his profession in this city, and it is stated that he is to act as physician and surgeon in chief to a new hospital which is to be established by the merchants of Chinatown.

Filtration of the City Water Supply.—A letter was recently sent to the mayor from the Committee of the New York German Medical Society relative to the need for filtration of Croton water. The matter is under advisement of the commission, which has been at work for some time studying the subject. The article by Dr. Seibert, which appeared in our issue for November 20th, furnishes some interesting data bearing upon this subject.

The New York Academy of Medicine.—The following officers were elected at the annual election held on Thursday evening, December 18th; President, Dr. Andrew H. Smith; vice-president, Dr. M. Allen Starr; treasurer, Dr. Herman L. Collyer; trustee, Dr. Arthur M. Jacobus; member of the committee on admissions, Dr. J. Milton Mabbott, and member of the committee on library, Dr. Joseph Collins.

The New Haven Medical Association, of New Haven, Connecticut, will celebrate the one hundredth anniversary of its organization, on Monday and Tuesday, January 5 and 6, 1903. Dr. William Osler, of Baltimore, and Dr. Francis Bacon, of New Haven, will deliver commemoration addresses, on Tuesday afternoon, in the auditorium of the New

Haven Colony Historical Society. A reception in honor of Dr. Osler and Dr. Bacon will be given, on Monday evening, at the Yale School of the Fine Arts. The annual dinner of the Association will take place on Tuesday evening. The arrangements are in charge of a committee consisting of Dr. Gustavus Eliot, Dr. Henry Lawrence Swain, and Dr. Ralph Schuyler Goodwin, Jr.

An Officers' Hospital in London.—A movement has been begun in London to secure the erection of a hospital for army officers in London. While the English navy supplies a hospital for its officers, army officers are compelled to have recourse to private nurse or hospitals and to civilian physicians for advice and treatment. It is to be hoped that the movement to provide a hospital suitable for army officers who are either sick or wounded will meet with success.

An Ambulance Service in the Brooklyn Navy Yard has recently been established for the benefit of civil employees. Heretofore when accidents have happened to civil employees (last year there were five hundred and forty-one serious accidents, and five deaths in the Brooklyn Navy Yard), the sufferers have been conveyed by any ordinary cart or wagon to the nearest civil hospital. This very crude and unsatisfactory method has now been replaced by the services of a first-class ambulance which can reach any part of the yard within five minutes after receiving a call. This ambulance service is maintained by the Government for the benefit of its employees.

Italian Decorations for Dr. Wasdin and Dr. Geddings.—Dr. Eugene Wasdin and Dr. H. D. Geddings, of the United States Marine-Hospital and Public Health Service, were appointed a committee to investigate the theory of Sanarelli concerning yellow fever in 1897. For the services performed by this committee its members were granted decorations by the Italian Government in 1900. These decorations have been in the hands of the United States government since that time, and under the omnibus bill passed by the House of Congress on December 5th, permission was granted to Dr. Wasdin, and his associate, Dr. Geddings, to accept the decorations. The bill has already passed the Senate at a previous session and now only awaits the signature of the president.

The International Sanitary Conference of the American republics was convened at Washington on December 2d. The delegates for the various South American republics and the several cities and states throughout the Union were welcomed by the Secretary of the Treasury and by the Assistant Secretary of State. The sessions were presided over by Dr. Walter Wyman, Surgeon-General of the Public Health and Marine-Hospital Service, who delivered the opening address. Addresses were also delivered by Senor Don Manuel de Azpiroz, Ambassador from Mexico, and Senor Don Gonzalo de Quesada, Minister for Cuba, who are members of the Governing Board of the Bureau of American Republics, under the auspices of which the conference was held.

The New Site for the Philadelphia Municipal Hospital has not yet been determined. The Philadelphia County Medical Society was about to protest against the selection of a particular site, but such action was forestalled by the presentation of a request from the Medical Board of the Hospital to the Society asking that the society do nothing calculated to embarrass the Department of Charities and Corrections in their efforts to separate the Hospital from the Insane Department and the Alms House. It is reported in the daily papers that the latter institutions will probably be located on land adjoining the House of Correction, and that the present site of the Almshouse will be utilized for the municipal hospital.

Nurses in the Public Schools.—Nine nurses have been attached to the various public schools in the more crowded parts of the East Side in this city, and three have been attached to Brooklyn schools with a view to experimenting upon the system. Each nurse will be required to look after perhaps three or four schools visiting each school each day, and caring for the children whom the medical inspector states are in need of her attention. After the school is dismissed she will be expected to visit the homes of children excluded by the medical inspector with a view to seeing that they are being properly looked after. They will aid the medical inspectors in various ways and by the house to house visits will prevent children from remaining away from school longer than is warranted by their physical condition.

The Prevention of Tuberculosis.—The Minister of Public Instruction of France has recently issued an important circular on this subject laying down the new rules for sanitation with the view to preventing the spread of tuberculosis in public schools. The rules are quite stringent going further than any heretofore adopted by other countries. Under these rules no schoolmaster can be employed until he has undergone a medical examination, and no one can be accepted who presents any evidence of pulmonary tuberculosis. Should a master become tuberculous he is to be given leave during the time necessary for treatment, and not allowed to return to work until cured.

Dr. Lorenz in New York City.—Dr. Lorenz arrived in this city on Saturday afternoon from Philadelphia, where, as was stated in our last issue, he had given several clinical lectures. He went direct to the Holland House, making this his headquarters, though he has had every attention shown him by the physicians of the city, in the shape of luncheons, dinners, etc. His first operation was performed on Sunday on private patients. His first clinical lecture was given on Monday afternoon at the Hospital for Ruptured and Crippled Children, where he appeared at the invitation of Dr. Virgil P. Gibney, chief surgeon of the institution. A report of this clinic appears on page 1,070 of this issue. On Tuesday morning Dr. Lorenz operated on one case of unilateral and one case of bilateral dislocation at the Polyclinic School and Hospital. On Wednesday afternoon he operated at the Post Graduate Hospital, on Thursday afternoon at Cornell University

in the clinic of Dr. Shaffer. He is also to operate at the Bellevue and University Medical School, and at the Beth-Israel Hospital at Jefferson and Cherry streets, and at the New York State Hospital for Crippled Children at Tarrytown. During his stay here, as in other cities, his principal recreation has been attending the theatre, which he does partly with a view to perfecting his English. It is observed that he has a good command of English though he speaks with a marked German accent.

Osteopaths Not Amenable to the Medical Practice Act in Colorado.—A case has recently been decided in Colorado which is of interest as showing the weak points in the Colorado law. In this case the defendant was charged by the State Board of Medical Examiners with having practised medicine without being duly licensed. The case was dismissed by the judge on the ground indicated in the following excerpts from his decision:

"The statute governing this case is not clearly defined, and the law upon the point in question is weak. Now, osteopathy, as I understand it, does not in its treatment use either drugs or medicine, nor do the practitioners pretend to use drugs, medicines or knife in the treatment of the sick. The statute clearly says that those using either drugs or instruments upon sick people, without due knowledge and authority to use the same, shall come under the pale of the law. Therefore I shall discharge the defendant."

Popular Lectures on Tuberculosis.—The Committee for the Prevention of Tuberculosis appointed by the Charity Organizations Society has made arrangements for a series of free lectures on tuberculosis to be delivered at the United Charity Building, Fourth avenue and Twenty-second street. The programme of lectures is as follows: December 8th, 8 p. m., "Causation and Prevention," by Dr. H. M. Biggs; January 12th, 8 p. m., "Social Aspects of the Warfare Against Tuberculosis," by Edward T. Devine; February 9th, 8 p. m., "The Duties of the Government and the Individual in the Combat of Tuberculosis," by Dr. S. A. Knopf; March 9th, 8 p. m., "Tuberculosis and Children," by Dr. A. Jacobi; March 30, 8 p. m., "Tuberculosis in Its Relation to Diseases of the Bones and Joints," by Dr. Joseph D. Bryant; April 13th, 8 p. m., "Sanatoria and Climatic Influences," it is hoped that Dr. E. L. Trudeau will deliver this lecture; May 11th, 8 p. m., "The Duty of the Community," by Robert Hunter.

Deterioration in Cuban Hospitals.—After the close of the war with Spain the United States undertook the rehabilitation of the Cuban hospitals, and to that end placed trained American women nurses in the responsible positions throughout the hospitals on the island. Their assistants were chosen largely from reconcentrados, comparatively few of whom were well educated. Under American management the hospitals improved greatly, but since the withdrawal of the United States from the island a certain antagonism to Americans and everything American has developed which has resulted in many cases in the curtailment of the authority of the American nurses, or their resignation from the hospitals. The liberal expenditures made for sani-

tary purposes under American rule have also been cut down. The Cuban nurses have not proved as energetic, particularly in discharge of their more disagreeable duties as were the American nurses whom they have displaced, and as a consequence there has been a decided retrogression in the conditions existing in the hospitals as compared with their condition prior to the evacuation of the island by the United States authorities. The subject is treated at some length and with evidently an intimate knowledge of the subject, in an article which recently appeared in the *New York Evening Post*, from which the above outline of existing conditions was gathered.

A Hospital Ship Needed in the Navy.—In the annual report of the Secretary of the Navy recently submitted to Congress, the Secretary recommends a permanent ambulance or hospital ship designed for hospital services only, and having the right to fly the flag of the Geneva Conference. He says that the work of the *Solace* and *Bay State* throughout the Spanish War in the West Indies and during subsequent activities in the far East have established a value of hospital ships in time of war. In time of peace such a vessel could accompany each large squadron in the more serious evolutions as a hospital, and also as a recreation asylum for debilitated members of the ships' companies. But their most important service would be as ambulance vessels, to carry the sick and disabled from the fleets or from tropical island stations naval hospitals, giving them while in transit intelligent and wholesome care. Two vessels of this type, one for the Atlantic and one for the Pacific, to be equipped for the work outlined in times of peace, and ready for instant service in time of war, are recommended.

Tributes to Major Reed.—In his annual report the Secretary of War in referring to the relations with Cuba, paid the following tribute to the members of the medical department, including the late Major Walter Reed:

"Especial credit is due also to the medical department of the army, and particularly to Major Walter Reed and Major William C. Gorgas for their extraordinary service in ridding the island of yellow fever, described in my last report; and to Dr. Jefferson R. Kean and Dr. James Carroll for their share in that work.

"The brilliant character of his scientific achievement, its inestimable value to mankind, the saving of thousands of lives, and the deliverance of the Atlantic seacoast from constant apprehension, demand special recognition from the government of the United States.

"Dr. Reed is the ranking major in the medical department, and within a few months will, by operation of law, become lieutenant colonel. I ask that the President be authorized to appoint him assistant surgeon general, with the rank of colonel, and to appoint Major Gorgas deputy surgeon general, with the rank of lieutenant colonel, and that the respective numbers in those grades in the medical department be increased accordingly during the period for which they hold those offices.

"The name of Dr. Jesse W. Lazear, contract surgeon, who voluntarily permitted himself to be in-

oculated with the yellow fever germ, in order to furnish a necessary experimental test in the course of the investigation, and who died of the disease, should be written in the list of the martyrs who have died in the cause of humanity. As a slight memorial of his heroism a battery in the coast defense fortification at Fort Howard, Baltimore, Md., has been named 'Battery Lazear.'"

At a stated meeting of the New York Academy of Medicine, held December 3, 1902, the following resolution was unanimously adopted:

WHEREAS in the recent death of Dr. Walter Reed, Major Surgeon U. S. A., the science of medicine has lost the one whose brilliant research led first to the demonstration of the transmission of yellow fever by the mosquito and later to the practical removal of the disease from a large part of Cuba and the prevention of its transmission to the shores of this country,

Be it Resolved that the New York Academy of Medicine records its sense of the greatness of the loss to science and to mankind and its sympathy with the friends and relatives of the deceased.

Errata.—In Dr. Seibert's article on Typhoid Fever and Drinking Water, which appeared in THE NEW YORK MEDICAL JOURNAL for November 29, 1902, the reduction in mortality in Berlin and some other cities, given on page 937, as one in 50,000, should have been one in 20,000; and on page 938 that of Hamburg instead of one in 60,000 should have been, one in 30,000.

From the last paragraph of Dr. Wyeth's article on The Treatment of Vascular Neoplasms by the Injection of Water at a High Temperature, in the JOURNAL for December 6th, page 970, a line, the third from the end, was dropped. The paragraph should read:

I would advise especial caution in treating the angiomas of the scalp or neck, on account of oedema. Not more than five or six ounces should be injected at one *séance*. Very grave oedema followed in one case of cirroid aneurysm of large size, situated upon the parietal bone.

The Edward N. Gibbs Memorial Prize.—THE NEW YORK ACADEMY OF MEDICINE announces that the sum of one thousand dollars will be awarded to the author of the best essay in competition for the above mentioned prize.

The subject of the essay shall be, "*The Etiology, Pathology and Treatment of the Diseases of the Kidney.*"

Essays must be presented on or before October 1st, 1904. Each essay must be in English, type-written, designated by a motto, or device, and accompanied by a sealed envelope, bearing the same motto, or device, which shall contain the name and address of the author. No envelope will be opened except that which accompanied the successful essay. The Academy reserves the right, according to the direction of the donors, not to award the prize if no essay shall be deemed worthy of it. The Academy will return the unsuccessful essays, if claimed by their respective authors, or by authorized agents, within six months. An essay must show originality in order to obtain the prize. The competition is open to the members of the regular medical profession of the United States. The original of the successful essay shall be the property of the Academy.

and, according to the deed of gift, will be published in its transactions.

The essays shall be transmitted to THE COMMITTEE OF THE TRUSTEES OF THE NEW YORK ACADEMY OF MEDICINE ON THE EDWARD N. GIBBS MEMORIAL PRIZE.

A. JACOBI, M. D.,
Chairman.
ARTHUR M. JACOBUS, M. D.,
Secretary.
R. F. WEIR, M. D.,
President.

The Trustees

J. H. HUDDLESTON, M. D.,
Recording Secretary.
The New York Academy of Medicine.
New York, December 1st, 1902.

A Presentation to Dr. Baccelli.—At the opening of the twelfth Congress on Internal Medicine, at Rome, on October 28th, by the president, Dr. Guido Baccelli, Minister of Agriculture, an illuminated testimonial, the work of the painter Barucci, and framed in leather by Bartolozzi, of Siena, was presented by the Italian clinicians and pathologists to Baccelli, to commemorate his contributions to medical science. The following is the text of the document:

Quum Romæ,
In duodecimo convëntu Societatis Italicæ de Medicina interiore, mirum pertractaretur argumentum Quo medicamina intimis venarum viis inserantur, Hanc chartam tum Clinici tum Patologi Italiae Gratulantes atque admirantes dicabant
Guidoni Baccelli,
Hujusce novi salutiferæ artis adjumenti,
Inventori felici audacissimo propagatori constanti firmissimo.
Existimationis in virum eminentem.
Ipsa documentum existat
Celebratura in ævum
Hanc non postremam tanti nominis gloriam.

Oct. MCMII.

[When, at Rome, in the twelfth Congress of the Italian Society of Internal Medicine, a noteworthy discussion took place on the intravenous introduction of medicines, the clinicians and pathologists of Italy presented this testimonial, in gratitude and admiration, to Guido Baccelli, the felicitous inventor, the intrepid, persistent, and staunch advocate of this new addition to the healing art. May this testimonial long remain as a mark of esteem for so eminent a man, and to commemorate for all time this, we trust, not the last, triumph of so renowned a name. October, 1902.]

Official News.

Public Health and Marine Hospital Service:

Official List of Changes of Station and Duties of Commissioned and Non-commissioned officers of the Public Health and Marine-Hospital Service for the Seven Days ending December 13th, 1902:

WHITE, M. J., Assistant Surgeon. Relieved from duty at San Francisco, Cal., and directed to proceed to Portland, Oregon, and assume command of the service at that port.

CURRIE, D. H., Assistant Surgeon. To report to Surgeon A. H. Glennan, San Francisco, Cal., for assignment to duty.

BAILEY, C. W., Acting Assistant Surgeon. Granted leave of absence for seven days.

BARNESBY, P. N., Acting Assistant Surgeon. Granted nine days' extension of leave of absence from December 1st.

GREGORY, G. A., Acting Assistant Surgeon. Granted leave of absence for ten days from November 26th.

RODMAN, J. C., Acting Assistant Surgeon. Granted leave of absence for four days from December 15th.

ROSS, M. H., Acting Assistant Surgeon. Granted leave of absence for fourteen days from December 21st.

WALKER, AGNES, Medical Inspector. Granted leave of absence on account of sickness for fifteen days from December 1st.

BROWN, F. L., Pharmacist. To proceed to Philadelphia, Pa., for special temporary duty.

SCHLAAR, W. F., Pharmacist. To report to Assistant Surgeon-General G. T. VAUGHAN for temporary duty in office for the port of Washington, D. C.

Board Convened.

Board convened to meet at Boston, Mass., December 10, 1902, for the physical examination of officers of the Revenue Cutter Service. Detail for the Board: Surgeon R. M. WOODWARD, chairman; Assistant Surgeon W. C. RUCKER, Recorder.

Reinstatement.

SCHLAAR, W. F., reinstated and appointed Senior Pharmacist, effective November 13, 1902—December 8, 1902.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending December 13, 1902:

DISEASES.	Week end'g Dec. 6.		Week end'g Dec. 13.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	90	16	81	16
Scarlet fever.....	191	12	153	13
Cerebro-spinal meningitis ..	0	0	0	3
Measles.....	160	0	163	4
Diphtheria and Croup.....	397	49	404	54
Small-pox.....	1	0	7	0
Tuberculosis.....	259	164	28	129

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the two Weeks ending December 13, 1902:

ASSERSON, F. A., Assistant Surgeon. Detached from the Kentucky and ordered to the Wilmington.

BUCHER, W. H., Passed Assistant Surgeon. Ordered to duty at the Naval Hospital, Norfolk, Virginia.

CRAWFORD, M. H., Surgeon. Resignation accepted, to take effect November 29, 1902.

DEAN, R. C., Medical Director. Retired, ordered to Washington, D. C., for duty as president of the Naval Examining Board.

DICKSON, S. H., Medical Inspector. Detached from the Marine Barracks, Washington, D. C., and ordered to the Iowa for duty as Fleet Surgeon, South Atlantic Station.

DUNN, H. A., Assistant Surgeon. Detached from Cavité Naval Station and ordered to the Vicksburg.

ELLIOTT, M. S., Passed Assistant Surgeon. Detached from the New York and ordered to temporary recruiting duty at Pueblo, Colorado, and thence to the New York.

GUNNELL, F. M., Medical Director. Retired and ordered to the Bureau of Medicine and Surgery.

HUNTINGTON, E. I., Passed Assistant Surgeon. Detached from treatment at the Naval Hospital, New York, and ordered to duty at the Navy Yard, New York.

ROSENBLEUTH, J. C., Passed Assistant Surgeon. Detached from the Wilmington and ordered home.

SIMONS, M. H., Medical Inspector. Detached from the Iowa and ordered home to wait orders.

Public Health and Marine-Hospital Service

Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending December 12, 1902:

Smallpox—United States.		Date.	Cases	Deaths
California—Fresno	Nov. 1-30	2		
Colorado—Denver	Nov. 22-29	1		
Florida—Jacksonville	Nov. 22-Dec. 6	3		
Florida—Pensacola	Nov. 22-Dec. 6	5		
Georgia—Atlanta	Nov. 27-Dec. 3	1		
Illinois—Chicago	Nov. 28-Dec. 6	1		
Illinois—Evanston	Oct. 1-31	25		
Illinois—Evanston	Nov. 1-30	40		
Indiana—Evansville	Nov. 29-Dec. 6	1		
Indiana—Hammond	Nov. 23-30	34		
Indiana—Indianapolis	Nov. 29-Dec. 6	1		
Indiana—Muncie	Nov. 29-Dec. 6	2		
Iowa—Ottumwa	Nov. 1-22	22		
Kansas—Wichita	Nov. 15-29	2		
Maine—Biddeford	Nov. 29-Dec. 6	11		
Massachusetts—Boston	Nov. 29-Dec. 6	23		
Massachusetts—Chicago	Nov. 29-Dec. 6	1		
Massachusetts—Everett	Nov. 29-Dec. 6	2		
Massachusetts—Lawrence	Nov. 29-Dec. 6	1		
Massachusetts—Taunton	Nov. 29-Dec. 6	1		
Michigan—Grand Rapids	Nov. 29-Dec. 6	5		
Missouri—St. Joseph	Nov. 29-Dec. 6	1		
Nebraska—Omaha	Sept. 1-Dec. 6	9		
New Hampshire—Nashua	Nov. 29-Dec. 6	21		
New Jersey—Jersey City	Nov. 30-Dec. 7	1		
New York—Binghamton	Nov. 29-Dec. 6	1		
New York—Buffalo	Nov. 29-Dec. 6	2		
New York—New York	Nov. 29-Dec. 6	89		
North Carolina—Charlotte	Nov. 1-30	13		
Ohio—Cincinnati	Nov. 28-Dec. 5	3		
Ohio—Cleveland	Nov. 29-Dec. 6	11		
Ohio—Toledo	Nov. 22-Dec. 6	9		
Ohio—Warren	Nov. 29-Dec. 6	2		
Ohio—Zanesville	Nov. 1-30	2		
Pennsylvania—Altoona	Nov. 29-Dec. 6	3		
Pennsylvania—Erie	Nov. 29-Dec. 6	1		
Pennsylvania—McKeesport	Nov. 29-Dec. 6	1		
Pennsylvania—Philadelphia	Nov. 29-Dec. 6	6		
Pennsylvania—Pittsburg	Nov. 29-Dec. 6	36		
South Carolina—Charleston	Nov. 29-Dec. 6	2		
Tennessee—Chattanooga	Nov. 1-30	1		
Texas—San Antonio	Nov. 1-30	1		
Utah—Salt Lake City	Nov. 22-Dec. 6	3	Imported.	
Wisconsin—Greenbay	Nov. 30-Dec. 7	1		
Wisconsin—Milwaukee	Nov. 29-Dec. 6	4		

Smallpox—Foreign.

Austria—Prague	Nov. 8-22	38		
Belgium—Antwerp	Nov. 8-22	4		
France—Marseille	Oct. 1-31	25		
France—Paris	Nov. 15-22	1		
France—Rheims	Nov. 17-23	1		
Gibraltar	Nov. 2-16	3		
Greece—Athens	Nov. 15-22	1		
Great Britain—Bradford	Nov. 1-15	6		
Great Britain—Dundee	Nov. 15-22	3		
Great Britain—Leeds	Nov. 15-22	17		
Great Britain—Liverpool	Nov. 15-29	58		
Great Britain—London	Nov. 8-22	8		
India—Bombay	Nov. 1-11	4		
Italy—Palermo	Nov. 8-15	3		
Mexico—Nogales	Nov. 8-29	15		
Russia—Moscow	Nov. 1-8	3		
Russia—Odessa	Nov. 8-15	3		
Russia—Rifa	Sept. 1-30	16		
Russia—St. Petersburg	Nov. 1-15	10		
Russia—Warsaw	Oct. 25-Nov. 1	2		

Yellow Fever.

Costa Rica—Port Limon	Nov. 22-29	2		
Dutch West Indies—Buen. Ayre.	Nov. 15	1	death on Dutch Sch. Trader.	
Ecuador—Guayaquil	Nov. 15-22	1		
Mexico—Tampico	Nov. 22-29	2		
Mexico—Veracruz	Nov. 22-29	14		

Cholera.

Dutch Indies—Java, Batavia	Oct. 4-25	83		
India—Bombay	Oct. 29-Nov. 4	76		
India—Calcutta	Oct. 25-Nov. 8	54		
Japan—Nagasaki	Nov. 1-10	1		

Plague—United States.

California—San Francisco	Nov. 27	1		
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Plague—Foreign.

India—Bombay	Oct. 29-Nov. 11	4		
India—Calcutta	Oct. 25-Nov. 8	18		
India—Karachi	Oct. 26-Nov. 9	31		
Japan—Yokohama	Nov. 1-8	1		

Army Intelligence:

Official List of Changes in the Station and Duties of Officers serving in the Medical Department of the United States Army for the week ending December 13th, 1902:

CORBUSTIER, WILLIAM H., Major and Surgeon. Granted thirty days' leave of absence.

GEDDINGS, E. F., First Lieutenant. Relieved from duty at the Indianapolis Arsenal, Indiana, and ordered to pro-

ceed to Fort Brady, Michigan, for duty to relieve CHARLES E. MARROW, First Lieutenant and Assistant Surgeon, who will return to Fort Sheridan, Illinois.

STRONG, RICHARD P., First Lieutenant and Assistant Surgeon. The resignation of his commission as an officer of the army has been accepted by the President, to take effect December 5, 1902.

VAN POOL, G. McD., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month.

Births, Marriages, and Deaths.

Married.

BROWN—ALBERT.—In Washington, D. C., on Thursday, November 27th, Dr. Thomas Richardson Brown and Miss Jean McComb Albert.

CARMALT—KIDD.—In Tivoli, N. Y., on Thursday, December 4th, Dr. Churchill Carmalt, of New York City, and Miss Alice Kidd.

CURTIS—BLACKWOOD.—In Montreal, Canada, on Saturday, December 13th, Dr. John Green Curtis, of New York, and Miss Netta Easter Blackwood, of Boston.

CURTISS—ROBINSON.—In Cleveland, Ohio, on Thursday, December 4th, Dr. Paul Curtiss, of Chagrin Falls, Ohio, and Miss May Robinson.

GUNDRY—KREBS.—In Baltimore, on Wednesday, November 26th, Dr. Alfred T. Gundry, of Catonsville, Md., and Miss Helen M. Krebs.

NICHOLS—WILLIAMS.—In Brooklyn, N. Y., on Wednesday, December 10th, Dr. Thomas D. Nichols and Miss Minnie Williams.

PERILLIAT—CLAIBORNE.—In New Orleans, on Tuesday, December 9th, Dr. Louis Perilliat and Miss Marie Louise Claiborne.

ROOP—BEERS.—In Roanoke, Virginia, on Tuesday, December 9th, Dr. J. Warren Roop, of Harrisburg, Pa., and Miss Emma C. Beers.

TOPPING—COMBS.—In Terre Haute, Indiana, on Wednesday, December 10th, Mr. A. R. Topping and Miss Laura A. Combs, daughter of Dr. M. R. Combs.

Died.

BILLINGSLEA.—In Baltimore, Maryland, on Monday, December 8th, Dr. Martin B. Billingslea, in the fifty-fourth year of his age.

BLOMER.—In Philadelphia, on Monday, December 1st, Dr. George D. Blomer, Jr., in the thirty-eighth year of his age.

CLARKE.—In Baltimore, on Thursday, November 27th, Dr. Joseph Clarke, in the seventy-eighth year of his age.

DOOLEY.—In New York City, on Sunday, December 7th, Dr. John J. Dooley, in the thirty-fifth year of his age.

EBERT.—In Atlanta, Georgia, on Friday, November 28th, Dr. Alan P. Ebert, in the thirty-ninth year of his age.

FULKERSON.—In Ingleside, N. Y., on Sunday, December 7th, Dr. William Fulkerson.

HIXON.—In La Salle, N. Y., on Friday, December 5th, Dr. Levi J. Hixon, in the forty-second year of his age.

KRIM.—In Louisville, Kentucky, on Tuesday, December 9th, Dr. John M. Krim, in the sixty-first year of his age.

KRONBEIN.—In Buffalo, N. Y., on Sunday, December 7th, Dr. Lewis Emanuel Kronbein.

McCONE.—In San Francisco, on Saturday, December 7th, Dr. James F. McCone, in the thirty-first year of his age.

PEASE.—In Paris, France, on Sunday, December 7th, Dr. Daniel Pearson Pease, of New York City, in the forty-sixth year of his age.

ROBSON.—In Cincinnati, Ohio, on Thursday, November 27th, Dr. Adam E. Robson, in the fortieth year of his age.

STAYNER.—In Chicago, Illinois, on Wednesday, December 3rd, Dr. William H. Stayner, in the fortieth year of his age.

VERDI.—In Milan, Italy, on Wednesday, November 26th, Dr. Tullio de Suzzasa Verdi, in the seventy-third year of his age.

WEBSTER.—In New York City, on Sunday, December 7th, Genevieve Macfarlane, wife of Dr. David Webster.

Pith of Current Literature.

PRACTICE OF MEDICINE.

Meningococcus Septicæmia.—Dr. H. Salomon (*Berliner klinische Wochenschrift*, November 18th) describes the case of a man who suffered at first from pains in the joints followed by a remittent fever lasting for weeks, after which an eruption appeared characterized by red spots with intensely pigmented centres. Although treatment was of little avail, recovery ensued. The meningococcus was grown from the blood but could be seen only microscopically in the fluid obtained from the spinal canal. Meningeal symptoms were observed only in the last third of the illness. Exanthemata are rarely seen in infections by this germ.

The Nature, Causes and Treatment of Cardiac Pain. By Dr. A. Morison (*Lancet*, November 1st, 8th, and 15th).—The author classifies cardiac pain as follows:—

Cardiac angina (Angina pectoris).	I. With pain (Heberden's disease).	1. Musculospasmodic.	
		2. Coronary	{ aneurysmal. occlusive.
		3. Aortic	{ aortic. aneurysmal.
		4. Neuritic	{ intravascular. extravascular.
		5. Neuralgic	{ intrinsic. extrinsic.
		6. Endocardial. (valvular).	{ severe (aortocoronary). mild (ventricular).
		7. Vasomotor.	
		8. Compound.	
	II. Without pain (Angina sine dolore).	1. Fear with syncopal signs.	
		2. Fear without syncopal signs.	
		3. Syncopal bradycardia.	

Musculospasmodic angina. This is the old view of Heberden, discarded by Huchard and Allbut, but partially adopted by Osler. It is certainly possible that a rhythmically contracting organ may be affected by a cramp in limited areas, which crushes in its tonic grip the sensory nerve endings of the organ, and, if unrelieved, is calculated to induce by way of the pneumogastric nerve a profound and fatal inhibition, the visible sign of which is the flaccid, diastolic heart found post mortem in those who die in the agony.

Aneurysmal coronary angina. The author suggests that the frequently occurring attacks associated with calcareous arteries may be due to a coronary aneurysm which has not yet eroded through the muscular coat of the vessel and which presses upon or otherwise disturbs the innervation of the vessel.

Coronary occlusive angina. By this is meant an angina the result of atheromatous occlusion of the coronary arteries.

Aortic angina. The angular pain associated with an acute aortitis.

Aortic aneurysmal angina. There are probably but few cases of aneurysm of the aorta which have not, at one time or another during their growth and existence, caused some pain—and at times this pain is great, and is not to be distinguished from angina pectoris due to other causes. No other disease more frequently assumes the symptomatic characters of angina. And these anginiform symptoms are due less to pressure upon the heart than to the neuritic

and lacerative processes taking place in the aneurysms themselves.

Intravascular neuritic angina. Angina due to inflammation and thickening of intravascular nerves and nerve ganglia.

Extravascular neuritic angina. Many of the fatal cases of angina show involvement of the extravascular nerves, probably almost always secondary to vascular inflammatory processes.

Neuralgic angina. The author condemns the use of the term "pseudo-angina." If real pain and the consequences of such pain are manifested in a typical manner by a series of recognizable phenomena, why regard it as spurious because when associated with a certain condition it is less fatal than when associated with another? "Neuralgic angina" is a more definite and preferable term than "pseudo-angina."

Endocardial angina. Cases of valvular disease of the heart are met with in which the frequency and severity of attacks of angina are proportionate to the degree of noncompensation manifested by the organ. Mild cases may be due to ventricular distention, stretching the cardiac nerves, or compressing them by muscular cramp. In the severe forms of angina occurring in cases of aortic valvular disease, the most powerful causative factor is the distensive throbb of the blood cast by a dilated yet powerful ventricle into the aorta and coronary system.

Vasomotor angina. A diminution in size and an increase of tone of the larger peripheral vessels, notably of the radials, are often associated with angina pectoris. Further agents reducing such peripheral arterial tone likewise relieve the central pain. Such agencies as cold, excitement, reflex disturbances, and tobacco may initiate the vicious cycle by inducing the peripheral spasm which finds expression in angina. But in the majority of cases the rise in pressure in the peripheral circulation is rather a consequence than a cause of angina.

Compound angina. The major rôle in compound angina may be taken by any of the factors previously named.

Angina sine dolore. In this form of angina the sensory nerves are free from stimulation, and there is no pain, but the patient, even if a brave man, feels instinctively that he is on the brink of dissolution. The whole phenomena of angina sine dolore are relaxant—syncopal. There seem to be three classes of cases: (1) Fear of death with signs of syncope in the action of the pulse and of the heart. These are the commonest cases. (2) Those which exhibit the mental phenomena to a marked degree, but which reveal no sign of imminent syncope to physical examination. These cases are exceedingly rare. (3) Those which manifest the persistently slow, and it may be intermittent, pulse described by Stokes and Adams—the Stokes-Adams phenomenon. These chronic bradycardial cases may ultimately manifest angina sine dolore, but they may faint into oblivion without either mental distress or pain. Finally, the author concludes that the exclusively arterial view of angina pectoris must be abandoned. The disease is not one, except in suffering, but is essentially threefold—muscular, neuritic, and hæmic. It is not a rise of blood pressure as such which is causative of angina, as a rule, but blood pressure in many cases, whether propulsive or obstructive, exercising

its influence upon local anatomical lesions or strained physiological structures in the heart or its immediate neighborhood.

Dyspepsia and Its Treatment by Antiseptics. By Dr. C. Rankin (*British Medical Journal*, November 29th).—The author classifies dyspepsia as follows:

Acute dyspepsia. This is usually caused by some error in diet or interference with gastric secretion. Epigastric uneasiness is the initial symptom, soon followed by pain and nausea. If this is succeeded by vomiting, relief soon follows, otherwise abdominal distention, headache, vertigo, thirst, and heartburn become prominent. The bowels are usually costive. After some hours there is copious perspiration with a crop of urticaria.

Atonic dyspepsia. This is the most common variety of chronic indigestion. It occurs in badly nourished and anæmic persons and results from a general want of power in the stomach. The leading symptoms are fullness and discomfort in the stomach after meals. Flatulence is a prominent feature, and is greatly aggravated by indigestible articles of diet. The tongue is flabby and indented and the bowels are invariably constipated. The pulse is feeble, the skin clammy and muddy, and there is persistent languor and mental depression. The urine is very acid.

Acid dyspepsia. This occurs in strong active men, and is associated with an undue secretion or accumulation of hydrochloric acid. The appetite is vigorous, but some hours after eating there are epigastric pain, acid eructations, and nausea. Flatulence and languor are common, and the urine is alkaline. Paroxysmal attacks of pyrosis are common. The tongue is small, pointed, and abnormally red.

Nervous dyspepsia. This is dependent upon nerve exhaustion and occurs in neurotic individuals who are run down from overwork or mental worry. It is usually associated with nervous phenomena referable to other organs in the body. Headaches are of constant occurrence. The urine is copious and limpid. The symptoms are characteristically capricious. Sleeplessness is a source of great trouble, and the patients may be hypochondriacal.

Treatment. After reviewing the general hygienic and dietetic treatment of dyspepsia, the author calls attention to certain remedies used by him, and points out the special value which attaches to their combination with antiseptics. In most cases of atonic dyspepsia, marked relief is given by the administration of the following mixture, diluted with water, about an hour after meals: Dilute hydrochloric acid 15 minims; pure carbolic acid 2 grains; solution of strychnine (B. P.) 5 minims; tincture of ginger 20 minims; and glycerin $\frac{1}{2}$ a drachm. This may be advantageously followed by iron and quinine with strychnine and carbolic acid, given in pill form. Pepsin is not satisfactory in these cases. The administration of alkalis before food is of value only in mild cases.

In acid dyspepsia, bismuth carbonate in 30 grain doses, with salol 10 grains, sodium sulphocarbonate 15 grains, or carbolic acid 2 grains, gives excellent results. Strychnine and ginger may be added to the above, together with morphine, if there is much pain. Bismuth salicylate is a valuable preparation.

In nervous dyspepsia, the quantity and variety of food should be increased as rapidly as possible, and it is especially necessary to get the patient to take as much fat as can be digested. Zinc valerianate 3 grains; carbolic acid 2 grains; arsenous acid 1-40 grain; extract of cannabis indica $\frac{1}{4}$ grain—in pill form, taken after meals, is excellent in this form of the disorder.

Observations on Atonic Motor Insufficiency and Dilatation of the Stomach: Their Causes, Diagnosis and Treatment. By Dr. R. Saundby (*British Medical Journal*, November 29th).—The author has collected from his case books a series of one hundred cases of dilated stomach. Of these thirty-six were males and sixty-four females. In men the disease usually begins after thirty and persists throughout life; in women it begins earlier, but almost ceases after fifty. In all the cases due to obstruction the patients were over thirty years of age. In forty-two cases there was a history of dyspepsia, in twenty-nine of neurasthenia, in eight of ulcer, in six of influenza, and in only two of cancer. Most of the dyspeptic cases were also neurasthenic. The author's method of examination of the stomach consisted in the administration of the stomach powder recommended by Meinert, which contains 120 grains of sodium bicarbonate and 90 grains of tartaric acid, each being dissolved separately in water and given successively. It rarely produces pain, but care should be taken that the stomach is empty. The usual stomach powder of from half to one drachm in amount is an altogether insufficient dose.

Symptoms. Pain was the most common symptom, being present in sixty-eight cases. It was most common in the epigastrium and after eating. Vomiting was not common, occurring in only sixteen cases, and being more common in men. Loss of weight occurred in thirty-four cases, being more frequent among the cases due to obstruction. Constipation was present in sixty cases. Flatulence was a common subordinate symptom, due either to fermentation or to swallowing of air. Water brash was frequently observed. But no group of symptoms was found to correspond to any particular degree of dilatation. As a rule the author dispenses with test breakfasts and the routine examination of stomach contents. The tests of the motility of the stomach are of little value. Where the stomach is dilated there must be delay in the discharge of its contents. The prognosis of each case of atonic dilatation depends much more on the duration of the symptoms than on the extent of the dilatation. The rational treatment is for the most part that of the neurasthenic condition upon which it depends. In stubborn cases a modified Weir Mitchell course is indispensable, the patients going to bed for three to six weeks, and having massage to prevent muscular waste. Diluted milk should be given every hour at first, and gradually increased until four ounces are taken every hour. A little minced chicken may then be added, and the patient gradually brought back to a normal diet. In mild cases dieting is not necessary, the patients being advised to lie down for half an hour after meals, and to avoid fatigue. The only routine drug treatment to be employed is something to prevent or overcome constipation. Pepsin, pancreatin, hydrochloric acid, etc., do not give sufficient

ly satisfactory results to warrant their use. The author's experience of gastroenterostomy in neurasthenic cases has not been favorable. It is safer in incurable cases to provide the patient with a stomach tube, warning him against the dangers of its abuse. A light abdominal belt may be worn with advantage in some cases.

SURGERY AND ANATOMY.

Pus in the Pelvis Depending upon and Complicating Appendicular Disease in the Female:

Methods of Treatment. By Dr. John B. Deaver (*American Medicine*, December 6th).—Appendicitis may cause a pelvic abscess in one of three ways: (1) By extension of pus from the right iliac fossa to the pelvis; (2) by the appendix hanging over the iliopectineal line or being entirely in the true pelvis and there producing an abscess; (3) by infection of the appendix and right tube and ovary, all being involved in the same purulent exudate. The diagnosis lies between the above conditions and pyosalpinx, tuboovarian abscess, suppurating ovarian cyst, suppurating fibroid and hematocele. The pus in appendicitis is of a "vicious" character as compared with the pus due to other conditions, and this necessitates difference in treatment. Each case must be a law unto itself. To illustrate. With the abscess high enough in the pelvis it may be reached by an incision in the loin, the peritoneum reflected from the iliac fossa, and the abscess evacuated below its upper limits. The cavity should be washed and packed. This method is of limited application. With the patient in desperate condition, *i. e.*, with marked anæmia and sepsis, and a prolonged operation out of the question, free incision of the posterior vaginal vault may be best. The cavity should not be irrigated, but simply drained with gauze, and the finger should not be inserted into the wound, for it is liable to spread the infection. Whenever possible it is best to open the abdomen, wall off the intestines with gauze, open and wipe out the abscess with gauze. Then, after removing, if possible, the appendix and whatever part of the uterine anexa that is too far diseased to be left behind, drainage by gauze and a glass tube may be used. The mortality of appendicitis with abscess in the pelvis is considerably less than in those cases in which the appendix lies behind the cæcum, pointing upward or to the median side of the cæcum.

Spinal Cord Tumors—Tumors of the Central Nervous System: Remarks on Noteworthy Cases.

By Dr. Joseph Collins (*Medical Record*, December 6th).—Spinal cord tumors are more susceptible to surgical treatment than brain tumors, and a greater percentage of recoveries occur. Nevertheless the majority of cases prove fatal. The reason for this is, (1) inability to diagnosticate and localize the tumors; (2) their nature, which makes them inaccessible or inoperable; and (3) the operative risk. Spinal cord tumors are rare in comparison with brain tumors and are more difficult to diagnosticate. Tumor as applied to the spinal cord has a generic meaning, and indicates any kind of tumor which so encroaches upon the cord as to interfere with its function or anatomy. It is important to distinguish extradural, intradural, and intramedullary growths from each other, and this can be done from the symptoms with

some degree of accuracy. The symptoms of spinal cord tumor are, in the order of their customary development, of five chief classes: (a) sensory, (b) motor, (c) visceral, (d) trophic, and (e) topical. (a) The sensory symptoms are pain, paræsthesia and disturbances of pain, temperature and tactile sensibility. (b) The motor symptoms are spasticity, involuntary muscular twitchings and drawing up of the extremities, muscular cramps, paralysis (often spastic in early stages and later flaccid), and increased myotatic irritability. (c) The visceral symptoms are of the bladder and lower bowel mostly, and depend on the level of the cord implicated. Priapism is probably not so frequent as it is generally thought to be. (d) The trophic symptoms are muscular atrophy and bed sores, and as a rule appear late. (e) The topical symptoms are deformity and pain and tenderness at the spinal process overlying the tumor. The former is inconstant and of little value clinically. The two most difficult points to determine are (1) when the tumor is in relation to the surrounding structures, *i. e.*, is it intradural or extradural? and (2) at what segment of the spinal cord it is situated. In intramedullary tumors paraplegia is usually not so complete; pain is not usually an initial symptom, and the motor phenomena are not so limited as in extramedullary growths. The location of the tumor with reference to the segments of the cord is done by noting the areas of anæsthesia and the muscular paralysis and comparing the results with the schemata or tables given in every text book. The favorite location for spinal cord tumors is in the dorsal region, about 50 per cent. of them occurring in this region. The level of the spinal cord tumors is usually two to four inches above the uppermost limits of anæsthesia.

Dr. Collins has collected seventy cases of spinal cord tumors reported within the last six years, and gives a brief abstract of their histories. He also reports in detail three cases of his own which illustrate the method of arriving at a diagnosis. Of the seventy cases reported, thirty were operated on with the following results: Successful twelve, partially successful eight, unsuccessful ten. Pathologically, there were six fibromata, twelve sarcomata, three endotheliomata, one myolipoma, and the rest not reported. As to prognosis, probably 50 per cent. of intraspinal tumors are operable, and of this number one-third to one-half are benefited by operation. Therefore they are twice as operable as brain tumors and the results of operation are twice as successful. To obtain success, cases should be submitted to operation as soon as the diagnosis is made. If improvement does not immediately follow an operation, it is not to be expected.

The Great Omentum as a Material for Plastic Operations in the Abdomen.—Dr. Achille Soraci

(*Riforma medica*, September 21st) speaks of the various uses to which the great omentum can be put in plastic work in abdominal surgery. It has for some time been utilized as a material for strengthening sutures of the intestines, etc., of whose permanence we are in doubt, and as a tampon to close perforations, natural or accidental, occurring during operations, etc. Enderlen and Justi used it experimentally to close wounds of the gall bladder, and Tricomi recommends it to stop hepatic hæmorrhages

and to assist in the healing process in resections of the liver. As a rule, however, the omentum is made use of in the modes indicated, only in desperate cases as a last resort. The author has studied more thoroughly the applicability of the great omentum as a medium for plastic work in the abdominal cavity and comes to the conclusion that the great omentum, being covered on both sides with endothelium, and being richly supplied with vessels, is a very useful aid in plastic work in the abdomen. In fourteen animals on which he experimented with plastic work performed with the great omentum on various organs, he found that complete and perfect healing was obtained in two cases of resection and cauterization of parts of the walls filled in with omentum. On the small intestines a simple wound, a cauterization, and four partial resections, were performed in animals, and the omentum was used to repair the gaps made. In five of the six cases there was a perfect result. On the large intestine one wound and two resections were performed and all the animals died, in consequence of an effusion of feces into the peritonæum. A favorable plastic result was obtained in one wound and in one resection of an area of bladder. The omentum is practically unaffected by the secretions of the stomach and the intestines, and by the urine.

Hair Balls and Other Concretions in the Stomach.—By Dr. W. S. Fenwick (*British Medical Journal*, November 29th).—Certain concretions are apt to form in the stomach and give rise to severe abdominal symptoms accompanied by an abdominal tumor. They usually consist of hair, cotton, wool or string, but occasionally they are composed of vegetable fibre or resinous material. Hair balls of any considerable size are rare, the largest on record weighing 4 lbs., 7 oz. The local effects of a concretion consist of dilatation of the stomach with ulceration of its mucous membrane; occasionally the viscus becomes adherent to the pancreas or abdominal wall. Of the twenty-four cases of hair ball reported, twenty-three were in women, the youngest of whom was eighteen years of age, the oldest thirty-four. There was never any evidence of mental disease. The habit of hair eating is usually acquired in early life when the hair is worn loose on the shoulders. Until the concretions attain considerable size and seriously diminish the capacity of the stomach, they rarely produce any symptoms. After a period of prolonged dyspepsia, the patients experienced severe epigastric pain after meals, accompanied by vomiting, and anemia. In every case there is a large well-marked abdominal tumor—at first round, but later kidney-shaped. One of its principal features is its extreme mobility. The duration of the disease averages about fifteen years. With the exception of two cases, in which laparotomy was performed, all the cases have terminated fatally. In most death is due to ulceration and perforation of the stomach. Vegetable tumors are much less common than hair balls and consist of fruit skins, fruit stones and stalks, or of fibrous roots. The symptoms and outcome are the same as in cases of hair ball.

Gastroliths occur in men addicted to alcohol, who have been in the habit of drinking varnish or polish. As a rule the mass is too small to admit of palpation.

In most cases of concretion the tumor has been taken for a malignant growth, from which it can be diagnosed by the age of the patient, the duration of the complaint, and the nature of the tumor mass. If the tumor is very small it might be removed by an emetic, but this is dangerous. In the case of large tumors, medicinal measures are useless, and recourse must be had to gastrotomy.

OBSTETRICS AND DISEASES OF WOMEN.

The Relation of Diseases of the Female Genitals with Diseases of the Nose.—Dr. B. A. Liboff (*Rousky Vrach*, October 26th) discusses this subject, which was first introduced by the publications of Fliess some years ago. An intimate connection exists between the diseases of the female generative organs and the diseases of the nasal fossæ, one lesion reflecting often upon the other. Fliess was the first to note that during menstruation there takes place a marked hyperæmia and swelling of the nasal mucosa, which is localized especially in the lower fossa, over the lower turbinated bone and the prominence of the septum. These regions Fliess named the genital regions of the nose, and he observed cases in which there were hæmorrhages from these places during menstrual periods. Disturbances in the menstrual function reflect forcibly upon nasal conditions. By cocaineization of the spots mentioned it is possible, according to Fliess, to relieve dysmenorrhœa, and the most remarkable fact about this is that cocaineization of the lower anterior part of the lower turbinated bone relieves pains in the lower part of the abdomen, while the cocaineization of the septal prominence relieves pains in the back and loins. These cocaineizations relieve the pains of dysmenorrhœa when the latter are not dependent upon any pathological changes in the generative organs. According to Jaworski and Inanicki, the effect of these applications of cocaine may last from several hours to several days, and on prolonged treatment a complete cure may be accomplished. The author has observed a series of cases of dysmenorrhœa in virgins, in which general treatment failed. In some cases only one application of cocaine was sufficient to make the pain of menstruation disappear during the subsequent periods, but in some cases several were necessary. This method proved efficient in the most severe cases of neuralgic dysmenorrhœa, in those accompanied by vomiting, fainting, etc.

Operations upon the Uterine Appendages for Sterility. By Dr. W. M. Polk (*Medical Record*, December 6th).—The paper is a plea for operative intervention in those cases in which sterility is the leading, perhaps the only, complaint made by the patient, and in which examination shows that the difficulty lies in the appendages. While it is difficult to reach conclusions in such cases, yet painstaking investigation of the two parties concerned will often lead to a correct deduction. If necessary, the comparatively harmless measure of a preliminary vaginal incision for actual palpation of the suspected organs should be carried out. No new operative procedure on the uterine appendages is suggested. A laparotomy is required for the purpose of freeing

adhesions, removing uselessly diseased organs or portions of organs, in short the effort should be to leave the uterine appendages in as near a normal condition as possible. The novelty consists in advocating a serious operation for a condition heretofore not deemed grave enough to warrant one. This is justified by three considerations. First, the purely personal, the force of which will depend on the merits of each individual case. Second, by precedence, the operations on the lower genital tract and on the uterus itself in vogue thirty years ago for the cure of sterility were as fatal as are operations on the tubes and ovaries to-day. Third, by the results of operations on the tubes and ovaries undertaken for other reasons but which incidentally put a stop to sterility. A number of cases illustrating this are quoted.

Hysterectomy for Uterine Fibroid Disease in Early Pregnancy. By A. H. G. Doran, F. R. C. S. (*Lancet*, November 29th).—The author reports three interesting cases of hysterectomy during early pregnancy. In all there was a fibroid in the lower segment of the uterus posteriorly, preventing normal labor or delivery through the vagina by any means, and immediate removal of the uterus seemed the proper course. All the cases stood the operation well, and made rapid recoveries.

Myomectomy would not have been practicable in these cases, while pushing up the fibroid is a dangerous practice.

GENITO-URINARY DISEASES.

Symptoms of Prostatic Hypertrophy, Their Cause and Their Relief. By Dr. Edward S. Keyes, Jr. (*Philadelphia Medical Journal*, December 6th).—Clinically, prostatic hypertrophy is a noninflammatory, benign enlargement of the prostate which occurs in late middle life and which is of unknown origin. Unless rectal palpation reveals enlargement there is no hypertrophy even if all the symptoms point that way. There are three chief symptom groups. (a) The congestive, viz., priapism, nocturnal frequency of urination, and prostatic neuralgia. (b) The inflammatory, viz., prostatitis, cystitis and pyelonephritis. (c) The obstructive, viz., retention, whether acute or chronic, complete or incomplete. All obstruction due to prostatic hypertrophy comes from the raising of the urethral orifice above the floor of the bladder. This, according to Dr. Keyes, is a fundamental proposition. So far as the patient himself is concerned, he is conscious only of the symptoms produced by congestion, and if operation is refused, the best treatment for relief merely is systematic use of the catheter, lavage of the bladder, urinary antiseptics, rest in bed, and rectal douching. Operative treatment is of two kinds, palliative and radical. The former has its use as an emergency operation purely. There are four chief methods of radical procedure. (a) Operations designed to cause atrophy by interfering with nutrition. Of these the best known is White's (double castration), of which Dr. Keyes does not approve. (b) Operations upon the prostate other than excision. Of these the best known is Bottini's, which, however, is unsurgical in principle, dangerous in execution, and troublesome post-operatively, on account of the poor drainage. (c) Prostatec-

tomy, either suprapubic or perineal. The latter meets with most favor in America to-day. (d) Galvanoprostatectomy or Chetwood's operation. The paper, as a whole, is a plea for this operation. The author reports thirty cases with one death, one case resulting in complete incontinence of urine, and one case incompletely relieved of the residual urine. The operation itself is as follows: Through a median perineal section the bladder is entered and the prostate and seat of obstruction are explored with the finger. Then the galvanocautery is passed through the wound and the prostate cut according to need, as in Bottini's operation. The advantages claimed over the ordinary Bottini's method are accuracy in locating the necessary incisions, and good drainage.

CUTANEOUS MEDICINE AND SURGERY.

The Treatment of Lupus Vulgaris by Means of Formaldehyde.—Dr. Giacomo Mantecucci (*Gazzetta degli ospedali e delle cliniche*, September 21st) recommends the following method of treatment for lupus vulgaris: The patient is prepared as for any operation. On the evening preceding the operation, the skin is thoroughly disinfected and scrubbed and the lesion is covered by a compress of corrosive sublimate solution. Cocaine anaesthesia may be used, but it has the disadvantage of constricting the vessels and of producing a secondary hæmorrhage. Chloroform narcosis is used in severe cases. The best way to remove the lupus is by means of a sharp spoon. The hæmorrhage, if profuse, should be arrested by means of the thermocautery. After the operation, the wound is left to itself for five days, only being cleaned daily and dressed with sterile gauze. Then a four-per-cent. solution of formalin in glycerin, made by adding five cubic centimetres of the forty-per-cent. solution to fifty cubic centimetres of glycerin. The wound is first anaesthetized with cocaine solution by means of cotton pellets applied to it, and then the formalin solution is put on. This is done at first by simply daubing the wound with the formalin solution, but later on aseptic gauze is soaked in this solution and is allowed to remain over the wound for twenty-four hours. This method gave good results in a series of cases in which the author used it within the past three years. Formaldehyde is said completely to mummify the parts to which the formalin is applied.

HYGIENE AND SANITARY SCIENCE.

The Existence of Typhoid Fever in Atlantic City. By Dr. Philip Marvel (*Philadelphia Medical Journal*, December 6th).—Dr. Marvel asserts that the milk, vegetable, and water supply of Atlantic City is as good as can be expected, and that the recent outbreak of typhoid was due to two chief causes. First, to imported cases, and second, and to a probably lesser extent, to the contamination of oyster beds in the neighborhood, by sewage infected by the excreta from the imported cases of typhoid. As precautionary measures, and to insure security for the future, the city government has adopted more stringent precautions. The two most important ones relate to an improved water supply and to abolishing oyster beds for "fattening" and "freshening" oysters within a radius of three miles about the town. The danger therefore is now over.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

The Treatment of Typhoid Fever with Castor Oil.—Dr. C. C. Bass (*Virginia Medical Semi-Monthly*, November 7th) considers that the severe cases of typhoid fever are those in which the absorption of toxins from the alimentary canal is extensive, and the elimination therefrom is defective. In the abortive cases there is seldom tympanites, in the mild ones very little. In the severe ones this is a very prominent symptom. The more tympanites, the severer the case, and vice versa. Meteorism arises from two principal causes—first, increased fermentation, which takes place in the intestinal contents, and second, paralysis of the muscular coat resulting from toxemia. If the gases in the tympanitic are not themselves toxic, they at least increase the tension in the bowel and increase the absorption of the toxins and the germs that do exist in the canal. The author is firmly convinced that the serious nervous and muscular symptoms are, to a very great extent, if not altogether, due to the absorption of toxins from the intestinal canal. He thinks that the results of the castor oil treatment prove this. In any case of uncomplicated typhoid fever with a temperature above 103° F., a dose of castor oil every twelve hours, without any other medicine, will invariably reduce the temperature in three days. Wild delirium in any case will subside in the same length of time. The object is to keep the bowels free from germs, toxins, and fermentation. The guides to treatment are (1) freedom from tympanites, and (2) stools freed from the typhoid odor. These results can be obtained by administering a dose every twelve hours. The dose varies in different cases and in different stages and conditions in the same case. It may vary from one to eight drachms. Enough to act in from three to five hours should be given, but not so much as to act more than twice. If the patient is seen in the first week, when constipation usually exists, the dose will be from two to four drachms, but if in the second or third week when diarrhoea is the rule, one or two drachms will be the proper dose. During the second and third week, the dose is about the same, but increases considerably during the last week in bed. In abortive cases the dose is usually larger all through the disease. The taste may be disguised by giving it in a warm cup with a little boiled sweet milk. The author has treated thirty-two cases in this way with excellent results.

PHYSIOLOGY AND PATHOLOGY.

Clinical Value of Ehrlich's Dimethylamidoben-zol Reaction.—Dr. Eugen von Kozicz Kowsky (*Berliner klinische Wochenschrift*, November 3d) says that the reaction consists in this, that the above salt in a solution of hydrochloric acid combines with an unknown substance in the urine, and gives a red color to it. In 1,000 specimens examined a high specific gravity attended those giving the reaction. A light or dark red color was obtained, in cases of phthisis, lobar pneumonia, acute endocarditis, cholecystitis and infective cholangitis, chronic bronchitis, acute articular rheumatism, and scarlatina. No relation could be found between the reaction and indican. In five cases the reaction became more marked

as the disease progressed and diminished as convalescence was established, and this was most marked in infectious diseases. The chemistry of the reaction is not clear.

Cryoscopy. By Dr. William T. Bailey (*Boston Medical and Surgical Journal*, December 4th).—Cryoscopy was introduced by Raoult, of Grenoble, as a measure of the toxicity of the urine, and to throw light on the metabolic changes in the blood, cerebro-spinal, and pleural fluids. It depends on the fact that the freezing point of a liquid is the measure of its molecular concentration. The greater the number of molecules, the lower will be the freezing point. Renal insufficiency and permeability are not synonymous terms and must not be confused. The methylene blue test, merely shows the permeability of the kidneys to the blue, and is not a criterion of the functional capacity of the kidneys. Cryoscopy measures the sufficiency of the kidney tissue. Thus the greater the kidney insufficiency, the fewer will be the molecules contained in the urine and the higher will be the freezing point. In such cases the reverse will hold good with the blood, which, owing to the kidney insufficiency, will contain a greater number of molecules of waste matter, and so have a lower freezing point. Kummel gives the freezing point of urine from persons with normal kidney as from 1.2° C. to 2.3° C. below zero C, and the freezing point of blood under like circumstances as from $.55^{\circ}$ C. to $.57^{\circ}$ C. below zero C. Therefore, a freezing point for the urine higher than 1° C. and for the blood lower than $.58^{\circ}$ C. is taken as an index of renal insufficiency. Foreign journals report cryoscopy of great clinical value. Dr. Bailey gives the technics of the test and a bibliography.

Some Observations upon the Value of the Phloridzin Test for Estimating the Functional Capacity of the Kidneys; Renal Sufficiency. By Dr. Francis S. Watson and Dr. W. T. Bailey (*Boston Medical and Surgical Journal*, December 4th).—The technics of the phloridzin test is simple. The patient is given a subcutaneous injection of a sterile solution of equal parts of phloridzin and Na_2CO_3 . Five milligrammes of phloridzin are used for persons of moderate size and weight, and twice this quantity for persons of large size and unusual weight. Half an hour after the administration of the drug, sugar should appear in the urine if there is normal sufficiency of the renal function. Serious disease of the kidneys is indicated if no sugar is present, and if its appearance is delayed or only a small percentage is found, it is taken as an indication of renal insufficiency. The authors of the paper we abstract have carried out a considerable number of experiments of their own, and from them they draw the following conclusions: (1) That the average quantity of sugar eliminated in the first half hour after the administration of the drug subcutaneously in the doses stated, and when the kidneys are normal, is about 45 per cent.; and that the first half-hour's elimination is greater than the second half hour's by about .06 per cent. (2) When renal disease exists, the quantity of sugar eliminated in the first half-hour is, for a series of cases, about one half as much as when the kidneys are normal, and there is but very little more eliminated in the first half hour

than in the second. (3) The effect of ether anæsthesia is to stimulate the kidneys to greater functional activity, but the renal function is not, if gauged by the phloridzin test, in any way impaired by the anæsthesia. This is true of the kidneys when normal only; when they are diseased, ether fails to stimulate their function, and there is, moreover, relatively to normal kidneys, much less sugar eliminated in the first, than in the second, half hour after phloridzin has been given. On the whole the phloridzin test is too variable to be trustworthy, and the authors of the paper do not urge its adoption in preference to the former methods of urinary analysis for estimating the functional capacity of the kidneys.

A New Stain for Diphtheria Bacilli. By Dr. William Gray Schaeffer (*Medical Record*, December 6th).—The stain will differentiate the true diphtheria bacilli from the pseudo diphtheria bacilli. Even smears made from fresh diphtheritic membranes will show the characteristic staining. The method is rapid and trustworthy. The solutions used for making the stains are as follows:

Filtered solution of Löffler's methylene blue 10.0 c.c.
 Filtered solution of pyronin (Grübler).... 1.5 c.c.
 { Pyronin 0.5 gram. }
 { Aquæ dest. 10.0 c.c. }
 Three per cent. HCl—alcohol..... 0.5 c.c.
 { Alcohol absol 97.0 c.c. }
 { HCl (25 per cent.)..... 3.0 c.c. }

To prepare specimen: (1) Make a cover-glass smear and fix by passing through a flame three or four times. (2) Cover the smear with the stain and let stand one minute. (3) Wash in running water. Examine with a 1-12 oil immersion lens. The true diphtheria bacilli will be stained blue, with the poles a bright ruby red; the pseudodiphtheria bacilli are smaller and lack the red poles; the bacilli of Asiatic cholera and of plague show granular bodies in their interior, but these bodies are not metachromatic.

Changes in the Blood Produced by Chloroform Anæsthesia.—Dr. Umberto Baccarani Solimei (*Gazzetta degli ospedali e delle cliniche*, September 21st) found that the blood of animals that had been under chloroform anæsthesia if collected after the narcosis, was darker in color than normal blood. When collected in cylinders or flasks and heated on a water bath, this blood emitted a distinct odor of chloroform, and it coagulated less promptly than normal blood on standing. The specific gravity of the blood was raised after anæsthesia in proportion to the depth and duration of the narcosis, but the alkalinity was diminished in the same proportion. The effect of chloroform on the number of red cells is to diminish it, both in the superficial and the internal blood vessels. This diminution is marked for a few hours after the anæsthesia, and remains in some instances for forty-eight hours. The number of white blood cells is increased, both in the superficial and the deep vessels, but more markedly so in the superficial ones. The ratio between the red and the white cells is lowered; the deeper and the longer the anæsthesia the smaller this ratio; usually it is reduced to one half the normal. The number of blood platelets is increased, but the amount of hæmoglobin is not appreciably altered. In the spectroscopic the blood of animals that have been under chloroform

sufficiently long shows the absorption spectrum of methæmoglobin, but these lines are absent if the narcosis has been short or superficial. Chloroform tends to dissolve the hæmoglobin in the red cells and hæmoglobinæmia appears some time after the narcosis. Numerous and marked morphological changes are observed in the blood after chloroformization. The hyperisotomism of the plasma is diminished, and the bactericidal and globulicidal powers of the blood are increased by chloroform narcosis. Chloroform is a negatively chemiotactic substance. It diminishes the amount of oxygen absorbed and increases the amount of carbon dioxide in the blood. The modifications described last from a few hours to a few days after anæsthesia; they occur for the most part in proportion to the depth and duration of the anæsthesia, and vary with the technics employed in administering the chloroform. They must not all be attributed to chloroform; for one change in some instances produces another.

A Case of Cysts of the Head of the Pancreas and of Syphilitic Hepatitis Simulating Exactly Hanot's Cirrhosis.—Professor Luigi Ferannini (*Riforma medica*, September 18th and 19th) reports a case in which the difficulties of diagnosing cysts of the pancreas were well illustrated. The patient was a woman, aged forty-eight years, who had become jaundiced in October, 1901, at the same time complaining of pain of a vague character in the abdomen. The jaundice and pain did not disappear and the patient became exhausted through hunger and poverty. On examination she showed an intense jaundice, great emaciation, and a bulging in the region of the liver. On palpation a solid tumor was felt in this region, extending from the border of the ribs almost to the iliac spine, and moving with the respiration. Dullness was obtained on percussion over the whole area of this tumor, the rest of the abdomen presenting a normal resonance. The dullness was continuous with that of the liver. The urine showed a trace of albumin and the lævulose test (alimentary experimental lævuluria) was positive. The patient died of exhaustion a few days after admission. The symptoms pointed directly to Hanot's cirrhosis. At the autopsy the spleen was found enlarged to almost twice its normal size, the liver was enlarged with a thickened capsule, and an increase in interlobular connective tissue, and there were dilatations of the biliary channels, and fatty degeneration. The gallbladder and common bile duct were enormously distended, owing to pressure upon the ducts by a tumor, which was of the size of an orange and occupied the head of the pancreas. On incision this tumor was found to be a cyst filled with grayish turbid liquid. The lesions of the liver were syphilitic in character.

On the Evolution of the White Blood Cells.—Dr. G. R. Rubinstein (*Roussky Vratch*, October 26th), summarizing his researches on this question, says that he found in the human bone marrow, not only the usual forms of white blood cells, but also the forms that are rarely encountered under normal conditions. In the bone marrow the entire scale of white cells may be observed, and in nearly every microscopic field almost the entire series of white cells may be found, showing all the stages of its de-

velopment, from the lymphoid cell to the multinuclear leucocyte. These stages are still more apparent in bone marrow altered by leucocytosis. The study of the morphology of the bone marrow therefore confirms the theory of the evolution of the white cell from the lymphoid element to the multinuclear leucocyte. But in one respect experiments contradict this theory, and that is the hypothesis that the lymphocyte, *i. e.*, the cell derived from the lymphatic system of glands, is the mother cell from which the other types of white cells develop. The lymphoid cells of the bone marrow, *i. e.*, the primary forms of leucocytes of all kinds, were, however, found to originate, not in the lymphnodes, but in the bone marrow itself. It is still a question whether these lymphoid cells derived from the bone marrow form a separate group of cells or are in every way identical with the lymphocytes. Pappenheim found that the lymphocytes were identical with the lymph cells of the lymphnodes, but that they presented features in staining that differed from those of lymphnode cells and were present in marrow cells. Whether these primary forms be called lymph cells or lymphocytes they are the mother cells whence all the other types of leucocytes spring. They constitute an elemental part of the marrow, and are formed in that tissue, and not in the lymphnodes. The large lymphocytes, the origin of which was heretofore doubtful, are regarded by the author as descendants of large lymphoid cells of the bone marrow. Clinical facts also speak against the theory that all the leucocytes of the blood are of a common origin. For in leucocytosis, no matter what the cause of it may be, the increase takes place at the expense of the multinuclear neutrophils, which are, according to all theories, derived from the marrow. The author believes that these become matured from lymphocytes in the bone marrow, and are not derived from the lymphocytes of the glands or circulating in the blood, because these are not diminished in number in leucocytosis. He concludes that there is a constant connection between the bone marrow and the leucocytes of the blood, and that the bone marrow independently elaborates young lymphocytes from which the more mature forms are subsequently derived.

Methylene Blue and Eosin as a Stain for Cancer Sections.—Dr. L. Feinberg (*Berliner klinische Wochenschrift*, November 18th) says that using the method of Romanowski in rhizopods, he has shown that unicellular organisms possess no nucleoli and no nuclear substance, such as is seen in plant and animal cells. They have a nuclear point which is surrounded on all sides by nuclear fluid. These portions of the cell show different staining proclivities from those of their plant and animal analogues. The examination of sections of cancer growths showed that these contained elements which must be regarded as unicellular organisms. The author suggests a new classification of these minute organisms.

Bacteriology of Cystitis.—M. H. Hartmann and M. H. Roger (*Gazette hebdomadaire de médecine et de chirurgie*, November 19th) describe five cases of cystitis in which anaerobic bacteria were found. One of the cases showed a new form, the *Streptobacillus fusiformis*. The fusiform elements stain feebly and are easily decolorized by Gram's stain. Frequently the central part is occupied by a clear space giving

the impression of a diplococcus. They appear in chains of from two to five individuals. The significance of the presence of anaerobic bacteria in the bladder of persons suffering from cystitis is not clear, but the authors report their cases in the hope of stimulating further research.

Anaerobic Bacteria and Their Presence in Fœtid Suppurations.—Dr. Alex. Wallgren (*Centralblatt für Gynäkologie*, October 18th) says that, up to the present time, obligate anaerobic bacteria have been found in appendicular peritonitis, abscesses of the liver and lung, pulmonary gangrene, fœtid otitis, brain abscesses, and infections originating in the female genitourinary tract. The author reports a case of a woman who died of a brain abscess secondary to an acute parametritis. In the brain abscess were found all the bacteria which were originally contained and secured by culture from the pelvic abscess, including six obligate anaerobes. Four cocci and two bacillary forms were found.

Indicanuria and its Clinical Importance.—Dr. Pietro Porru-Costa (*Gazzetta degli ospedali e delle cliniche*, September 21st) has studied the clinical significance of indicanuria and comes to the following conclusions: (1) In addition to the indicanuria of putrefactive processes of the intestinal contents, which is recognized by all authorities, there is an indicanuria dependent upon disturbances of the general metabolism. (2) Indicanuria is a constant symptom in hepatic insufficiency. (3) Indicanuria is an important symptom in infectious states of the spleen. In examining the urine for indican, the usual methods consist in adding some acid and boiling the mixture until a violet color appears. The author calls attention to the fallacy of such tests, inasmuch as there are other substances in the urine besides indican, that may produce violet discoloration. The author rejects the methods of Jaffe and of Salkowsky as entirely too difficult and troublesome to be used in the clinic. The method of Wolowski (*Deutsche medicinische Wochenschrift*, January, 1901), adopted in the Berlin clinic, according to the author, is both difficult and uncertain. The chief difficulty of these methods is to obtain a solution of chlorine that contains one per cent. of the free gas. Calcium hypochlorite is of such uncertain and unstable composition, that it is almost impossible to make a solution of definite percentage. The author prefers the method of Wang to these qualitative tests. This method consists in converting the entire amount of indican into indigo and then into indigosulphonic acid, by means of sulphuric acid, and titrating with potassium permanganate. This method is, in brief, as follows: The urine is treated with a solution of twenty per cent. of lead acetate. To the clear filtrate an equal volume of Obermeyer's reagent is added, the mixture is then shaken with chloroform until the latter no longer absorbs any color. The chloroform extracts are then collected in a small porcelain capsule and distilled on the water bath. The dry residue is treated with 3 to 4 cubic centimetres of concentrated sulphuric acid, and after twenty-four hours, the capsule is washed out with distilled water, dissolving the contents. The indican solution is now titrated with a solution of potassium permanganate.

Diseases of the Intestines. Their Special Pathology, Diagnosis, and Treatment. With Sections on Anatomy and Physiology, Microscopic and Chemical Examination of the Intestinal Contents, Secretions, Fæces, and Urine; Intestinal Bacteria and Parasites; Surgery of the Intestines; Dietetics; Diseases of the Rectum, etc. By JOHN C. HEMMETER, M. D., Philos. D., Professor in the Medical Department of the University of Maryland, etc. In Two Volumes. Volume II, Appendicitis, Tuberculosis, Syphilis, Actinomycosis of Intestine, the Occlusions, Contusions, Rupture, Enterorrhagia, Intestinal Surgery, Atrophy, Abnormalities of Form and Position, Thrombosis, Embolism, Amyloidosis, Neuroses of the Intestines, Intestinal Parasites, Diseases of the Rectum. With Plates and many other Original Illustrations. Philadelphia: P. Blakiston's Sons & Company, 1902. Pp. xvi-17 to 679. (Price, \$5.)

The present volume, unlike the first, is mainly from the pen of Dr. Hemmeter. One section, that on diseases of the rectum, is contributed by Dr. Thomas C. Martin, of Cleveland. The plan outlined in Vol. I has been closely followed resulting in an extensive and complete work on Diseases of the Intestines.

As stated in the preface, the second half is largely devoted to the consideration of those pathological conditions that occupy the borderland between medicine and surgery. Chapter I deals with appendicular inflammation. The author recognizes appendicular colic, first described by Tolamon. The anatomical peculiarities of the appendix, the position of the cæcum, and habitual constipation are regarded as predisposing causes. The author strongly endorses Edebohl's method of palpating the appendix; in fact, he regards this as "the only means of instructing ourselves regarding the state of the vermiform appendix." He objects to purges, even in the early stages, preferring diet, rest, ice applications, and morphine in doses sufficient to allay excessive pain. The surgeon should be consulted for the chronic, relapsing form of catarrhal inflammation of the appendix. In suppurative inflammation the author quite properly opposes exploratory puncture. Considerable space is devoted to the presentation of the pros and cons of operative intervention. Hemmeter speaks in unmistakable terms in support of the clinician's (*i. e.*, the conservative) view. He appears to favor operation only where signs and symptoms indicate suppuration, and disagreeable clinical phenomena are increasing.

The other chapters deal with tuberculosis, syphilis, actinomycosis, occlusions, contusions, rupture, enterorrhagia, intestinal surgery, atrophy, abnormalities of form and position, thrombosis, embolism, amyloidosis, neurosis of the intestines, intestinal parasites, and diseases of the rectum. The longest section, naturally, is that on intestinal occlusions. This involved subject is treated in a masterly style. The chapters on the granulomata and on intestinal atrophy are especially interesting and instructive. About seventy pages are taken up with the consideration of the intestinal parasites. Having discussed the vegetable organisms in the first volume, the author now confines himself to the description of the transitional

(protozoa) and animal forms. Only the common varieties are discussed. The description of each, though brief, is sufficiently detailed to serve all practical purposes. Very good illustrations of almost every variety of parasite described accompany the text.

Dr. Martin's section on diseases of the rectum is a valuable addition to the book. Unfortunately, it has been allotted but a limited space in an otherwise very voluminous work. The text of this section is clear and concise, and the illustrations are numerous and excellent.

In general appearance and in style of composition and general arrangement, Vol. II is the counterpart of Vol. I. The work will appeal to the specialist and the instructor, as well as to all general practitioners who wish to consult an extended and thoroughly comprehensive work on diseases of the intestines.

A Manual of Surgical Treatment. By W. WATSON CHEYNE, M. B., F. R. C. S., F. R. S., Professor of Surgery in King's College, London, etc., and F. F. BURGHARD, M. D., and M. S. (Lond.), F. R. C. S., Teacher of Practical Surgery in King's College, London, etc. In Seven Volumes. Volume VI. The Treatment of the Surgical Affections of the Tongue and Floor of the Mouth, the Pharynx, Neck, Œsophagus, Stomach, and Intestines. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. xix-479. (Price, \$5.)

It was the original intention of the authors to present this work in six volumes, but they have found that it was impossible to do justice to the numerous subjects to be considered without making an unwieldy book. This would defeat one of the objects of the work, to give the reader a volume which could be comfortably held in the hand for easy reading. They therefore wisely decided to add a seventh volume to complete the series. We note acknowledgments to Dr. Otto F. F. Grunbaum, clinical pathologist to the King's College Hospital, for the chapter on rectal feeding, test meals, and leucocytosis; also further expressions of thanks to Mr. T. P. Collings for the illustrations, all of which have been prepared specially for this volume, with the exception, however, of figures 14 and 15, which were taken from Gray's *Anatomy*.

The first division of the book is divided into five chapters and considers the surgical affections of the tongue and floor of the mouth. Many happy suggestions are given in describing the treatment of these various affections. In reading over the treatment of leucoma, one might be led to believe that the lesion was always confined to the tongue, although we know that it quite as frequently involves the buccal mucous membrane, either as an extension of the lesion or as a primary affection. Chapter III is noteworthy for its pleasing descriptions of the non-malignant tumors of the tongue, in which is included the treatment of a nevus, macroglossia, or lymphangioma, and papilloma. Naturally we find more space devoted to the radical measures of treatment, for but little could be expected of any expectant plan. The second division of the book with its five chapters, treats of the surgical affections of the pharynx, Œsophagus, and neck. One of the most interesting chapters under this division is perhaps the one which

handles the affections of the cervical glands. The frequency of these affections has led the authors to devote considerable care and attention to their consideration. Numerous cuts are here found illustrative of the text, and they graphically portray the numerous forms of incisions necessary to reach the varying conditions so often met with in this affection.

The concluding division of the work takes for consideration the surgical affections of the abdominal wall and gastro-intestinal tract. The most noteworthy chapter of this division, we think, is the one on appendicular inflammation, which is full, terse, lucid, and well balanced, the outcome of careful and deep attention to the subject. The ideas expressed differ little if at all from those found in the more recent American textbooks. The perusal of this chapter in itself would well repay one.

Genitourinary and Venereal Diseases. A Manual for Students and Practitioners. By LOUIS E. SCHMIDT, M. Sc., M. D., Associate Professor of Genitourinary Diseases, Chicago Polyclinic, etc. Series Edited by V. C. PEDERSEN, A. M., M. D., Recently Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University, etc. Illustrated with Twenty-one Engravings. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 3 to 249.

This is an excellent quiz compend for students, and deserves extensive circulation among them. There seems, however, to be little presented in the book than cannot be found in most recent books upon the subject; in consequence it seems difficult to divine any advantage that can be gained to the specialist by its employment.

Handbuch der pathogenen Mikroorganismen. Herausgegeben von Professor Dr. W. KOLLE und Professor Dr. A. WASSERMANN, in Berlin. Mit einem Atlas photographischer Tafeln nach Originalaufnahmen zusammengestellt von Professor Dr. E. ZETTNOW, in Berlin. Erste Lieferung. Tafel I—II. Jena: Gustav Fischer, 1902. Pp. 176.

Appreciating the rapid increase in our knowledge of pathogenic organisms and the necessity for an authoritative treatise upon them, Kolle and Wassermann have edited a work on the subject of which this is the first part of the first volume. They have succeeded in obtaining a collaborating staff consisting of over forty prominent European bacteriologists. The mention of some of the names will in itself give a guarantee of a work of the very highest standard: Cornet, Ehrlich, Escherich, Metchnikoff, A. Neisser, M. Neisser, Nocard, Paltauf, Pfandlner, Petruschky, and Weichselbaum.

The work is to be completed in three volumes. The first and second are devoted to the ætiological significance, the methods of identification and the clinical and epidemiological relations of the pathogenic organisms (including those causing disease in animals). The third volume will be devoted mainly to the subject of immunity. Saprophytic bacteria are to be touched upon only in so far as a knowledge of the facts concerning them is of importance to the understanding of the pathogenic bacteria. The work is accompanied by an atlas edited by Zettnow.

The part in the hands of the reviewer contains an account of the historical development of the subjects of infection, immunity, and prophylaxis by Abel, and an article by Gottschlich on the biology and general morphology of the pathogenic organisms. The article by Abel is very complete and at the same time concise. The contribution by Gottschlich is replete with details; nothing seems to have been omitted. After speaking of the morphology, he describes fully the chemical side of bacterial action, and antagonism and symbiosis in mixed cultures. He then discusses the source of origin of infections, the method of entry of bacteria into the body, and their excretion. He then takes up at some length the question of air infection. Each section of the article is accompanied by a complete bibliography. It is pleasing to note that American investigations are not neglected.

The first part of the atlas contains a description of the methods used in obtaining the photomicrographs and two plates. These contain a large number of reproductions demonstrating the varying morphology of bacteria. The plates are perfect in every detail.

Judging from the list of collaborators and by the first installment, we have every reason to expect that this work will be the standard reference book on the subject of pathogenic bacteria.

Compend of Special Pathology. By ALFRED EDWARD THAYER, M. D., Assistant Instructor in Gross Pathology, Cornell Medical College, New York. Containing 34 Illustrations. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xiv-17 to 322. (Price, 80 cents.)

This Compend is supplementary to the one on general pathology by the same author which was published a few months ago. It is written for the use of undergraduates and contains much information not ordinarily found in quiz compends of this sort. There is a tendency on the part of the author to leave the usual beaten path; hence we find under diphtheritic angina two pages devoted to the preparation of diphtheria antitoxine, with a statistical table of the results of cases treated before and after the introduction of this serum. The agglutination reaction in typhoid fever and the directions for making this test belong more properly to general pathology. The text, however, is very accurate and students will find the subject presented to them in a very clear and interesting manner. A few errors are noted in the page references in the index. The book will serve the purpose for which it is intended, but it is not quite up to the standard of the author's previous compend.

Clinical Hematology. A Practical Guide to the Examination of the Blood with Reference to Diagnosis. By JOHN DA COSTA, Jr., M. D., Assistant Demonstrator of Clinical Medicine, Jefferson Medical College, Philadelphia, etc. Containing Eight Full-page Colored Plates, Three Charts and Forty-eight other illustrations. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. xxxi-19 to 474. (Price, \$5.)

In books intended for the use of students as well as for the busy practitioner it is most desirable that

facts should be presented in as condensed a form as possible. These classes of men have no available time for going over discussions of theory and editorial deductions of hypotheses. When more attention is given by an author to subjects which are still under judicial inquiry, such a work loses in so much its value as a practical guide. In this respect the objects of the title page have not been happily fulfilled. The book is too prolix; condensation would improve it. We certainly have an abundance of textbooks on the blood, and this one, while presenting nothing new or original, compares favorably with the others. The best chapters are on blood diseases and the changes in the blood in other diseases.

A Textbook of Anatomy. By American Authors. Edited by FREDERIC HENRY GERRISH, M. D., Professor of Anatomy in the Medical School of Maine, Bowdoin College. Second Edition, Revised and Enlarged. Illustrated with 1,003 Engravings in Black and Colors. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 5 to 944.

The speedy exhaustion of the first edition of this commendable product of American teachers of anatomy demonstrates the popularity of this textbook. While misgivings may have originally arisen as to its success because of the cooperative plan of the work, such have been destroyed by the adoption of this textbook in many teaching institutions. Its favorable reception on the part of the profession generally must be very gratifying to the authors, who, while they have adhered to the conventional plan of presenting the subject, have imparted an agreeable style and joined their facts in such relations as to take away the necessarily dry, uninteresting incubus of a mere exposition.

This edition has been revised in such a way that new matter has been added wherever the progress of anatomical science demanded it. In the chapter on relational anatomy, drawings of sections of different levels have taken the place of the former schematic device. The various parts in these have been directly labelled as far as was practicable. Some illustrations have been replaced by others which are better adapted to impress the mind seeking anatomical knowledge. A useful feature in the chapter on osteology has been the addition of a series of drawings showing the areas of muscular attachments to the bones. The work is now enriched pictorially to the extent that more than one thousand illustrations are used to demonstrate the text.

Essentials of Histology. By LOUIS LEROY, B. S., M. D., Professor of Histology and Pathology in Vanderbilt University, Nashville, Tenn., etc. Arranged with Questions following each Chapter. 92 Illustrations. Second Edition. Revised and Enlarged. Philadelphia and London: W. B. Saunders & Company, 1902. Pp. 11 to 263. (Price, \$1.) (*Saunders's Question-Compend.*)

This is an excellent Compend, giving the main points in histology without any elaboration. The illustrations are effectively drawn and several clear photomicrographs have been added to the second edition. The final chapter, on technics, is especially

valuable, and the directions for the various procedures in microscopical work are given in a manner that cannot fail to impress the student. The book is a very satisfactory one of its kind and is deserving of much praise.

The Medical News Visiting List. 1903. Thirty patients per week. Philadelphia and New York: Lea Brothers & Company, 1902.

This visiting list devotes each open page to one week, and includes spaces for patients' names and addresses, daily visit columns, charge, brought forward, total, and memoranda. The visiting list proper is preceded by 32 pages of letter press containing memoranda on dentition, the usual scales and tables, examination of urine, poisons and antidotes, dose list, therapeutic index of diseases, a very useful illustrated emergency résumé on the ligation of the principal arteries, etc. There are various modified forms of the book, dated and undated, monthly and weekly, the latter for either thirty or sixty patients. It is undoubtedly an excellent book of its kind.

The Physician's Pocket Account Book. By J. J. Taylor, M. D. Published by the *Medical Council*, Philadelphia, Pa. (Price, \$1.)

This is a serviceable combined visiting list and account book. It consists of some two hundred pages, each page ruled for one responsible client, whose name and address are written at the top. Each horizontal line below is ruled for date, person to whom the services are rendered, description of service, and debtor and creditor columns. At the end are a few pages similarly ruled for shorter accounts—several to the page. These pages are preceded by an index and sheets for balances to be brought forward from preceding books. A cash account closes the book, which measures $4\frac{1}{2}$ by $7\frac{1}{2}$ inches, and is retained by means of a flap in a leather wallet with pocket.

BOOKS, ETC., RECEIVED.

Biological Laboratory Methods. By P. H. Mell, Ph. D., Director of Alabama Experiment Station, etc. New York and London: The Macmillan Company, 1902. Pp. xii-321. (Price, \$1.60.)

The Blood: How to Examine and Diagnose its Diseases. By Alfred C. Coles, M. D., B. Sc. of Public Health, Edinburgh, etc. Second Edition. With Six Colored Plates. London: J. & A. Churchill. New York: P. Blakiston's Son & Company, 1902. Pp. x-286.

Diseases of the Skin. A Manual for Students and Practitioners. By Alfred Schalek, M. D., Instructor of Dermatology, Genito-urinary, and Venereal Diseases, Rush Medical College, Chicago, etc. Series Edited by V. C. Pedersen, A. M., M. D., Recently Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University, New York, etc. Illustrated with Thirty-four Engravings. Philadelphia and New York: Lea Brothers & Company, 1902. Pp. 5 to 225. (Price, \$1.)

Physician's Pocket Account Book. By J. J. Taylor, M. D. Philadelphia: The *Medical Council*, 1902.

Memoranda on Poisons. By Thomas Hawkes Tanner, M. D., F. L. S. Ninth Revised Edition by Henry Leffmann, A. M., M. D., Professor of Chemistry in the Woman's Medical College of Pennsylvania, etc. Philadelphia: P. Blakiston's Son & Company, 1902. Pp. 5 to 177.

La figure humaine. La beauté de la femme. Par Le Dr. C. H. Stratz. Traduit de l'allemand par Robert Waltz. Ouvrage orné de 180 illustrations. Paris: Gaultier, Magnier et Cie, 1902. Pp. iv-337.

Letters to the Editor.

RHUS POISONING.

BROCKTON, MASS., November 4, 1902.

To the Editor of the New York Medical Journal:

Sir: Referring to your discussion of the treatment of ivy poisoning, I would state that a saturated solution of hyposulphite of sodium in water gives immediate relief and a speedy cure. If applied as soon as the first itching is noticed, it can be cured in a few hours. Frequent applications, letting it dry into the skin, are all that is required. It has given immediate relief in my own case and to a great many others who have tried it.

It also works quite well in poisoning by dogwood (poison sumach).

If you will give this publicity, you will deserve the thanks of your readers.

F. A. HOWARD.

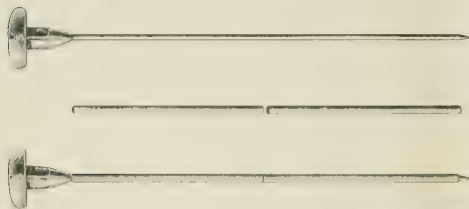
New Inventions.

A NEW TAPPING INSTRUMENT.*

By FREDERIC GRIFFITH, M. D.,
NEW YORK.

SURGEON TO THE BELLEVUE DISPENSARY; FELLOW OF THE
NEW YORK ACADEMY OF MEDICINE.

This instrument has been devised for the purpose of instituting irrigation after tapping fluid collections. Made in various sizes it consists of a trocar and two snugly fitted cannulas.



After penetration through the surface wall, the point of the instrument is reentered and made to emerge at some dependent point. Withdrawal of the trocar leaves two drainage tubes in position, to which any form of aspirating or irrigating apparatus may be attached. The instrument is of simple construction to facilitate sterilization.

Thus far the instrument has been successfully employed in seven cases of hydrocele and in one of housemaid's knee. My idea is that the prompt and violent inflammatory reaction which obtains and is counted as proof of cure, especially in cases of hydrocele, by the counter irritants employed in the various injections used in the treatment of them, becomes so much energy wasted, and that by the coagulating power of heat in hot water used as hot as the patient can stand, I can secure organization between the opposing walls of the tunica vaginalis, in the case of the scrotum, or the sac wall, in bursal enlargements, with least possible inflammatory reaction.

* Presented before the surgical section of the New York Academy of Medicine, November 10, 1902.

I wish also to recommend that a trial of the instrument be made in chest effusions, believing that it is practically fitted to wash out or medicate the pleural cavity after withdrawal of such fluid has been accomplished.

Messrs Kny Scheerer have copied the models which I have made.

805 MADISON AVENUE.

Miscellany.

The New Bellevue Superintendent.—The trustees of Bellevue and Allied Hospitals have invited Dr. William Mabon, the medical superintendent of the St. Lawrence State Hospital at Ogdensburg, to accept the position of superintendent of the hospitals under their charge.

Dr. Mabon graduated from the Bellevue Hospital Medical College in 1881. After several years spent in private and hospital practice, he entered the service of the State in 1887, having received the appointment of assistant physician at the Utica State Hospital for the Insane. He remained at Utica until October, 1895, when he was appointed medical superintendent of the Willard State Hospital. This hospital was in need of reorganization, and it was believed that Dr. Mabon's experience and training and executive ability qualified him for the work. In one year the hospital was placed upon a sound administrative basis, and in October, 1896, the managers of the St. Lawrence State Hospital at Ogdensburg called him to the superintendency of that hospital, to succeed Dr. Wise, who had been appointed president of the State Commission in Lunacy. Under Dr. Mabon's management, the reputation of the hospital as leading in all the best methods for the treatment of the insane has been fully maintained.

With the consent of the State Commission in Lunacy and of the State and Municipal Civil Service Commissions, Dr. Mabon now returns to New York, and will take charge of Bellevue and its allied hospitals on the 1st of January, 1903. In view of his lay experience in the State service and his proved administrative capacity, it is confidently expected that he will raise these hospitals to the highest state of efficiency. In addition to his executive duties, Dr. Mabon will also act as consulting physician to the Pavilion for the Insane of Bellevue Hospital.

Rest and Strychnine in the Treatment of Persistent Mentoposterior and Occipitoposterior Positions.—At a meeting of the New York Obstetrical Society held on November 11th, Dr. J. Clifton Edgar presented a report of two cases: one of persistent right mentoposterior position of a macerated fetus, the other of a persistent right occipitoposterior position of a premature fetus. Secondary inertia in both cases was treated experimentally with strychnine, given to the physiological degree, and anterior rotation and spontaneous delivery occurred. Tracings of the mouldings of the fetal heads and five photographs of the heads in different positions at the vulvar orifice were shown.

Dr. Jewett, in the discussion, said that Dr. Edgar's experiment was interesting, as showing the

possibilities of expectant treatment with a normal head. Strychnine he believed to be a good adjunct in obstetric practice.

Some Cases of Puerperal Sepsis and Their Treatment.—At the same meeting Dr. W. S. Stone read a paper thus entitled. An experience with twenty-seven cases in the Septic Service of the Society of the Lying-in Hospital formed the basis of the paper. The histories of nine were related in detail, together with the pathological and bacteriological reports of three autopsies.

There were sixteen examples of septic intoxication, eight of septicæmia, one of pyæmia, and two of doubtful origin. The important features of these cases were as follows: With the exception of putrid uterine contents, appreciable lesions of the pelvis were frequently absent. Distinct evidences of the effect of septic poisons upon the kidneys were very constant. A similarity of some cases of eclampsia to those of septic intoxication was noted. Lesions in the lungs were a frequent manifestation, the chief characteristics of which were their variability in kind and degree. Destruction of the red cells and hæmoglobin were present to such a marked extent in some cases that treatment of the blood required the chief consideration.

As a measure for preventive treatment, the more general use of rubber gloves in obstetrics was recommended. Aseptic rather than antiseptic methods in the local treatment were to be preferred. An intrauterine exploration, usually under anæsthesia, and the cleansing of the interior of the uterus with fingers or instruments, were urged in every case at the beginning of treatment, unless there were infected wounds of the vagina or cervix which were presumably the cause. Subsequent intrauterine douching was rarely necessary. Special attention was directed toward such general measures as forced feeding, stimulation, the use of iron, and abundance of fresh air.

The successful outcome of many apparently hopeless cases, treated by such measures, should make one carefully deliberate before adopting operative procedures, although the result of the autopsies in two of the writer's cases showed that hysterectomy would have been indicated if there had been an early appreciation of the pathological condition.

In the discussion of the paper, Dr. Charles Jewett said that he had used gloves in his obstetric work for three or four years, but as yet was unprepared to say whether he had had better results with or without them. Care must still be used in making internal examinations, and great pains must be taken to see that the gloves were thoroughly boiled. Rubber gloves, he thought, found their best use in obstetric practice.

Dr. George L. Brodhead thought that the most important point for discussion was that part of the paper which dealt with preventive treatment. He considered an important point in this regard was the removal of the hair from the vulva, which seemed to him as important in obstetrics as in gynæcology. He thought rubber gloves should be worn in all operations upon septic patients or those who might possibly be septic and in all cases immediately following septic operations.

Dr. W. R. Pryor considered that we were not warranted in calling cases septic unless pathogenic bacteria were found in the uterus, an examination for which was of the greatest importance in applying the proper treatment, inasmuch as curetting in septic cases carried with it a mortality of from twenty-two to fifty-nine per cent.

Dr. G. T. Harrison spoke of the danger of the use of the curette in both the sapræmic and septic cases, and of strong antiseptics in intrauterine douches.

Dr. W. Gill Wylie spoke of his own success in the treatment of puerperal sepsis since 1872 by the use of antiseptics, particularly by the application of strong carbolic acid to the interior of the uterus and subsequent intrauterine irrigation with a weak solution of the same.

Dr. R. H. Wylie thought that it would not be wise to dispense with antiseptics entirely, as, for example, in cleansing the external genitals.

The Patron Saints of Medicine.—St. Luke is generally regarded as the patron saint of medicine, but he has no monopoly of that position. The *British Medical Journal* for October 11th gives a very interesting account of SS. Cosmas and Damian, who have been held as the patron saints of medicine from the earliest Christian times, although in England and France they were held as the special patrons of surgery, St. Luke being the patron of physicians. The guilds of the middle ages, whose lineal successors in England at the present day are the City Companies and the Colleges of Surgeons and Physicians, had each its patron saint, and the business meetings were usually held following on the religious observances connected with the festival of the saint. The chief surviving relics of these old-time religious festivities are now the world-known City Company dinners! But the annual medical commencement taking place on October 1st in most countries, is a relic of these celebrations of the feast of SS. Cosmas and Damian, which appears in the Church's Calendar on September 27th.

The *Journal* says:

"The traditional history of SS. Cosmas and Damian, as they have always been called in England, is interesting, quite apart from the fact that they apparently bridge over the interval between the heathen and Christian myth and are probably only a Christianized form of Æsculapius himself. The story runs that Cosmas and Damian were twin brothers—Arabians by birth—who dwelt at Aegæ, a city of Cilicia, where was a temple of Æsculapius famous for its cures until it was destroyed by Constantine. Brought up by their mother, the pious Theodora, their charity was unbounded. They lived in complete abstinence, studying medicine and surgery the better to relieve the sufferings of their infirm and wounded neighbors. God so blessed their endeavors that they became the most perfect physicians the world has ever seen. They ministered to the wants of all who sought their help, whether rich or poor, and did not disdain even the suffering of animals. Moreover, they steadfastly refused all payment for their services, exercising their art only for the love of God and for charity, so that they earned for themselves the title of ἀνάργυροι, or the moneyless, because they took no fees. Evil days befel them under the dominion of Diocletian and Maximian,

those wicked emperors. They were seized by Lycias, the proconsul of Arabia, and were thrown into prison as professing Christians. On the following day the proconsul, sitting on the judgment seat, caused an enormous fire to be made, and the men being led out of prison were cast into its midst. But the fire lost its power over them whilst they prayed. The governor was astounded, and the executioner, thinking that they had used magic, put them again to the question. And when they remained firm and of joyful countenance, rendered more noble by the torture, he ordered crosses to be made and the martyrs being stretched upon them were pelted with stones. But the stones recoiled on those that flung them, till the governor, inflamed with excessive rage, commanded to attack them with arrows. Many of those who shot the arrows and those who stood near were grievously wounded, yet did those blessed saints remain unharmed—so runs the testimony. The governor, seeing, accordingly, that his will was overcome by Divine power, ordered them to be mutilated with the sword. The martyrs suffered death on December 27th, A. D. 303, and their bodies were buried by devout men in a holy spot near the City of Aegae, whence they were moved to Bremen, and it is said that their relics were translated to Munich in 1649, their heads having already been buried there in 1605.

"The legend is of great antiquity, and was carried into Western Europe in the first ages of Christianity, for one of the most interesting of the old churches at Rome is that erected in honor of SS. Cosmas and Damian by Pope Felix IV, in A. D. 526. It stands in the forum, and is said to rest on the site of the Temple of Remus. It was in this church that the celebrated dream occurred which became so well known in monkish story that it may well have tintured the fevered fancy of Rahere, and so, many hundred years later, inspired his dream which led indirectly to the foundation of St. Bartholomew's Hospital in Smithfield.

"Thus say they, speak they, tell they the tale of this dream: A man who had a cancer of the leg journeyed to Rome to pray in the church of the beneficent saints. When he had prayed a deep sleep fell upon him and in his sleep he beheld St. Cosmas and St. Damian standing beside him, the one carrying a box of ointment, the other a sharp knife. And he who bore the ointment said, 'What shall we do to replace this diseased leg when we have cut it off?' and the other replied, 'There is a Moor buried just now in San Pietro in Vincole, let us take his leg.' Then they brought the leg of the dead man and with it they replaced the leg of the sick man, who became whole, being anointed with the celestial ointment. When he awoke he almost doubted of his own body, but his friends, seeing that he was healed, looked into the tomb of the Moor and found that there had been an exchange of legs, so that the truth of this great miracle was known to all beholders.

"In devotional pictures the Saints are always represented together attired in the habit of physicians, a loose red robe trimmed with fur, and generally with red caps. They hold a little box of ointment in one hand, with a lancet or some surgical instrument in the other, sometimes it is a pestle and mortar. In later days in Italy SS. Cosmas and Damian became the patron saints of the Medici family.

"The Saints whose history is here summarized are those best known to the Latin Christians. A pair

with similar names lived earlier, and were still more celebrated in the Eastern Church. Their festival was held on July 1st, and it is reported that they lived in the reign of the Emperor Carus, whom they cured of a wry neck, a success which was so envied by their master and former teacher that he caused them to be stoned to death.

"A third pair of saints, named Cosmas and Damian, lived at a much later period. They were sons of Theodotus, and were doctors and veterinary surgeons of renown. It is reported of them that a woman named Palladia once gave this Damian three eggs as a reward for a cure, a gift which so enraged Cosmas that he forbade his neighbors to bury his brother with him in the same tomb. But after their death, and while the people were debating what should be done with the corpse, a camel cured by the saints spoke, and absolved Damian, saying that he had been compelled by a vow to take the eggs, and they were not in the nature of a fee."

Of St. Luke, as a physician, not very much is known, but according to Dr. Edward Clapton, whose monograph on St. Luke the Physician is commented on in *American Medicine* for November 29th, he was born at Antioch, in Syria, about 15 B. C. This city had a university and medical school, at which Luke doubtless studied. He was a Greek gentile, but became a Jewish proselyte while at the university, and settled in Jerusalem when about twenty-four years of age, and probably remained there until the conversion of St. Paul. *American Medicine* continues:

"With the first gathering of the Church at Antioch he was sent there to reside and confirm its members. When there he arranged most of his writings for publication. In the time during which he was in Greece, before the arrival of St. Paul, he evidently had to do with the management of the churches 'before going and tarrying for Paul'. His ministrations in these churches had taken him on his way through Pergamos, which at that time had the largest library in the world next to Alexandria, and near which on a conical hill had been erected the temple of Æsculapius. His wanderings also took him to Epidaurus, where there was a famous temple of Æsculapius and a school of medicine, and hospital for 128 in-patients. Luke also mentions his visits to Cos, the island on which Hippocrates was born, and where there was a celebrated school of medicine as well as a museum and hospital. Hence it would seem that while St. Luke is best known to us as the apostle and minister, added to his thorough medical education, he must have had an unusually comprehensive idea of the state of medical science at that time from a visit to the chief centres of medical education of that day, and association with men prominent in his profession. As a physician his practice was not Æsculapian or Jewish, but Greek, according to the best principles of that day. The universal testimony is that St. Luke was a most faithful, pious, and self-denying Christian; that he had a cultivated intellect, and was thoroughly honest and impartial in all of his descriptions of persons and events. He described nothing but what he witnessed himself or received direct from those immediately concerned in what he so faithfully recorded. He met his death about the year A. D. 67, at the age of eighty-two. It seems a great misfortune that more is not known with regard to his medical career."

The New York Medical Journal

A Weekly Review of Medicine

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SATURDAY, DECEMBER 27, 1902.

WHOLE No. 1256.

Original Communications.

THE OPERATIVE TREATMENT OF DEFORMED FRACTURES AS INDICATED BY THE RÖNTGEN RAYS.*

By CARL BECK, M. D.,
NEW YORK.

PROFESSOR OF SURGERY IN THE POST-GRADUATE MEDICAL
SCHOOL AND HOSPITAL; VISITING SURGEON TO ST.
MARK'S HOSPITAL AND THE GERMAN
POLIKLINIK.

Malunion is often followed by such changes in the direction, shape and length of a limb, that its function becomes impaired or annulled. Impairment of shape is generally not so grave as that of length, especially when the lower extremity is concerned.

The projecting ends of fragments, when united in a false position, frequently produce irritation of the neighboring tissue. It may be a keen-edged fragment which, if not reduced at once, may put the overlying skin under such extreme tension, that gradual penetration will take place. This event, changing a simple fracture into a compound one, is favored where bone surfaces are located superficially, as at the tibia and the lower third of radius and ulna.

Or the displaced fragments may be situated in the neighborhood of a joint, one riding upon the other, so that extreme protrusion of one of the fragments is caused. This would render the motion of the joint painful or even impossible. If the fragments protrude far, as often happens when they are in juxtaposition, there is compression of the soft tissues. A nerve passing over this region will then be dislocated or unduly stretched, so that atrophy or inflammatory irritation may result. In the latter instance neuritis, in the first paralysis, may be expected. Among all nerves the radial is the one most frequently concerned. I have described cases of this kind in previous publications (see *Fortschritte auf dem Gebiete der Röntgenstrahlen*, Band v, Hamburg). The axillary plexus may be injured in fractures of the clavicle followed by backward displacement and by that of the neck of the humerus, the ulnar by fracture of

the ulna or the lower end of the humerus; the median nerve in compound fracture of the humerus and radius; the tibial nerve after fracture of the tibia; and the peroneal after fracture of femur and fibula.

Up to the present time the correction of these deformities has not been frequently undertaken, although the Röntgen rays now enable us to make a thorough diagnosis of the anatomical relations of the fragments, as well as to outline our operative steps in advance. I have taken every opportunity to criticize this deplorable indifference and to emphasize the feeling of security the surgeon enjoys now while proceeding under the mentorship of the

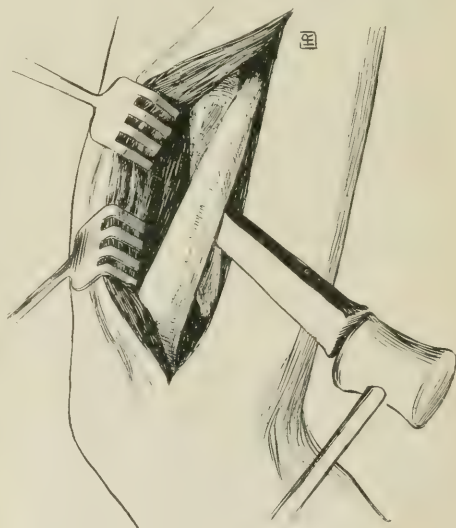


FIG. 1.—Separation of the fragments by the chisel in juxtaposition.

skiagraph. The direction of the displacement can easily be ascertained, and if two or three weeks only have elapsed, the refracture under anæsthesia at the edge of the table will often suffice to correct the malunion. In a case of fracture of the surgical neck of the humerus, in which the diaphysis had slipped upward alongside the head of the humerus, union had taken place in juxtaposition. Although five weeks had elapsed, I succeeded in refracturing the fragments by bending them over the edge of the table (illustrated in the *Münchener medicinische*

* Read at the annual meeting of the New York State Medical Association, October 23, 1902.

Woch., No. 17, 1901). Without the guidance of the rays which showed the anatomical relations most clearly, I should have had neither the courage nor the ability to perform the correction, which, in fact, was done easily enough, since I could estimate exactly how to direct the force of my manipulations. The transverse fractures refracture may even be tried months afterward, provided there is axial displacement.

If such procedures fail, the only remedy consists in osteotomy in the fracture line. This is especially indicated when the fragments are in juxtaposition (Fig. 1). If thorough aseptic precautions are taken, tearing of the wound edges especially being avoided, and the wound itself coming in contact with the hands of the surgeon as little as possible, no reaction will take place. It is true that the hand operates, but it should do it by means of the sterilized instruments altogether, the necessity for bringing the hand in direct contact with the wound arising very rarely.

In fracture of a single bone, such as the femur or humerus, a longitudinal incision should as a rule be made, over the most prominent part of the displaced fragment, except it be in the immediate neighborhood of a large vessel, which is to be avoided. In fracture of the femur, for instance, the exterior or posterior surface should be preferred.

In fracture of two bones (tibia and fibula or radius and ulna) a semilunar incision, preferably on the extensor surface, is recommended, since it exposes both bones simultaneously. The periosteum is divided longitudinally and shifted aside by the use of a periosteal elevator. Old adhesions are thoroughly freed with the bone knife, and the united ends separated with hammer and chisel (linear osteotomy). Then the fragments are bent, the whole limb being folded, so to speak (see Corrected Malunion in Fractures, etc., *American Journal of the Medical Sciences*, April 1902). An assistant steadies the two folded portions after they are encircled with a strong bandage, so that the bone ends can be trimmed properly. This can be accomplished in various ways, my own experience being in favor of triangular indentation (Fig. 2). This mode of procedure per-



FIG. II.—Bone indentation.

mits of a most accurate adaptation and immobilization, and seldom requires the use of foreign bodies for fixation. A wedge is removed from one end of the fragments, into which the other end is made to fit by the use of a saw (preferably a wire saw). In bones presenting broad transverse surfaces the

adaptation may be made still more intimate by creating two triangular tips fitting into two proportional wedges. After the fragments are well approximated, the periosteal margins, as well as the fasciæ, are united separately. Hot sterile water is often brought in contact with the wound during operation, to check hæmorrhage from the medullary canal. If aseptic precautions, hæmostasis, and coaptation are perfect, no reaction follows. The wound is simply protected by iodoform gauze and a piece of mossboard, and a fenestrated plaster of Paris dressing is applied over the wound dressing. In operations on the femur such immobilization may be combined with an extension apparatus. Since the Röntgen rays permeate even the plaster of Paris dressing, the immediate result of the coaptation is easily studied, and modified if necessary.

Approximation and fixation can also be accomplished by the use of silver wire, which is drawn through holes bored in the end of each fragment. In oblique fractures wiring is indispensable (Fig. 3).

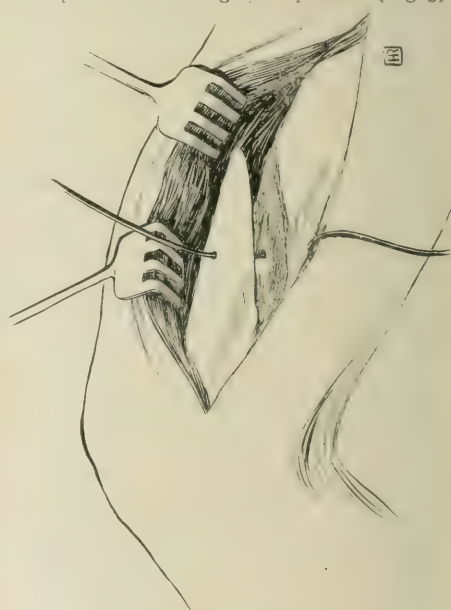


FIG. III.—Wiring in Oblique Fracture.

The irritation of the wire, however, is a disadvantage, and its use should be avoided whenever possible. If I am compelled to use a wire, I refrain from burying it, leading the ends to the surface and enveloping them in iodoform gauze. Screws, clamps, and similar appliances should be resorted to under extraordinary circumstances only.

When there is much loss of bone tissue, implantation of a parallel bone may be recommended, a fibular

fragment, for instance, being inserted into the medullary canal of the tibia. After successful union, the formerly thin bone sometimes reaches a considerable size. Thus, I have observed development of the fibula to such an extent that the circumference of its middle portion became even larger than that of the tibia.

In deformities of the diaphysial ends a wedge must sometimes be excised, in order to secure perfect apposition. Especially in deformed union of the malleoli, causing abduction of the foot, this procedure must be resorted to (Fig. 4). Prominent



FIG. IV.—Deformed union of tibia and fibula, causing synostosis of both bones and nerve pressure followed by great functional disturbance (skiagraph taken eleven years after the injury).

bone portions which offer an obstacle to perfect reposition must be removed by the chisel. Such fragments often cause pressure upon an adjacent nerve, the relief from which may cure neuritis or paralysis. The protruding portion is chiselled off after the periosteum is carefully lifted from it. Then the com-

pressed nerve must be freely exposed and properly replaced. The periosteum is united with thin catgut. Conclusions upon the anatomical condition of the compressed area can be drawn by faradaic test, which, by proving the integrity of the nerve below the injured portion, promises restoration. In the course of time, however, degenerative processes may be expected. Still, even under such circumstances, restoration is observed after the relief of pressure.

Pressure may also be caused by the formation of callus or fibrous adhesions. In the great majority of cases, the radial nerve is compressed. Sometimes the nerve is found imbedded in a regular osseous canal or tunnel, in which case Nature has admirably tried to create a special protection against compression. In a case of this kind surgical interference appears only necessary when the nerve is kinked at its entrance or exit.

Interposition of a nerve between the ends of the bone fragments is another cause of neuritis or paralysis. Its frequency seems to be entirely underestimated. The musculospiral (radial) nerve, especially, shows a great tendency to interposition, which finds its explanation in the spiral track in which it winds around the bone. Similar dispositions are shown by the peroneal nerve.

If the contusion of the nerve is not severe, and the incarceration insignificant at the time the fracture is sustained, symptoms of neuritis or paralysis may be postponed until further consolidation of the fragments includes the nerve in callus tissue.

Nerve interposition may be suspected whenever there is intense pain or numbness in the range of its course. By pushing the lower fragment toward the upper in a vertical direction, the symptoms are markedly increased.

In fractures of the lower half of the humerus or the upper end of the fibula the possibility of nerve interposition should never be lost sight of.

The Röntgen rays give us no direct information. Still, if they show us diastasis of the fragments within the area of the nerves mentioned, interposition of some kind must be assumed. If, in longitudinal displacement, the diastasis does not disappear, no matter how the position of the fragments be changed, and if crepitus cannot be perceived during these manipulations, the assumption of interposition becomes a certainty. This interposition may be simply muscular and no nerve may be enclosed; but in the majority of cases, nerves are drawn in with the muscular tissue.

The skiagraph Fig. 5 illustrates a condition of this kind, which, however, was not recognized in its initial stage. The patient, a man of fifty years, sustained a subcutaneous fracture of the humerus and a multiple compound fracture of the forearm by extreme violence. Amputation of the forearm had to

be performed, while the fracture of the humerus was treated by splints. A few days after the accident intense pain around the amputation wound was com-

be immovable. Manipulations were painful. This suggested to me that there was pressure of the nerve ends requiring secondary amputation. The bone

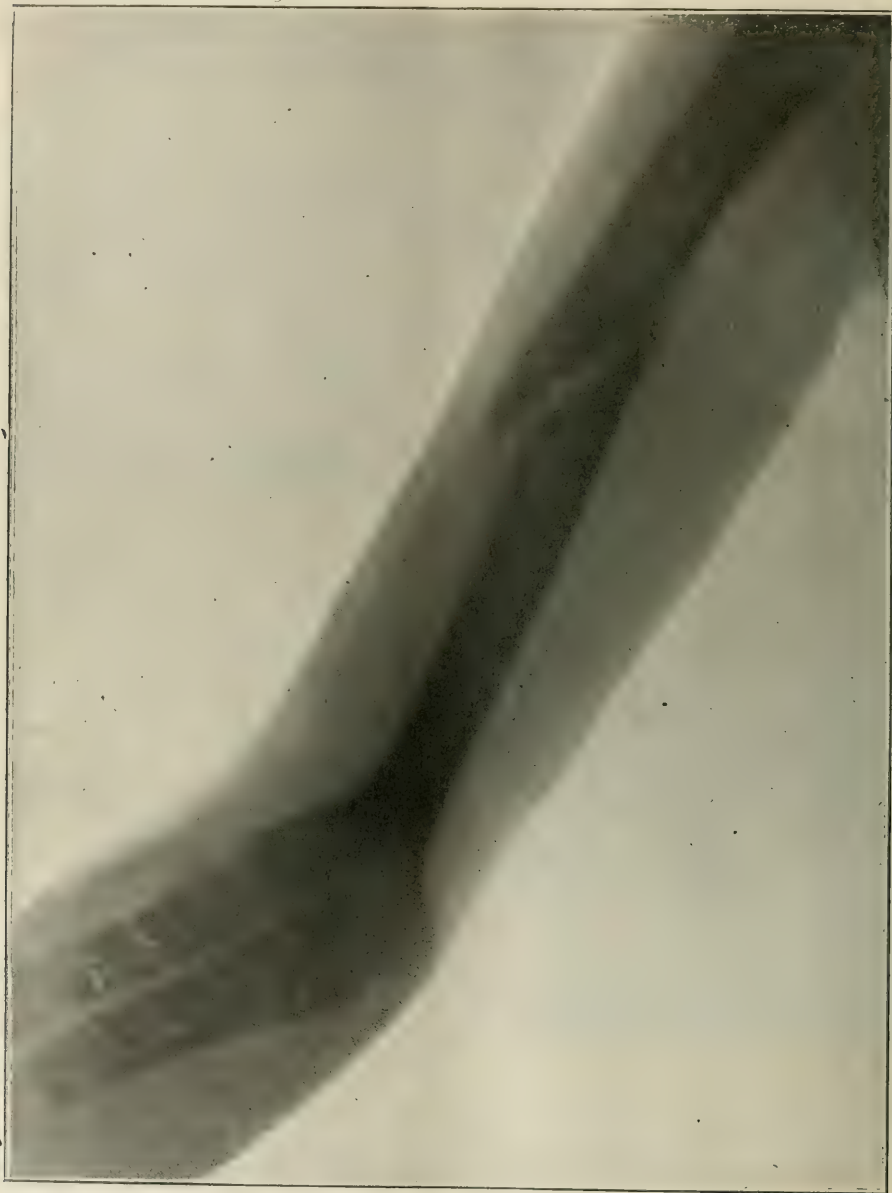


FIG V.—Diastasis of fragments caused by the intervention of soft tissue.

plained of, which radiated upward alongside the arm. When I saw the patient for the first time, the thin, irregular, and fibrous cicatrix appeared to

ends, after being trimmed, were covered with periosteum and a thick musculocutaneous flap. Four weeks thereafter there was perfect mobility, the pain

around the stump had lessened, but persisted still alongside the arm. From the diastasis between the fragments of the humerus, as it is shown by the skiagraph Fig. 5, I concluded that the source of this



FIG. VI.—Fractured head of the radius laterally displaced.

pain was at the fractured area, pressure being exercised upon the musculospiral nerve by interposition. This proved to be true when I made an incision upon the fractured area, in which I also found a small bone splinter shifted between the two diaphysal fragments and overbridged by ensheathing callus. The front view of the skiagraph showed this splinter but indistinctly, but a side view proved its existence. Fibres of the biceps muscle as well as a portion of the musculospinal nerve were pulled into this conglomerated area by the small splinter. The splinter, as well as the ensheathing callus, which formed a superficial bridge, was removed, the muscular fibres pushed backward, and the nerve dislodged laterally. The fragments, after being trimmed, were united with silver wire. The pain decreased considerably, but continued in a moderate degree for three months thereafter.

Another result of the intervention of muscle, as well as of nerve tissue, is the development of pseudarthrosis.

If the efforts at reposition of the fragments fail to free the interposed tissues, the injured area must

be extensively exposed. The compressed nerve is then lifted and displaced laterally from the fragments, which are eventually put in apposition by wiring. If the nerve is lacerated it must be properly trimmed. If it is separated in its continuity, neuroorrhaphy must be undertaken. In the latter event, which is rare, the symptoms are, of course, well marked, the power of conduction within the extent of the nerve below the fractured area being suspended.

In studying the ætiology and the mechanism of deformed fractures and their sequelæ the question is obvious, Why not prevent them at the start? Since we can, with more or less accuracy, estimate the result, why wait till the tissues degenerate and the deformity becomes established? Before the advent of asepsis the *laissez aller* policy was defended through the fear of wound complications, and before the Röntgen era the uncertainty of a detailed diagnosis offered a more or less justifiable excuse. These times had passed, even before the discovery of the rays, and later the genius of Kocher emphasized the



FIG. VII.—Displacement of the head of the radius, shown by Fig. vi, still more increased by vain efforts at reduction (skiagraphed through fenestrated plaster of Paris dressing).

need of treating irreducible fractures by early operation Helferich, McBurney, Bull, Berger, and Ransohoff followed his teachings. But they did it spasmodically, without following a logical and dis-

criminative manner.' The skiagraph shows whether a displaced bone fragment can be reduced or not on the day it is fractured. If reduction under anæsthesia cannot be accomplished, reposition by open exposure must be attempted. If this is omitted, the fragment may present an obstacle to important functions. In deformities caused by diaphysial fractures, much interference is but seldom indicated. But in spiral shaped and multiple fractures situated in the immediate vicinity of joints, it is a necessity, if the function of the joint is to be preserved.

The question whether there should be an operation or not is sometimes settled only after several at-

usual methods without being able to recognize any marked symptoms of fracture, except at the outer aspect of the external condyle. But the skiagraph revealed the presence of the fracture of the head of the radius (Fig. 6), associated with considerable displacement, infraction of the external, and fracture of the internal epicondyle, the latter injuries without displacement. Since I could locate the displaced radial fragment so well by the rays, I assumed that I could now also succeed in reducing it. But I was not able to palpate it. A fairly large number of physicians tried the same, but none could feel it. So I marked the position of the fragment as my anatomical knowledge indicated it, and pressed inward. Now I applied a fenestrated plaster of Paris dressing, through which I took the skiagraph. This showed most impolitely that I had not only failed in my efforts of reposition, but had even made it worse (Fig. 7). Therefore, I tried to reduce it in the extended position; I could press the fragment nearer to its normal position. Then it was that I was encouraged to make a fourth attempt in the same position of the arm, and this time I succeeded fully, as skiagraph Fig. 8 shows. As you see, the result is a good one. Had I not succeeded in reducing the fragment, I should have exposed it freely without any further delay, and have attempted to reduce it, unless it showed so little cohesion that the scant blood supply might have cut off nutrition, in which case I should have preferred to remove it.

CASE II.—Another instance of conservative advice was given by the Röntgen rays in the case of a lady, aged thirty years, who was thrown against a stony prominence in a runaway accident. An enormous hæmatoma developed in the region of the elbow, considerable œdema at the same time extending from the middle of the humerus to the tips of the fingers. This, of course, caused marked deformity. There were crepitus and complete loss of power at the same time. When I saw the patient in a country town, far from where a Röntgen apparatus could be secured, I succeeded in making the diagnosis of the presence of fracture of the olecranon followed by considerable forward displacement of the ulnar diaphysis. The decision of the question of whether there were any other bone injuries was left to a subsequent irradiation. After several unsuccessful attempts had been made under anæsthesia to disentangle the diaphysial fragment, which, in overlapping the radius, had been caught in the muscular tissue, I succeeded, and my impression was, that perfect approximation between the diaphysial fragments and the olecranon process was obtained. The arm had been kept in the rectangular position for nearly three days, and the immense swelling of the whole limb seemed to me to be a contraindication for an effort to apply an extension splint. After a week, when the patient, who had sustained various injuries besides that of the elbow, was able to travel, a skiagraph was taken which revealed the normal direction of the diaphysial fragment, but a diastasis between it and the olecranon process (Fig. 9). An effort was made to shift the latter toward the diaphysis, which, after a palpatory examination, seemed to have been successful. A plaster of Paris dressing was applied, therefore, in the rectangular position. Irradiation through the dressing showed that I had erred, and that the same amount of diastasis existed



FIG. VIII.—Displacement, shown by Figs. vi and vii, reduced in the extended position (skiagraphed through the plaster of Paris dressing).

tempts of reposition, controlled by the skiagraph, have been made, as is illustrated by the following case:

CASE I.—A girl, twenty-three years of age, fell downstairs. The family physician, who was called immediately, found considerable deformity, which he corrected to a great extent. There was an impression at first that backward dislocation had taken place, but when, after a week, the swelling surrounding the whole elbow, did not subside, the patient was referred to me for examination. Before resorting to skiagraphy I examined the swollen area after the

as before. It seemed to me that the gap was filled with muscular tissue, wherefore I was unable to palpate the hiatus between the bone fragments. This could happen so much more easily since there was still considerable swelling. I removed the dressing again, repeating the efforts at reposition in the extended position, a manoeuvre which was easier than a week before. Through the new plaster of Paris dressing, applied in the extended position, the irradiation was again tried, which proved the fragments to be in perfect apposition (Fig. 10). Skiagraph Fig. 11 shows ideal union, four weeks after the injury. It would be impossi-

should not receive much attention, at least not for the short space of time during which the extended position would be indicated. If coaptation is perfect, the position can, as a rule, be changed into the rectangular after two or three weeks.

Skiagraph Fig. 10 was taken by means of a very powerful hard tube, which permitted of such thorough permeation of the plaster of Paris, that wherever the layer of the dressing was thin, complete translucency was obtained.

Skiagraph Fig. 12 may serve as a counterpart of



FIG. IX.—Diastasis in fracture of the olecranon.

ble, in fact, to infer from the study of this skiagraph that there ever had been a fracture, a point, not to be underestimated from a medicolegal point of view. The inability of finding any evidence by palpation and the perfect function of the arm would lead to doubt as to the serious nature of the injury, had not a skiagraph been taken at a time when the diastasis furnished such a distinct proof.

There are more instructive points in this case. The successful final reposition decided whether suturing of the olecranon should be resorted to or not. We have learned, furthermore, that the Röntgen control shows distinctly whether the dressing is better applied in the extended or in the rectangular position. The latter is the more comfortable, but if it does not permit reduction, while the less comfortable extended position does afford it, the point of comfort

this case. It represents an oblique fracture of the olecranon sustained by a fall upon the elbow.

CASE III.—The patient, a girl aged twenty-three years, was treated in the extended position by a most competent physician. Six weeks after the injury there was still a moderate amount of swelling in the region of the olecranon. Palpation revealed the presence of a gap and mobility of the lower triangular fragment. Any effort at motion was accompanied with intense pain. I advised immobilization in the over extended position, expecting that a late union would take place. But when, ten weeks after the injury, union failed to occur, although the extreme extension seemed to have held the fragments in very close apposition, I exposed the fractured area by incision. The surfaces of both fragments were covered with fibrous tissue where they had been separated, which permitted of free motion. By excis-

ing the fibrous layers fresh bony surfaces were obtained, which I brought into close approximation by silver wire. No reaction followed, and the result was perfect in four weeks. The method, by which



FIG. X.—Gap shown by Fig. ix, filled in the extended position of the arm (skiagraphed through the plaster of Paris dressing immediately after its application).

the holes were bored and the wire passed are shown by Skiagraph Fig. 13.

CASE IV.—Fig. 14 illustrates an enormous degree of displacement in osteoepiphysal separation of the head of the humerus, in a man aged twenty-two years. The diaphysal end was shifted alongside, and in front of, the head, and forced between it and the skin. Fig. 15 shows how the projecting fragment lifted the skin at the anterior aspect of the shoulder. The accident happened during wrestling, six weeks before the skiagraph Fig. 14 was taken. Subcoracoid dislocation had been thought of first; later on, symptoms of compression of the brachial plexus had developed. Refracturing under anæsthesia being impossible after so long a time, reposition by osteotomy had to be resorted to. A longitudinal incision beginning at the acromion was made, which extended straight downward to the upper third of the arm. To this a transverse incision was added at the upper portion, which reached the inner margin of

the diaphysal fragment. After severing the periosteal adhesions with the bone knife, and the fragments which had united in juxtaposition with the chisel, it was tried to approximate them. This was made possible only after the diaphysal end was shortened. The head of the humerus presented a thin bone shell, which could not be sewed to the diaphysis in the usual manner. I therefore excavated the head with the bone spoon still further, trimming the diaphysal end at the same time in such a manner that it fitted into the excavation. No wiring was done. The fragment could be kept *in situ* by immobilizing the arm in the elevated position by means of a humerothoracic plaster of Paris dressing. Although there was some swelling, combined with a slight elevation of temperature, for the first few days, the wound healed by first intention. As shown by skiagraph Fig. 16 and photograph Fig. 17, there is no more deformity. The paralytic symptoms have greatly improved, still there is now, three months after the operation, some loss of power.

While, as referred to before, articular fractures often demand early operative interference, for the purpose of proper reposition, fractures of the dia-



FIG. XI.—Ideal union in fracture of the olecranon, shown by Fig. ix, three weeks after the injury.

physes very seldom require such procedures. It may happen in the multiple type that bone splinters are so far separated from the fractured area, that their reposition is impossible. If they, as the Rönt-

gen examination will determine, are liable to offer an obstacle to the functional ability of the limb, they must be exposed. If there is sufficient periosteal coherence warranting proper nutrition of the fragment, it may be replaced and fixed by wiring. If not, it had better be removed.

CASE V.—Fig. 18 illustrates the spiral-shaped fracture of the humerus in a stout man, aged forty-six years, sustained by severe violence four days before the skiagraph was taken (patient presented to the association). The shortening of the arm was explained by the juxtaposition of the fragments, as is evident from skiagraph Fig. 18. There was an enormous swelling, which, in connection with the

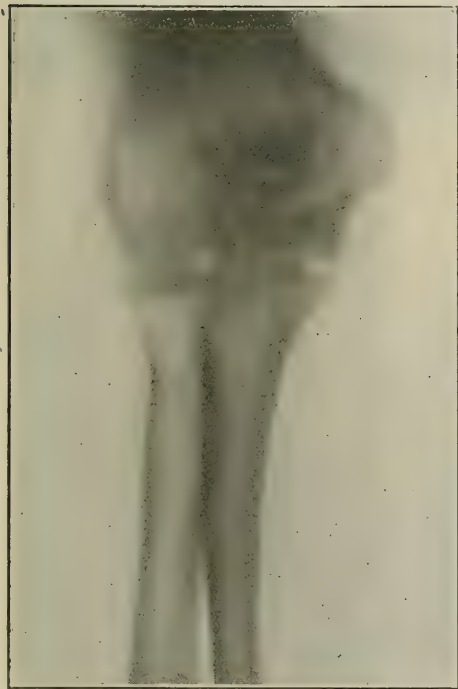


FIG. XII.—Oblique non-united fracture of the olecranon (posterior view).

panniculus adiposus of the patient, rendered palpation so much more difficult. False motion, of course, and crepitus also, being well marked, the diagnosis of the presence of a fracture of the upper third of the humerus could easily be made without the rays. But the presence of a large isolated bone splinter was not disclosed before skiagraphy was resorted to. From the study of Fig. 18 it could be presumed that reposition of the fragment, imbedded in an area of bloody effusion and lacerated and inflamed tissues, could not be attained by simple manual apposition. It was easy to persuade the patient that the operation was a necessity, by simply showing him the loose splinter of the skiagraph. On the sixth day

after the injury I exposed the fractured area by an incision alongside the outer margin of the biceps muscle. The site, as well as the length, of the incision was determined by measuring the distances in the skiagraph and transferring their relations to the patient's arm. The large splinter (Fig. 19) proved to be entirely detached from the diaphysal fragments, and as there was no periosteal cohesion, it seemed to me risky to leave it, although there was no obstacle to reducing and fixing it by wiring. The removal was certainly safer and would not interfere with the apposition of the large fragments. After the portions of the biceps and triceps muscles which had intervened, were disengaged from the diaphysal fragments, they were brought in apposition. No wiring was done. A humerothoracic dressing of plaster of Paris, applied immediately after the operation, was left *in situ* for three weeks. Recovery was uninterrupted.

As the skiagraph Fig. 20, taken four months after the operation, shows, union is blameless and the deficiency caused by the removal of the isolated fragment is filled up by callus. Functional ability is perfect. If the bone splinter had not been recognized at an early stage and had consequently been left, it would have served as an impediment between the biceps and triceps muscles, thereby arresting their contractibility. Thus we see that the question of shortening in fracture of the diaphysis of the humerus is of less importance than that of the special deformities, which may disturb the functional ability of the extremity. On the contrary, in fractures of the femoral diaphysis, the question of the shortening is more important than that of the deformity itself. Of course, if there is considerable projection of the overlapping fragment, undue pressure upon the soft tissues may produce symptoms at the point of fracture, which demand interference. But, as a rule, it is the shortening, when the fragments, after being slipped by each other, become united in juxtaposition, which suggests operative interference. If, in fracture of the femoral diaphysis, therefore, the fragments have only been put in the proper direction, without regard to whether there is also a lateral deviation or undue prominence of one of the fragments, the function of the leg is, as a rule, but little disturbed. This, in fact, is the least which can be expected from a physician who attempts the treatment of fractures. Juxtaposition can, therefore, never be pardoned. And this is nearly the only condition which demands osteotomy and which cannot be remedied by any other procedure. In juxtaposition the attempt at bloodless refracture appears to be a most adventurous undertaking, if one simply looks at the skiagraph of a condition of this kind. It is unwise to attempt it, because the artificial fracture line would not separate the fragments where they are attached to each other by sideward union, but would run through the fragments in a transverse direction. And then extension would not elongate



FIG. XIII.—Oblique fracture of the olecranon, shown by Fig. xii, united with silver wire (lateral view).

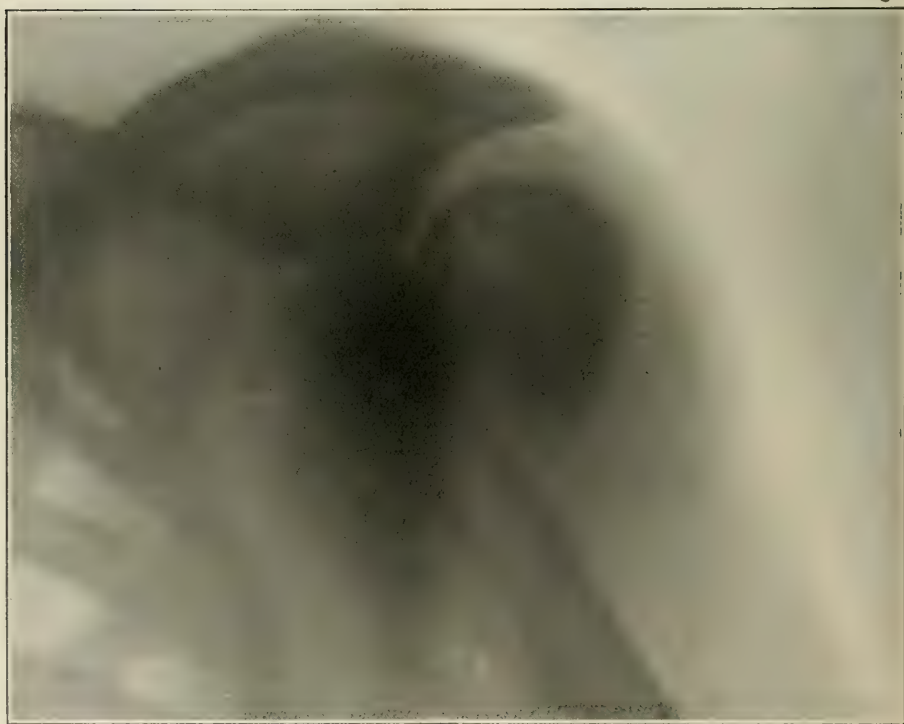


FIG. XIV.—Juxtaposition in osteoepiphyseal separation of the head of the humerus, six weeks after the injury.

the shortened thigh. But osteotomy permits of separation alongside the line of false union, and extension will bring the lower fragment down, provided

the elbow was taken for a fracture. Reposition after so long a period cannot be expected. A semi-lunar incision should be made, the convexity of



FIG. XV.—Projecting fragment lifting the skin at the anterior aspect of the shoulder.

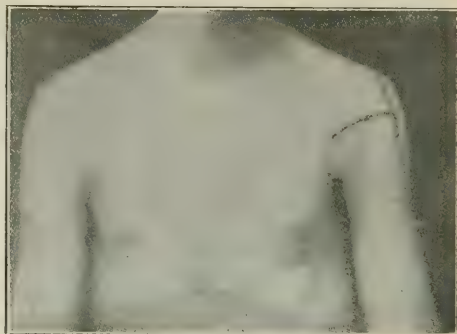


FIG. XVII.—Direction of the incision and immediate result of the operation in the case illustrated by Figs. xiv, xv, and xvi.

too much time has not elapsed since the fracture was sustained.

Skiagraph Fig. 22 illustrates backward dislocation of the forearm four months after the injury, which on account of the enormous swelling around

which would be directed upward around the olecranon, exposing it as well as the radius and liberating them by excising the capsular fragments and the cicatricial tissue. Whatever tissue present an obstacle must either be divided or removed. There



FIG. XVI.—Implantation of diaphysal end into the shell of the head of the humerus.

is no need for resecting any bone portions.

Skiagraph Fig. 21 illustrates the femur of a boy of nine years, taken three months after it was fractured. The union in juxtaposition explains why there was shortening to the extent of nearly three inches. After the fragments had been separated by

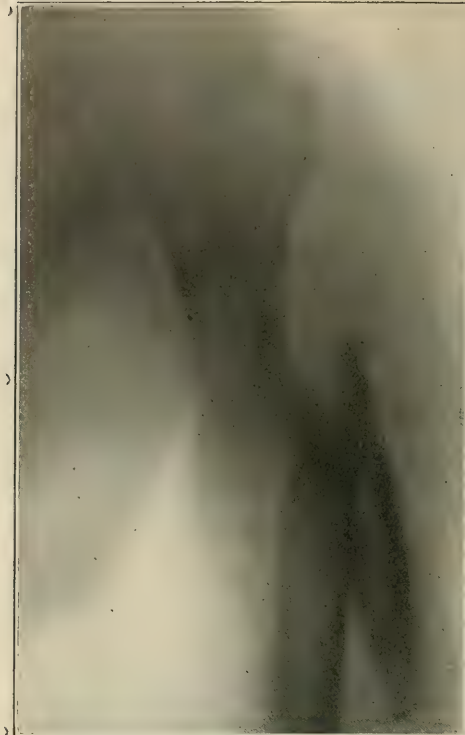


FIG. XVIII.—Isolated bone fragment in spiral-shaped fracture of the humerus.

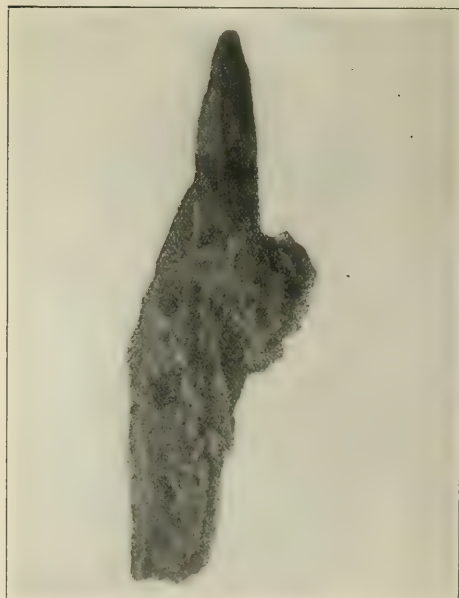


FIG. XIX.—Isolated bone fragment, skiagraphed in Fig. xvii, removed.

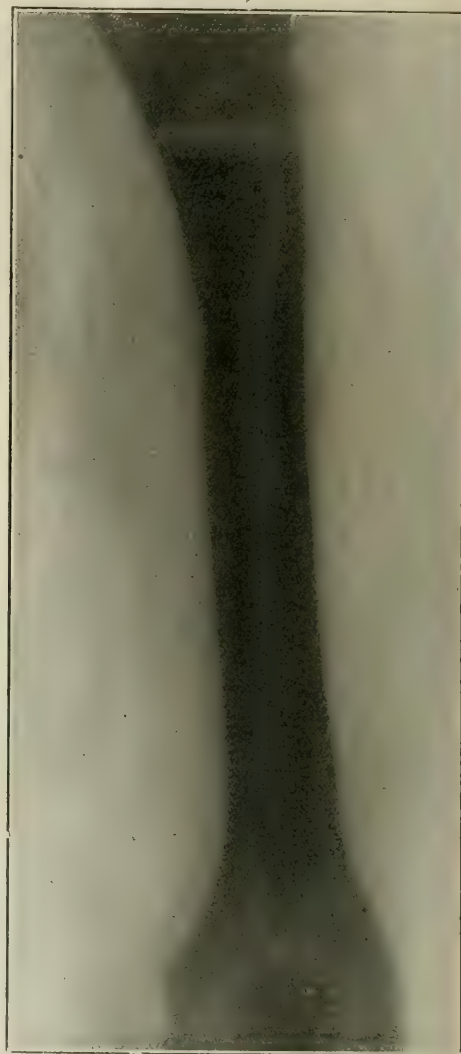


FIG. XX.—Perfect condition of the fractured humerus, shown by Fig. xvii, four months after operation.

the chisel, forcible extension succeeded in restoring the limb to its full length. The ends were trimmed and adjusted by a thick piece of silver wire. Recovery was uneventful and the result perfect.

It is needless to say, that such operations are an absolute necessity, not so much because of the undue pressure at the area of faulty union, as on account of

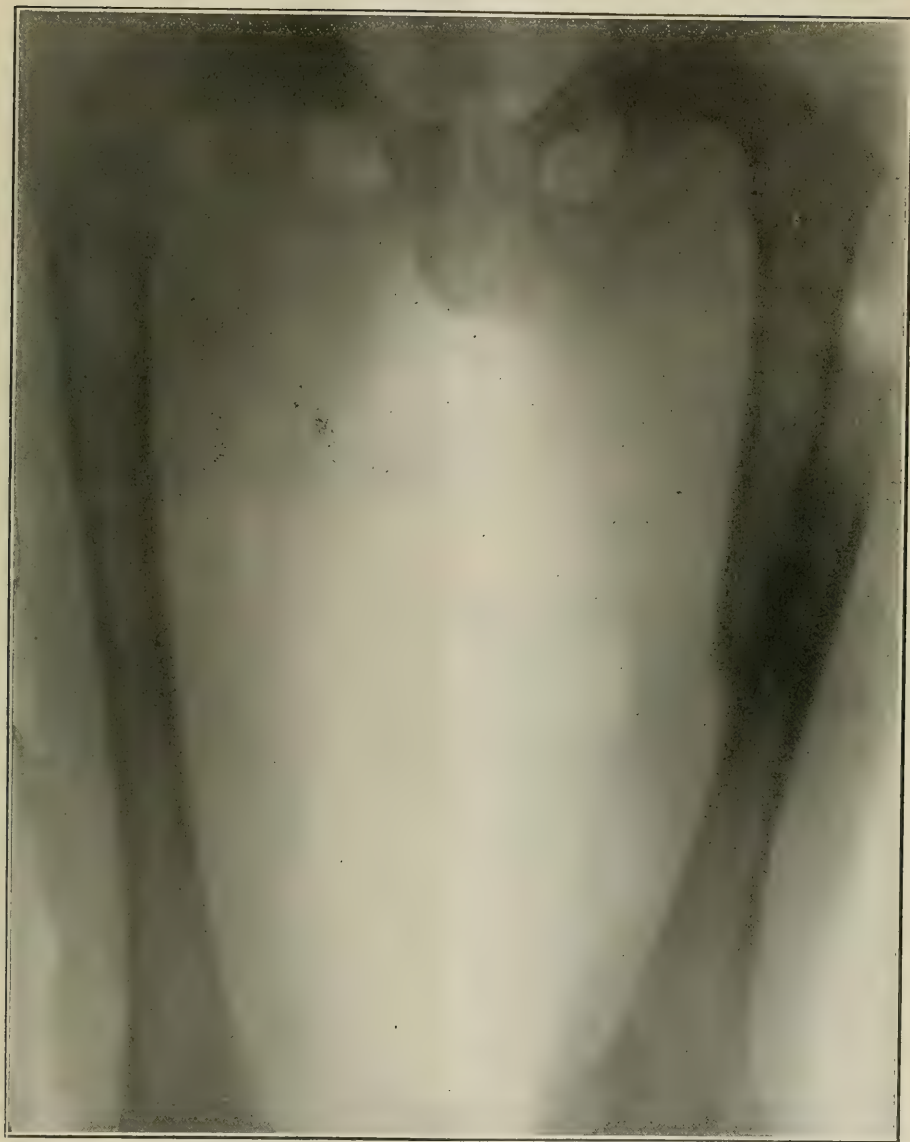


FIG. XXI.—Malunion (juxtaposition) in fracture of the middle of the femur.

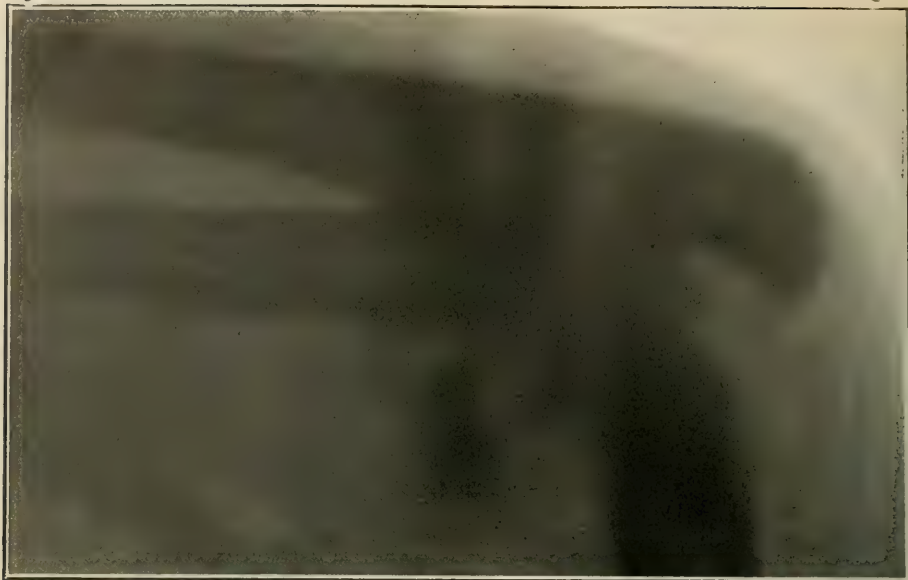


FIG. XXII.—Old backward dislocation of the elbow.



FIG. XXIII. Enormous shortening of leg caused by muscular contraction in fracture of the femur at its middle.

the shortening, because such may destroy the chances of a successful career for the unfortunate patient.

Of course, such deformities should not occur at all. It is the duty of the surgeon who is called to correct them, to answer the question of the crippled patient why his limb was not put into the proper position at once, by defending his brother, because we all are liable to err. Still it would be "a consummation devoutly to be wished," that crippled conditions of this kind (compare Fig. 23) should be due exclusively to the disobedience of the patients to the surgeon's directions.

While in articular fractures reposition is often a very difficult procedure and failure a most excusable occurrence, in non-complicated fractures of the diaphyses, reduction, if attempted with a minimum dose of common sense, must always be successful.

Note.—The principles of correcting deformities at the lower end of the radius were described in this *Journal* for September 9 and 23, 1899, and in the *Medical News* for September 20, 1902.

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The Seney Hospital Endowments now amount to about \$438,000. William H. Halls, Jr., has recently offered to donate \$125,000 to the institution provided by June 1st the sum of \$500,000 will be raised by bona fide subscriptions payable within a reasonable time. The friends of the hospital feel confident that the stipulated sum can be secured.

RETROCÆCAL ABSCESS DEVELOPING THREE YEARS AFTER REMOVAL OF THE APPENDIX.

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BALTIMORE.

Appendicitis and its treatment has received so much attention in recent years that the disease itself and its complications have been clearly outlined. Cases presenting unusual complications are, however, occasionally met with, and the following is of interest inasmuch as the abscess developing subsequently did not make its appearance until after a period of over three years.

H. G. was seen in consultation May 7, 1902, with Dr. E. R. Trippe and Major Louis Balch, of Easton. The patient was a frail lad, fourteen years of age. He had never been very strong, but had had no serious illness until three years ago, when he had a severe fall and for a period of eight weeks afterward complained of pain in the right iliac region. Shortly after this attack he went on a fishing excursion, returning home cold and wet. On the following day he presented distinct signs of acute appendicitis. The pain over the appendix was so severe that the thigh was continually flexed. Poultices were applied for ten days, the appendix was then removed and the abscess was drained. A week later there was an elevation of temperature followed, on removal of some stitches, by a discharge of nearly a pint of pus. The cavity was carefully irrigated and

packed with gauze. In eight weeks the boy was around again. For two years he was fairly well, but last autumn a boy fell across him and there was a return of the pain in the right iliac region lasting



FIG. II.—Retrocæcal Abscess.

At x the floor of the abscess is seen. It has been completely walled off by firm adhesions.

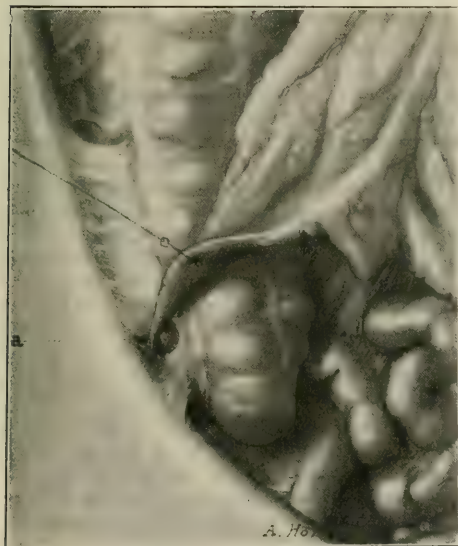


FIG. I.—Appearance of Retrocæcal Abscess on Opening the Abdomen.

The site of the appendical stump is free from adhesions. Portions of the cæcum and ascending colon are adherent to the abdominal wall and the omentum is also slightly adherent. At point a a drop of pus can be seen where the omentum is drawn to one side.

for a short period. Ten days before I saw him he fell off a boat and was again seized with pain in the right iliac region. Since then he has been confined to bed, his temperature ranging from 101° to 104° , his pulse averaging 100. At the site of the old incision there was naturally much weakening of the abdominal wall, the wound having been drained. Just to the outer side of the scar was a distinct area of induration recognized with some difficulty on deep palpation. We operated the following morning. The former scar was dissected out, and the convex lower end of the cæcum presented. The appendiceal stump was in perfect condition and free from adhesions, but the cæcum about 2 cm. above this was attached to the abdominal wall by a few adhesions, and a small portion of the omentum was also adherent at this point. On gently pulling back the omental adhesions between the cæcum and the lateral abdominal wall, a drop of pus made its appearance (Fig. 1). The region was carefully walled off from the surrounding intestine and a pocket containing fully 100 cc. of thick, creamy, grayish-yellow, most offensive pus evacuated (Fig. 2). This cavity lay between the lower surface of the cæcum and the parietal peritonæum. The cavity was loosely packed with iodoform gauze and the intestines were walled off by surrounding's strips. The temperature soon dropped to normal and the boy made an uneventful recovery, the wound closing completely in a little over four weeks.

The question naturally arises as to the mode of

origin of this abscess. At the time of operation there was a large abscess, and it is quite probable that a minute pocket of pus was left behind the cæcum. The tissues had been able to take care of the small purulent focus until the recent injury, as the abscess was between the peritoneum of the cæcum and that lining the abdominal wall.

3 PRESTON STREET, WEST.

PERSONAL EXPERIENCE WITH MCGRAW'S METHOD OF GAS- TROENTEROSTOMY.*

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In the *New York Medical Journal* for January 26, 1901, page 133, Dr. Theodore S. McGraw, of Detroit, Michigan, published an article on Gastroenterostomy by Means of an Elastic Ligature, which was exceedingly interesting. He said that, in 1889, 1890, and 1891, he was interested in the study of the various methods of making intestinal anastomosis, and while experimenting on these he hit upon a method of performing it which was unequalled in the rapidity of its execution, its efficiency, and its safety, although it did not accomplish its purpose until after the lapse of two or three days. While this was Dr. McGraw's opinion at the time of the publication of his paper in January, 1901, his son informed me in the summer of 1901—when he was a student at the College of Physicians and Surgeons of New York, and was present at one of my operations at the Post-graduate Hospital—that his father had ascertained that fifty-six hours was sufficient to provide a free opening, and that consequently it was possible to begin feeding after this period had elapsed. Dr. McGraw gave up this method of operating because of the introduction of the Murphy button, and for several years did not give any further time to the investigation of the elastic ligature.

In his original paper he says that a number of other surgeons—notably Gaston, of Atlanta, in 1884, and Franz Bardenhauer, in 1888—had made similar investigations. The former's work was confined to using the elastic ligature as a means of securing choleduodenostomy. No practical result was obtained, however, by these investigations, as the elastic ligature was not found suitable in making the anastomosis between the gall bladder and the intes-

tines, because the thinness of the walls of the gall bladder allowed the ligature to cut its way through before there was sufficient agglutination between the viscus and the intestine. Bardenhauer tried to use rubber ligatures joined together in loops like a chain, every loop containing one centimetre and a half of tissue. This was found to be difficult of application and tedious. It had the disadvantage of making numerous openings in the viscera and multiplying whatever danger there might be from infection.

McGraw's first operation on the human body was done January 8, 1891, and published in the *Journal of the American Medical Association* for May 16, 1891. During his experimental work he made use of three kinds of ligatures. First, a large round rubber cord, four millimetres in diameter, which was speedily discarded. It was too large, clumsy to tie, and when tied took up too much room and tore too large a hole through the intestinal wall. Second, he tried a flat rubber band, three millimetres in width; this was serviceable, and can be advantageously employed if the third variety cannot be obtained. Third, and the method advocated, is a rubber cord, two millimetres in diameter, similar to the one that was formerly employed as the elastic ligature for operations upon hæmorrhoids. This was preferred on account of its smoothness and elasticity and great tenacity. When utilizing this material one end of the rubber was shaved thin so that it might be drawn through the eye of a so-called worsted needle. The advantage of this was that it made a small hole through the intestinal wall. By stretching the rubber during the passage through the walls of the intestine and stomach, and rendering it thin and small, it was easily drawn after the needle, and the subsequent contraction was found to more than fill the orifice made through the viscus. He says that in most cases it was found preferable to pass the ligature through the gut in the direction of the long axis and at a point most distant from the mesenteric attachment. Before passing the ligature, the bowels were stitched together by from three to six Lembert stitches; and after the ligature had been passed and tied, similar stitches were passed above the ligature—not only to give additional protection, but also to bury the rubber in intestinal folds. One inch or more was included in the ligature. The ligature was then tied in a square knot. This will usually hold, but, as it was desired to cut the ends very short, in order to cause as little peritoneal irritation as possible, a silk ligature was laid across the axis of the rubber ligature over which the first knot of the rubber was made. The silk was then tied over the rubber ligature while it was held taut, and a second turn of the rubber ligature was made and also held taut, the silk again being tied over the

* Read before the Southern Surgical and Gynecological Association at its fifteenth annual meeting, held in Cincinnati, November 11, 12, and 13, 1902.

completed rubber knot. This tying of the rubber ligature draws the intestine together in folds, and apphension was felt lest these folds, becoming agglutinated together, might be held in permanent corrugation. In this he was agreeably disappointed. Examination of the operative field, even after twenty-four hours and before the ligature had made any appreciable progress in cutting through, showed that those folds were already in process of obliteration—in some way the intestine accommodated itself to the new conditions and became speedily smooth and shapely.

Another danger that he apprehended was that the ligation and folding of the intestinal wall might cause irritation, or even obstruction, of the gut. He said that when we considered the severity of the symptoms produced by the pinching of even small segments of gut in strangulated hernia, we might reasonably expect the occurrence of similar phenomena with the extreme pinching of two adjacent intestines held together by a tightly drawn rubber ligature. This never happened. Obstruction occurred in one or two cases from too acute bending of an intestine, but ligation itself seemed in no wise to cause distress. Even in gastroenterostomy, where the involvement of the stomach in the ligature might warrant the fear of an uncontrollable gastric irritation, this did not occur. It was evident that mere pinching or constriction of portions of the intestinal wall would not of itself cause great irritation, provided that the nutrition of the gut was not seriously interfered with. The symptoms following the operation seemed in no case to depend upon injury done to the intestine. If the wound ran an aseptic course, the animal showed no distress, and in no case was there escape of feces or intestinal contents into the peritoneal cavity.

He reported the operation upon five patients. Two died in collapse, and were apparently far advanced in disease at the time of the operation. Two of the three others lived—one fifteen, and the other fourteen, days after the operation. One of these died of starvation, due to the anastomosis having been made too near the ileocecal valve; the other, from the establishment of the vicious circle. The third was still alive and in perfect health at the time of the report. His conclusions were as follows: First the ligature. This should not be a rubber thread or flat band. These lack the necessary strength to cut with certainty through the thick walls of the stomach. It is necessary to employ hard, round, smooth, and strong rubber cords, at least two millimetres in diameter. Second, it must include in one loop all the tissues which it is desirable to sever. The formation of several small successive loops is an error. In general, the larger the amount of tissue included in the loop, the quicker and the more certainly will

it perform its work. Third, the cord must be drawn as firmly and tightly together as possible without breaking, and then fastened by a silk thread which is tied around the knot. Fourth, before inserting the rubber ligature, the viscera should be joined by a row of Lembert sutures, for a distance of from six to seven centimetres; and when the ligature has been tied a similar row in front should complete the function. If ever there should be an ill success with the ligature it would, he believes, occur from its too rapid action. Failure to cut through is due to faulty technique.

In his second paper, of October 5, 1901, in the *New York Medical Journal*, page 521, he says that long years of observation of patients after laparotomy have brought him to the conclusion that in most cases the stomach and the intestines are not able to avail themselves of the new channel until after the lapse of two or three days—even when the course of the wound is perfectly aseptic. The anæsthetic produces a gastric irritability lasting some hours after the injury done by the operation itself, and inhibits for an indefinite time the muscular contractions of the gut and with it, the digestion and absorption of food. The fear that the ligature will not perform its function and make a proper opening through the viscera, is absolutely without foundation, if the operation is properly performed. In a large number of operations on dogs, in which the intestine is much thicker than in man, he has never yet met with a failure.

The advantage of the ligature over all other methods is that it is the quickest of all operations for the production of intestinal anastomosis. There is no incision of the bowel, no loss of blood, no escape of feces, and no exposure to peritoneal infection from the bowel contents. The operation is followed by a minimum of shock and pain, and in three or four days there is an anastomosis with a union by first intention. The bowel does not slough under the ligature, but undergoes a process of absorption; and in a few days the edges of the orifices are found closely united without any raw surface whatever. The advantage of this method over the button is that the surgeon can govern exactly the length of the opening and make it large or small as may seem best.

Simple as the operation is, its success depends upon the observance of certain positive rules in its application. First, the choice of the rubber cord. Second, the bowels must be brought in apposition and fastened together with a row of Lembert stitches. And, finally, the rubber ligature must be buried by an additional row of Lembert stitches before the intestines are returned into the abdomen.

He says that this method is particularly applicable to all gastroenterostomies, as well as to the enteroen-

terostomy which is usually made nowadays, in order to obviate the vicious circle. It is also applicable in partial stenosis of the intestines, other than the duodenum. In these latter cases, as a rule, the distress caused by the narrowing of the intestine does not interfere so seriously with the general nutrition as does a pyloric stenosis. He says, however, that in complete obstructions from any cause whatever, requiring an incision into the bowel for the evacuation of gas or feces, anastomosis should be made by other methods.

In the *Medical Record* of January 25, 1902, Dr. Willy Meyer reported two cases of gastroenterostomy with enteroenterostomy, done with the aid of the elastic ligature by the McGraw method. The first was that of a man, fifty-two years of age, who entered the German Hospital with all the clinical symptoms of far advanced malignant abscess of the pylorus. During the first eight days the patient made an excellent recovery. On the third day, feeding by the mouth was begun and he seemed to relish food and absorbed it, as was demonstrated by the amount of urine voided, which, almost regularly, was above 1,000 cc. within twenty-four hours. On the fifth day, larger doses were given, amounting to from two to three quarts of liquid. The new opening seemed to act favorably, as the patient before the operation had almost regularly vomited large masses of the liquid diet that had been allowed him. On the fourteenth and fifteenth days he began to show symptoms of the vicious circle, but by the twentieth day his vomiting ceased and he made an uninterrupted recovery. On being discharged from the hospital, in the early part of September (he was operated on in July), he had gained twenty pounds, and two months later had gained another twenty pounds. This patient was presented before the New York Surgical Society, November 13, 1901. In this case the rubber ligature broke while tying the knot—an accident which has happened in two of my own cases, and Dr. Meyer says the two anastomotic openings were too close together.

The second case was one operated on at the Post-graduate Hospital, and in this case anterior gastroenterostomy had to be performed on account of the adhesions of the transverse mesocolon. In this case, Dr. Meyer used intestinal clamps, in order to shut off the current into the intestine, and an enteroenterostomy was performed. The patient made a most satisfactory and uninterrupted recovery. Small doses of water were allowed on the third day. No vomiting. The patient steadily gained in weight and strength, and at the time of the report was within ten pounds of his normal weight.

My own experience with the McGraw operation covers only seven cases.

CASE I.—The first, a man, aged fifty-three years, born in Russia, began to have difficulty with his digestion one year before his admission to the hospital. He lost forty-five pounds during the year. Vomiting occurred within from two to three hours after eating, and included everything ingested. He was operated on August 31, 1901. Incision on the outer border of the left rectus muscle, four inches and a half in length. Stomach not much dilated, but there was a growth on the posterior wall, apparently of the colloid variety. A mass of colloid carcinoma, also, about one inch from the greater curvature in the omentum. On account of the involvement of the posterior wall of the stomach, an anastomosis in the anterior wall was necessary, and this was made after the McGraw method—an enteroenterostomy being made at the same time. He suffered considerable pain following the operation and vomited once. Feeding began on the second day, when he was allowed a small amount of beef juice and whiskey by the mouth. Temperature never went above 100° F.; pulse, when at its highest point, was 104. He was allowed an egg on the fifth day. The upper end of the wound in the abdomen broke down under a collodion dressing. This only involved the skin, and was entirely healed by the eighth day. He complained constantly of pain, but this was probably due to the progress of the growth. His cachexia continued to increase, and on the twenty-second day the right chest, which had gradually been causing discomfort, was aspirated and half an ounce of bloody fluid withdrawn. He was discharged from the hospital on the twenty-sixth day. Gradually his symptoms increased until he died, three months later, of general colloid carcinoma of the abdomen, but without developing any further symptoms of obstruction to the intestinal lumen.

CASE II.—T. G., was sent to me by Dr. Max Einhorn, at the Post-graduate Hospital. Six months prior to entering the hospital, he began to have loss of appetite, and since that time suffered from an intense pain in the stomach about six hours after meals. Pain of a lancinating, colicky character, more or less intense at irregular intervals, during the attack. Stomach distended during the paroxysms. Relieved by massage or vomiting. Vomitus consisted chiefly of greenish fluid with a small amount of mucus, and occasionally of some undigested food. No coffee grounds or bright blood in vomitus or stools. Restriction of diet relieved these conditions for a time, but on returning to solid food the symptoms reappeared. Considerable tenderness on pressure over the epigastrium. Loss of flesh. Appetite good. Bowels constipated. Diagnosis of carcinoma of stomach by Dr. Einhorn. Operation, September 10, 1901. Abdominal incision four inches and a half along the external border of the left rectus muscle, two inches and a half below the ensiform cartilage. Stomach dilated, reaching to the umbilicus. Annular tumor around the pyloric end of the stomach, about one inch and a quarter in diameter. Glands in the vicinity enlarged. Posterior wall of the stomach secured and jejunum sutured to it for a distance of two inches and a half. Continuous Lembert suture with black silk. This united the lower, or posterior, surface of the intestines and stomach. An elastic ligature was then

passed through the posterior wall of the stomach in front of the line of suture, and through the same point of the small intestine, following the long axis. This ligature was tied and another row of Lembert sutures taken between the stomach and the small intestine, so that the elastic ligature was completely included. An enteroenterostomy was then made in a similar manner, and the abdominal wall closed. The patient was returned to the ward in good condition. He slept well the night after the operation. Had no vomiting, but complained of some pain in the left side of the abdomen. This continued for about two days. He was allowed small quantities (a teaspoonful at a time) of water or Vichy, and on the third day milk and barley water, one drachm at a time. This was increased daily. On the seventh day his dressing was removed and it was found that the wound had healed by primary intention. Out of bed by the fourteenth day. Discharged from the hospital one month after the operation. When last seen, some three months later, he had rapidly gained flesh, had returned to his work, and was suffering no inconvenience from the growth.

CASE III.—A man, fifty-three years of age, was seen in September, 1901. Ten months previously he had begun to lose appetite and to have pain in the epigastrium—especially at night—which extended to the small of the back and the region of the bladder. Shortly afterward, he began to have attacks of vomiting—sometimes immediately after eating or a couple of hours later, or at night—which was usually considerable, fluid mucus. Two months later began to have characteristic coffee ground vomiting. Constipation. No diarrhoea. Lost forty pounds in weight during the last three months. A hard tumor was made out, of about the size of a lemon, in the epigastric region—probably connected with the pyloric orifice of the stomach. Stomach dilated almost to the umbilicus. Usual incision at the outer side of left rectus. Pylorus much involved in cancerous growth and adherent to the posterior abdominal wall and also to the liver. Mesenteric glands involved. Posterior gastrojejunostomy was performed after the McGraw method, together with an enteroenterostomy. Operation, September 16th. Very little vomiting. Very little shock. Ice and small quantities of water allowed by mouth. Third day, peptonized milk and some cracked ice. Dressed on the fifth day. Primary union. Out of bed on the sixteenth day. Discharged from the hospital on the twenty-ninth day. This patient lived about two months, then died of exhaustion.

CASE IV.—A woman, twenty-four years of age, was admitted to the hospital October 17, 1901. I saw her in consultation with Dr. Quintard on November 1st. This was a most interesting patient. Eighteen months before she was admitted to the hospital she had had an Alexander's operation for shortening the round ligaments. She had also had a ventral fixation. Five months later, was operated on for appendicitis. At this time, apparently, she must have had a great deal of peritoneal inflammation, as she began to suffer shortly afterward from nausea and vomiting, but had no pain. This occurred first at considerable intervals, but gradually the attacks became more frequent, and during the four or five weeks preceding her admission to the Post-graduate Hospital she had severe knife-

like pains in the right side under the ribs. She also had pain in the epigastrium, but this was most severe only during the week before her admission. During this last week before being admitted to the hospital the epigastric pain, nausea, and vomiting had been almost constant, so that very little nourishment was retained. Bowels habitually constipated. Pressure on the right side below the ribs caused excruciating pain. Abdomen not generally tender, and no resistance. Hyperchlorhydria. Nothing abnormal on palpation of the stomach. Laparotomy performed November 2, 1901. Stomach found greatly dilated. Pyloric end drawn down to a point opposite the umbilicus. From this point the pyloric end of the stomach was bent back on itself, running upward and inward, behind the stomach, to the under surface of the liver where it joined the duodenum. It will be seen that the smaller end of the stomach had been drawn out into a tube and was bent on itself in the shape of an "s." The first end was attached by adhesions to the ascending colon near its middle and within a few inches of the caput coli. This extreme flexure of the pyloric end was sufficient to cause partial obstruction of its lumen. On examination of the ascending colon the cæcum was found to be normal, the appendix having been removed several months previously, its site being represented by a dimple having incapsulated in it a small silk ligature. The colon was, however, doubled on itself, and the two portions in apposition were firmly adherent. The gall bladder was normal and contained no calculi. All the other viscera apparently normal. With great difficulty the adhesions between the stomach and the intestines were broken up and the colon was also straightened out. Many bands of adhesions had to be divided with the scissors. The uterus was held in good position by a single band about half an inch long and one inch in width. This was the result of a previous ventral fixation. The stomach was then pushed up into its natural position and the posterior peritoneum freshened, in order to obtain, if possible, adhesions between the denuded portion of the pyloric end and the posterior peritoneum in a normal position. Recovery from this operation was prompt at first and very satisfactory, although vomiting continued almost incessantly. About the seventh day, however, she began to retain food administered by the stomach, and on the eighth day took a poached egg on toast. The first dressing showed primary union. By the twenty-third day she began again to have considerable vomiting and pain in the stomach, which continued at intervals, although she was able to get up, ate pretty well, and moved about the hospital. On the thirty-fourth day I saw her again with Dr. Quintard. By this time the vomiting had again returned, together with the pain in the epigastrium, almost as marked as before the former operation. On the forty-second day I operated a second time, and found that the ascending colon had remained practically as it was left at the time of the former operation. The usual incision was made for reaching the stomach, which was found still much dilated and reaching below the umbilicus, and the pylorus was found to be drawn down again and curved over itself in the same manner as at the time of the first operation. It was, therefore, determined at once to make a gastroenterostomy. The

posterior wall of the stomach being brought out of the wound, the jejunum was attached to the wall with Lambert sutures and an elastic ligature, and an enteroenterostomy was also made. The recovery from this operation was very satisfactory, although she suffered considerably from distention. By the seventh day she was able to take coffee, toast, omelet, wine jelly, custard, and cream of celery soup. On the eighth day the wound was dressed with primary union throughout. Out of bed on the sixteenth day. Convalescence was somewhat prolonged, but she left the hospital practically cured, January 30, 1902. In May or June she went to Atlantic City, and while there had a return of vomiting and pain in the stomach; and Dr. Marvell, who had been treating her, called Dr. Quintard in consultation. When he examined her he expected a return of the stomach trouble, and supposed that the opening made by the ligature had closed. He consequently brought her to the hospital again, where I saw her with him. My own opinion this time was that the opening from the stomach was patent. This was based upon the fact that the stomach was not materially dilated, was decidedly smaller than at any other time when I had examined her, and that it was possible to get a wave of gas apparently through the opening. I suggested at this time that she be given some capsules containing methyl blue, and that the stomach be washed out from half to three-quarters of an hour following the exhibition of the capsule. If the stomach contents were then found free from coloring matter which afterward appeared in the urine and feces, I felt that we should be safe in concluding that our opening was still patent. This experiment was successful. I suggested the possibility of there being an hysterical condition and a simple hysterical vomiting—which I have several times seen following stomach operations. The patient recovered under the suggested treatment, and has remained well until within the past few days, when Dr. Quintard told me she was again having pain and vomiting.

CASE V.—A man, thirty-six years of age, was sent to me by Dr. Max Einhorn, November, 1901, with indefinite symptoms of a pyloric obstruction, possibly lues or cancer. He was operated on in the usual manner, and an annular growth around the pylorus, with several enlarged glands in the omentum and behind the stomach, was found. Pylorotomy being out of the question, gastroenterostomy was performed according to the McGraw method. This patient was very difficult to manage, as he had had a brother of about the same age die a few months previously from sarcoma of the stomach, and having watched his symptoms he was constantly watching for a similar train in his own case. It is rather remarkable, and perhaps may have some bearing upon the question of contagion in malignant disease, that these two men should have had an exactly similar condition, attacking the same viscus within the course of a few months. Nevertheless, this patient's recovery was fairly satisfactory. The wound healed by primary intention, and feeding was begun at the end of fifty hours, and gradually increased. At first, only beef juice, squeezed beef, and broth, together with a slight amount of stimulation, were administered by mouth, and rectal feeding was chiefly depended on. The patient was ex-

tremely neurasthenic and difficult to manage. He insisted upon returning home as soon as he was able to get out of bed, and traveled several hundred miles by the end of the second week. During the course of his treatment in the sanitarium he had several attacks of distention, which he insisted were due to the closure of the opening, but he was immediately relieved upon the administration of a high saline enema. Shortly after his return to his home, his physician called upon me to determine exactly his condition at the time of the laparotomy. The pathological examination of the gland removed from the omentum, was very unsatisfactory, and Professor H. T. Brooks reported that it was probably tuberculous in origin. A few weeks later, I received a letter from his physician, dictated by the patient, demanding that I should go to his home prepared to repeat the operation, as he had symptoms of closure of the anastomotic opening. As this letter was accompanied by a threat that if it was found that I had not performed the operation which I had stated to him as having been accomplished, I should be sued for damages, I absolutely and emphatically declined to reply to further letters, or to give any further attention to his case, unless every communication was accompanied by a consultation fee and I was guaranteed against any legal proceedings, no matter what the outcome. He therefore went to Montreal, where I understand a secondary laparotomy was performed, some time in January, 1902. It was found at this time that his condition was sarcoma, and that the growth had spread across the stomach wall, surrounding the new opening and occluding it. His physician wrote me within a few days, saying that he thought that if my anastomosis had been made farther away from the pylorus, he might have lived longer. At the time of the operation, however, the point selected for the operation was about the middle of the greater curvature of the stomach and, so far as I could tell, well removed from the possibility of involvement during the life of the patient. He died February 1, 1902.

CASE VI.—A man, fifty-five years of age, with an easily palpable tumor in the epigastric region. While under ordinary circumstances we must recognize the fact that gastric tumors which are readily palpated through the abdominal wall have probably advanced beyond the point of successful operative treatment, yet I was led to attack this case because the tumor was still readily movable, and the symptoms of pyloric obstruction were not perfect. The patient was cachectic and emaciated to a degree, but his pulse was good, and he seemed in condition to stand a not too prolonged abdominal operation. The tumor was one confined to the pyloric region, evidently carcinomatous, and very movable, but there was an extensive involvement of the glands, making it impossible completely to extirpate the growth. Gastroenterostomy was therefore performed in December, 1901, by the McGraw method. The change in this patient's condition following the operation was remarkable. He was allowed water, a teaspoonful at a time, as soon as he recovered from his anæsthetic, and the quantity was gradually increased until, at the end of fifty hours, he was allowed the juice of squeezed beef, beef tea, and hot strained broths. His strength began to return immediately. At the

end of ten days he was out of bed and returned home within two weeks, better, as he said, than he had been in many months. He had gained several pounds—five or six—during this period, and was eating freely, taking the regular hospital diet. Unfortunately, I do not know how long he continued to improve, or whether he is still alive, it having been impossible to trace him since his discharge from the hospital.

CASE VII.—A woman, aged thirty-nine years, admitted into St. Francis's Hospital, May 30, 1902, and operated on June 2nd. For a year she had indefinite stomach symptoms. For five months she had had vomiting from one or two hours after eating, so that at the time of her admission to the hospital she was vomiting everything taken into her stomach. No coffee ground material or blood appeared in any of the ejected matter. Emaciation was rapid, and her appearance upon admission to the hospital indicated a woman of sixty, with a typical malignant cachexia. A tumor of the size of a fist extended from the median line to the right about three inches, and for about two inches below the free border of the ribs downward about three inches. It was slightly movable, firm, and irregular. The stomach was distended, the lower border reaching nearly to the symphysis pubis. Stomach contents showed free lactic acid, absence of hydrochloric acid, and large numbers of the Boas-Oppler bacillus. Stomach held four litres. The usual incision four inches long at the outer border of left rectus. This revealed an adherent cancer of the pylorus, a large number of infected retroperitoneal glands, many of them of considerable size. The posterior surface of the stomach being exposed, and the jejunum isolated about twelve to fourteen inches below the duodeno-jejunal junction, gastroenterostomy by the McGraw method was attempted. The first time, the ligature broke while tying the first turn of the knot; and a second attempt was made to utilize the same openings, but the ligature broke a second time, and, as the openings were now so much larger than the caliber of the rubber ligature, the method had to be abandoned and the anastomosis completed by suture, the enteroenterostomy being made by the Murphy button. In this, as in the two preceding cases, the rubber ligature made for Dr. McGraw by Nelson, Baker, and Company, of Detroit, was used. The patient rallied well from the operation, and had no vomiting. Highest temperature during her convalescence was 100.5° F. Rectal feeding continued for six days. Bowels moved on the third day by enema. Wound healed *per primam*, and patient allowed up in two weeks and a half. Button passed on the thirteenth day. Patient left the hospital improved and able to eat and relish whatever she wanted in the way of food.

I am not sure but that the ligature in this last case might have been injured during its sterilization by boiling, and hereafter I shall have it handled in the same way that we prepare the rubber gloves, instead of boiling it with the instruments.

Dr. Willy Meyer has related to me the history of a third case operated on by him at the Post-graduate Hospital, which developed the classical symptoms of acetonuria, as described by Brewer recently.

This series of cases demonstrates, to my mind, the feasibility of adopting this method in cases of gastroenterostomy and enteroenterostomy, in stomach lesions. It would not be applicable, in my opinion, in cases of enteroenterostomy necessitated by a complete intestinal obstruction. That it might be applicable, however, to cases of incomplete obstruction to the intestine, I am ready to admit. In a letter received November 8, 1902, from Dr. McGraw, he relates a case of strangulated hernia in which he attempted to make the anastomosis by means of the ligature above the point of the gangrenous bowel, allowing a fecal fistula to remain in the hope that this might be closed by cicatrization after the anastomotic opening became patent. His patient, however, was almost moribund when he operated, and did not live long enough to demonstrate the application of the ligature in a case of this kind.

This method of operating enables us to save considerable time, and it has some advantages over the button. One of the objections to the latter has been the comparative frequency with which it drops back into the stomach, remaining there as a constant menace to the integrity of an already diseased and possibly ulcerating organ. There would probably be little saving of time between the button and the ligature, if the former was used without employing a line of Lembert sutures around it. In the McGraw method, however, we have the advantage of being able to make as large an opening between the stomach and jejunum as we may desire. I believe that a better and stronger elastic ligature than the one now manufactured by Nelson, Baker, & Company is desirable, and I agree that Dr. Meyer's suggestion of using a rubber cord four millimetres in size should be adopted. Although Dr. McGraw takes exception to a ligature of this size, on account of its greater bulk and the clumsiness of the knot, the mass would by no means be so large as the button, and would offer none of the objections that are recognized as pertaining to that excellent device. In enteroenterostomies, however, I believe that the button or direct lateral anastomosis by suture is preferable to the employment of the ligature. So far as the feeding of the patient is concerned, there is little to choose among all of the methods. There can be little doubt that when the ligature is employed the section of the stomach and intestine has progressed sufficiently by the end of forty-eight hours to allow of the passage of liquids; and that is as early as we can ordinarily expect to allow patients to take anything into the stomach.

In my opinion, it is a good plan to administer, in all cases where the stomach is operated upon, a generous supply of peptonized milk and whiskey at the time of the operation. For many years this was my plan at the conclusion of all my gastrostomies, giving

from eight to ten ounces of hot peptonized milk with an ounce of whiskey as soon as the suturing of the stomach to the abdominal wall was completed. There is no objection, so far as I can see, to inserting through a fair-sized cannula the same amount into the intestine below the point of anastomosis, in these cases of gastroenterostomy. Regurgitation along the operative field can be readily prevented by the application of an intestinal clamp, and the small puncture wound can be readily closed by one or two Lembert stitches.

12 WEST FIFTIETH STREET.

Therapeutical Notes.

A Lotion Treatment for Syphilis.—According to *Nouveaux Remèdes* for October 24th Treves speaks highly of the following formula in the general treatment of syphilis:

- R Corrosive sublimate.....1 gramme (15 grains);
- Alcohol.....150 grammes (3½ ounces);
- Water.....10 grammes (½ ounce).

M.

By means of a large plug of cotton used as a sponge, the patient bathes the whole surface of the body with this solution, avoiding the mucous surfaces and the deep sulci in the skin, and before dressing himself, waits for the complete evaporation of the alcohol. These applications may be repeated every two days. The water is added to the lotion in view of Kronig & Paul's researches showing that mercury is better absorbed by the skin from hydrated solutions than from those of absolute alcohol.

The Treatment of Chilblains.—The *Journal médical de Bruxelles* for October 30th, citing the *Revue médicale de Normandie*, recommends for ulcerated chilblains, where the skin is simply red, tense and glistening, that the parts should be enveloped in aseptic compresses saturated with a decoction of walnut leaves (from 10 to 15 grammes (150 to 225 grains) of the leaves to a litre (quart) of water); the whole should then be covered with an impermeable fabric. When the irritation is subdued, for the moist dressings one of the following applications is to be substituted:

- R Boric acid.....1 gramme (15 grains);
- Tannin.....0.30 gramme (4½ grains);
- Petrolatum.....10 grammes (150 grains).

M.

The parts to be thoroughly smeared with this ointment.

Or the parts may be dusted with the following:

- R Starch.....10 grammes (150 grains);
- Lycopodium.....10 grammes (150 grains);
- Tannin.....0.30 gramme (4½ grains).

M. When the chilblains are on the hands, gloves should be worn continuously to retain the powder.

Progrès Médical for November 1st cites the following from Herzen's *Guide et formulaire de thérapeutique*: Bathe the hands, night and morning, in a decoction of walnut or eucalyptus leaves, or in dilute solution of lead subacetate. Then rub them with camphorated alcohol, Eau de Cologne, balsam of

Fioraventi, or aromatic vinegar, and dust with Besnier's powder:

- R Bismuth salicylate.....10 grammes (150 grains);
- Starch.....90 grammes (3 ounces).

Or use with friction (Herzen):

- R Tannic acid.....2 grammes (30 grains);
- Glycerin.....] of each 50 grammes
- Camphorated alcohol... (13 drachms).

M. ft. liniment.

Or the following ointment (Herzen) twice or thrice daily:

- R Carbolic acid.....0.50 gramme (7¼ grains);
- Menthol.....2 grammes (30 grains);
- Petrolatum.....20 grammes (5 drachms);
- Lanolin.....10 grammes (150 grains).

M. ft. unguent.

In case of ulceration, dress with:

- R Powdered salol... of each 5 grammes (75 grains);
- Peruvian balsam...]
- Petrolatum.....30 grammes (1 ounce).

M. ft. unguent.

Or this:

- R Salol..... of each 10 grammes (150 grains).
- Xeroform.....)

M.

Internally Brocq recommends that three of the following pills be taken daily for three or four days:

- R Quinine sulphate.....1 gramme (15 grains);
- Watery extract of ergot...0.50 gramme (7½ grains);
- Powdered digitalis.....0.10 gramme (1½ grain);
- Powdered belladonna root...0.05 gramme (¾ grain).

M. ft. pil. xl.

Other remedies recommended for internal use are iron, cinchona, cod liver oil, iron iodide, and baths of sea water.

The abstractor adds a note that he has long used successfully douching of the feet with sprinkler; a watering can with its spray will serve the purpose. The douching should be kept up for weeks and even months, and be reinforced with tonic treatment.

For Cardiac Failure in Typhoid Fever.—Dr. H. D. Rolleston (*Treatment*, October) says that the heart should always be carefully watched during the course of the fever, so that, as soon as dilatation commences, as shown by an accentuated pulmonary second sound in association with alteration of the first sound and displacement outwards of the apex-beat, the hypodermic injection of strychnine should be started. For its success it should be employed early, and not called in only where cardiac dilatation is well marked. Strychnine thus given is far superior to digitalis and stropanthus by the mouth. The author has no real experience of digitaline hypodermically. When he has employed this preparation, it has been in combination with strychnine.

Stengel (*Therapeutic Gazette*, November, 1900) has recommended subcutaneous injections of from 1 to 2 grains of camphor dissolved in 15 minims of sterilized olive-oil as a cardiac stimulant in typhoid fever. Hypodermic injections of sulphate of sparteine, the alkaloid of broom, have been spoken of favorably for cardiac failure in children by Calamet (*Paris thesis, Revue mensuelle des maladies des enfants*, March, 1902).

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NEW YORK, SATURDAY, DECEMBER 27, 1902.

CONNIVANCE IN THE SPREAD OF INFECTIOUS DISEASE.

Two aspects of connivance in the spread of infectious disease are portrayed in the Chicago Health Department's *Bulletin* for the week ending November 29th. For one of them the general public of Chicago is at fault, and it must be owned, we fear, that Chicago is not alone in this particular phase of culpability. While a sumptuous dinner was being prepared for the seventy inmates of the Chicago Home for Friendless Dogs and Cats, a man was trudging through the streets of the South Division carrying his diphtheria-stricken two year old daughter in his arms in search of some place of refuge where she could be taken in and cared for. Admission was denied the little sufferer at various hospitals and dispensaries. Finally the father was directed from a police station to the Health Department, but before he could reach the office the child was dead. "The body was taken charge of by those in attendance, wrapped in a disinfectant sheet, the ambulance summoned from the Isolation Hospital, and permission obtained by telephone from the coroner to remove the corpse to the desolate home of the grief-stricken parents on the sixth floor of a densely tenanted flat building swarming with other children." In common with Commissioner Reynolds, we are glad to see mercy shown to friendless dogs and cats, but we sympathize with him when he asks if there are not enough benevolent persons in all the great city of Chicago to provide hospital accommodations for friendless human victims of infectious disease. The same question may well be asked in the case of almost every one of our large cities. When will the public learn that the provision of adequate retreats for persons stricken with such disease is not solely a

matter of benevolence, but one also of self-defense? Must this enlightenment be deferred till there arises the inevitable reaction from the maudlin sentimentalism of the antivivisectionists?

The second aspect of this connivance is even criminal, for it involves perjury, and this, too, we fear, is by no means confined to Chicago. We refer to falsification in returns of disease and particularly in certifications of causes of death. Hardships, we are aware, await the tenement house family from which a case of infectious disease is reported, and especially one from which a death from such disease is returned, and we heartily recognize that the evasion of such reports by physicians springs not from any base motive, but from a feeling of sympathy; nevertheless, we must agree that those members of our profession who suffer their sympathy for individuals to get the better of their care for the general welfare are guilty of a very grave offense, and we trust that the penalties will be visited upon them without stint. No physician who realizes his obligations to the community can fail, we think, to take this view of the matter.

THYREOID AND PARATHYREOID INSUFFICIENCY IN THE PATHOGENY OF PUERPERAL ECLAMPSIA.

We appear to be admitting of late years an ever growing list of possible causes of puerperal convulsions. The theory of renal disease as the chief if not the only cause long ago ceased to receive general acceptance. Within recent years it has been to a great extent supplanted by the doctrine of an hepatic pathogeny. Still more recently the idea that insufficiency of the thyroid gland or of the parathyroid bodies was at the bottom of the trouble in many cases has been urging itself upon a number of excellent observers, notable among whom are A. Fruhinsholz and P. Jeandelize, who contributed a highly suggestive article on the subject to the *Presse médicale* for October 25th. They set out with the assumption—surely not a forced one—that puerperal eclampsia is due to poisoning by some material that may either be generated in the system or be taken in from without, and that the injurious action of this material is owing to defective functional activity on the part of the eliminating organs or of those organs whose office it is to destroy or transform such

products; and they set forth a strong argument in favor of including the thyroid and the parathyroids among the latter.

About three years ago Lange reported in, the *Zeitschrift für Geburtshilfe und Gynäkologie* the results of his observations upon the relations between pregnancy and the thyroid gland, and our authors cite the drift of his article as follows: Of 133 women examined during the last twelve weeks of pregnancy, 108 showed thyroid hypertrophy, in three instances its existence was doubtful, and in twenty-two cases it was manifestly absent. Of the twenty-two women who had no thyroid hypertrophy, twenty were albuminuric, and sixteen of the twenty had not only albumin in the urine, but casts also. On the other hand, of the 108 women who had this physiological thyroid hypertrophy, only two were albuminuric, and both of them had had nephritis before the pregnancy occurred. The frequency with which this physiological hypertrophy of the thyroid takes place during pregnancy may be inferred from the fact that Lange's observations were made in Königsberg, in a country where goitre is exceptional. In primiparæ it generally did not show itself until the sixth month, but in multiparæ it began in the fifth month. Lange subjected ten pregnant women with the hypertrophy to medication with small doses of the active principle of the thyroid gland, and found that the enlargement disappeared in from eleven to fourteen days, but generally recurred after the medication was suspended.

These facts, together with others of like purport which they cite, have convinced our authors that in certain cases of eclampsia there is a relation of cause and effect between thyroid insufficiency and the convulsions, but they question if it is really the thyroid itself that is at fault. It appears from the observations of Moussu, of Vassale and Generali, of Lusena, and of Gley, they go on to say, that thyroid insufficiency gives rise to chronic disturbances, such as myxœdema, whereas parathyroid insufficiency occasions acute troubles, such as convulsions. But the thyroid and the parathyroids, although differing embryologically and histologically, are associated in function, so that apparently thyroid medication suffices to remedy troubles due to parathyroid insufficiency. This being the case, it certainly seems feasible to subject women threatened with puerperal

convulsions to a test of the question by means of such medication, and it seems well also to be on the lookout for the physiological thyroid hypertrophy with which Lange has met so frequently.

THE VOLUNTEER SURGEONS IN THE PHILIPPINES.

A few weeks ago we gave an outline of the scheme for establishing in connection with the medical corps of the army a foreign service medical corps to be made up of the volunteer medical officers when their services as such were no longer needed. Pending legislation authorizing such a corps, one would think that the volunteer officers would improve their prospect of being appointed on it by accepting engagements as contract surgeons. But they may be presumed to have a better knowledge of what is for their own interests than any of us at home can have, and it is understood that they decline, and with some indignation, to adopt that course. They seem to think that a way should be found to virtually transfer them to the medical corps of the regular army, if we may judge by a recent article in the *Manila Times*, a reprint of which has reached us.

It is quite natural that men situated as these volunteer medical officers are should feel sore over a proposed reduction of their status such as would be involved in their transformation into contract surgeons, but we doubt if they are wise in taking before the general public an attitude of protest. That is not usually the way to gain favor with a government department, and it may well be questioned if they have or are likely to acquire sufficient influence with members of Congress or their constituents to secure legislation at variance with the War Department's views. If we regret that they have taken the stand they appear to have taken, it is because we wish them well and should vastly prefer not to see them make a false move. But possibly they are not doing so as a body, or even with a close approach to unanimity; perhaps it is only that some one of their number, less discreet than the rest, is airing a grievance concerning which the others would see the wisdom of remaining silent so far as the general public was concerned. Still, it must be conceded that the grievance is a real one, and we hope that in one way or another it may be corrected.

A GREEN CHRISTMAS AND A FULL CHURCH-YARD.

It is not uncommon to hear pleasant weather at this time of the year deplored as being unseasonable and therefore conducive to sickness and death. We doubt if there is any more substantial basis for the idea than for many another popular tradition that is losing its hold on the community. However, the Chicago Commissioner of Health seems to find in it an explanation for a somewhat advancing death rate in that city during the first half of November. Our own notion is that good weather, seasonable or unseasonable, is always so much clear gain, but we are not prepared to substantiate it with statistics.

THE JUBILEE OF LISTER.

The issue of the *British Medical Journal* for December 13th is a Lister Jubilee Number. As such it must possess very great interest for surgeons all over the world. The usual heading of the first page is appropriately replaced by an illustration of the Lister Frieze at the Policlinico Umberto, Rome. The names of the illustrious authors of the articles show clearly the catholicity of the great surgeon's reputation. Von Bergmann, professor of surgery at Berlin, writes of Plugging with Iodoform Gauze, his article beginning with the words "The principles laid down by Lister." Dr. Lucas-Champonnière, of the Hôtel Dieu, Paris, in an Essay on the Antiseptic Method of Lister in the Present and in the Future, begins his tribute as follows, "Since the year 1868, when I had the honor and good fortune to see the master at Glasgow and to be initiated by him in antiseptic surgery." Francesco Durante, Director of the Surgical clinic at the University of Rome, contributes Observations on Certain Cerebral Localizations. Oscar Bloch, professor of Clinical Surgery in the University of Copenhagen, has a lecture on the Antiseptic Treatment of Wounds. Von Mickulicz-Radecki, professor of surgery at the University of Breslau, follows with a contribution on the Treatment of Fractured Patella. In the Bradshaw lecture on Infective Arthritis, Howard Marsh adds his tribute to the master, as do also Alexander Ogston, professor of surgery in the University of Aberdeen, in his Remarks on the Influence of Lister upon Military Surgery, and Berry Hart, of Edinburgh, in an Address on Pasteur and Lister. Then comes an editorial on Lord Lister and Antiseptic Surgery; the History of a Revolution, followed by Early Days in Edinburgh, by Thomas Annandale, Regius professor of clinical surgery, Edinburgh University; Lord Lister and the Evolution of Modern Surgery, by Sir Hector Cameron, professor of clinical surgery in the University of Glasgow; Edinburgh Royal Infirmary, 1869-1877, by John Chiene, professor of surgery in the University of Edinburgh; and Lis-

terism and the Development of Operative Surgery by Professor Watson Cheyne, of King's College, London. The honors bestowed on the great surgeon in recent years, and a bibliography of his works and contributions, covering a column and a half of small print, come next, the memorial portion of the journal closing with a fifteen column editorial review of the entire subject. The number contains reproductions of portraits of Lister at various ages and other illustrations. It is a worthy memorial to the Father of Modern Surgery.

THE NEW VOLUME OF THE INDEX-CATALOGUE.

We have received Vol. vii of the second series of the *Index-Catalogue of the Library of the Surgeon-General's Office, United States Army*, carrying the vocabulary from Hernia to Inquiry and containing the seventh addition to the list of abbreviations of titles of medial periodicals published in Vol. xvi of the first series. The text makes 1,003 pages. This great work is fittingly continued in this volume.

MARK TWAIN AND TYPHOID FEVER.

One of the incidents of a pathetic story told by Mark Twain in the Christmas number of *Harper's Magazine* is the taking of typhoid fever by a young girl as the result of being confronted with her mother, who lay ill of that disease. For the comfort of many good people who are in undue dread of infectious diseases, it may be well for physicians to impress upon them that typhoid fever is not apt to be communicated in such an interview as is described in the story.

THE INDECENCY OF OVERCROWDED CARS.

We wish to call attention to the following propositions: (1) The surface cars and elevated trains in a city are public vehicles, using public property, and operated under public powers, to serve public needs. (2) The delegation of operating powers to private concerns carries the condition that the public service afforded shall be effective and adequate. (3) The expenses or difficulties of the companies exercising such franchises as are granted, are no concern of the public, which has a right to demand the establishment of an entirely satisfactory service at whatever cost, before a single cent of profit is taken by the servant company. If it cannot provide such service on these terms, it has no right to its franchise. (4) The overcrowding of these cars which may daily and nightly be seen in New York is an offense against public decency, making it impossible, as it does, "for any woman to use these public conveyances without unavoidable and indecent contact with others, and as a result, frequent gross in-

sult which cannot be resented or avoided." These are, in substance, the propositions laid down in a circular entitled Decency against Indecency, now being circulated by the Merchants' Association of New York, in connection with, and explanation of, a petition to the Mayor For Official Action to Enforce the Public Right to Proper Accommodation in Street and Elevated Railroad Cars. Of the absolute propriety of the Association's contention, and of the great need of the petition it has inaugurated, we should think there can be no diversity of opinion among right-minded people, and the Merchants' Association deserves the thanks of all for its public-spirited action. It rests with the public to make that action effective. We would ask all our New York readers to sign this petition, and in case they have not seen the form, to write for it to the Association's Committee on Franchises and Transportation, at Broadway and Leonard Street, whence also further information can be obtained.

THE NATURE OF THE TYPHOID TOXINE.

While all analogy leads to the conclusion that typhoid fever is the result of a toxine secreted by the *Bacillus typhosus*, no success has hitherto attended the efforts of the bacteriologists in their attempts to isolate the toxine. Some experiments by Allan Macfadyen, M. D., and Sidney Rowland, M. A., communicated recently to the Royal Society and reported in its *Proceedings* for October 31st, seem likely to lead to a solution of the question. The authors first solved the question of whether the toxine was intracellular or extracellular, in favor of the former view. This they did by substituting for the usual media others more closely approaching in constitution the natural body soils of the bacillus, viz., the actual intracellular juices, in a fresh condition, from the intestinal mucous membrane, glands, and spleen of the ox or calf. On this they grew the bacillus aerobically, anaerobically, with human serum, and after heating to 55° C. for twenty minutes. After four or six weeks' growth, the filtrate was tested, with negative results, on guinea pigs. The bacillus itself was next investigated by growing it on beef broth agar, and, after careful washing in distilled water, disintegrating it mechanically at 180° C. The authors find that "if such a disintegrated mass be freed from whole bacilli (if present) and from other suspended insoluble particles by centrifugalization, an opalescent fluid results, which on inoculation into animals in small doses invariably proves toxic or fatal. It is therefore concluded that the typhoid bacillus contains within itself an intracellular toxine." These conclusions, apparently justified by the premises, clearly indicate the direction for further research.

News Items.

Society Meetings for the Coming Week:

- TUESDAY, December 30th.—Rome, N. Y., Medical Society; Boston Society of Medical Sciences (private).
 WEDNESDAY, December 31st.—Auburn, N. Y., City Medical Association.
 THURSDAY, January 1st.—New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.
 FRIDAY, January 2nd.—Practitioner's Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Clinical Society, New York; Baltimore Clinical Society.
 SATURDAY, January 3rd.—Manhattan Medical and Surgical Society, New York (private); Miller's River, Mass., Medical Society.

The Training School for Naval Nurses.—Some three months since a training school for naval nurses was established at the United States Naval Hospital in Norfolk, and the first class of twenty-eight was graduated from the school on December 15th.

Downtown Hospitals for Chicago.—A movement is on foot to provide an emergency hospital in the business section of Chicago, and provide three movable hospitals to be used as emergency hospitals for contagious diseases. The cost of each is to be about \$10,000.

A Legacy to the Medical Department of Tulane University amounting to nearly a million dollars has been left by the late Alexander C. Hutchinson, of the Southern Pacific Railroad Company. He also made bequests of \$20,000 each to three independent hospitals in the city of New Orleans.

In Memory of Dr. Pease.—At a meeting of the City (Charity) Hospital Alumni Society, held on December 20th, a committee, which had been appointed for the purpose, presented resolutions of regret at the recent death of Dr. Daniel Pearson Pease, of this city, which were unanimously adopted.

A Reception to Dr. Manley.—Dr. Thomas H. Manley, of New York, was offered a reception by the medical profession of Hartford, Conn., at the Hunt Memorial, on Monday evening, December 22, 1902, and he gave a lecture on Stenotic Obstructions of the Large Intestine. On the following day, on the invitation of the medical staff, he operated in St. Francis's Hospital.

Spread of the Sleeping Sickness.—According to press cable despatches the London School of Tropical Medicine has issued a report on the sleeping sickness which is now devastating Uganda, Africa. Although discovered only a few years since it is stated that twenty or thirty thousand people have already died from the disease, and that it is spreading to new areas with increased virulence. The only step which seems to have any effect in preventing the spread of the disease is the isolation of new cases.

Dr. Keen on Vivisection.—Senator Jacob H. Gallinger, of New Hampshire, has published a reply to a public letter addressed to him by Dr. Keen on the subject of vivisection which was referred to in an editorial in a recent number of this journal. Dr. Keen has made a public rejoinder to this reply, citing in detail a number of specific instances in which increased knowledge can be directly traceable to the observations made in the course of vivisection.

The Nobel Prizes.—The Nobel prizes for the current year have been awarded as follows: In medicine, to Major Ronald Ross, of the School of Tropical Medicine, Liverpool; in physics, divided between Professor Lorenz and Professor Zeeman, of Holland; in chemistry, to Professor Emil Fischer, of Berlin; in peace, to Professor Friederich Martens, of St. Petersburg; and in literature, to Professor Theodor Mommsen, of Berlin.

A Health Officer Loses Damage Suit.—Dr. Lactot, Medical Health Officer of Montreal has lost a suit for damages which was brought against him on the ground that he had inflicted damages to the extent of \$1,500 upon the plaintiff by ordering a cousin of the plaintiff, who had lived with him but who had been out of the house three days to return and take up his residence in the house after having developed a case of small-pox. Damages in the sum of \$100 were awarded.

A New Therapeutical Society has recently been established in England, with Sir William Thistleton-Dyer, K. C. M. G., F. R. S., as president. Sir William is the Director of Kew Gardens in succession to the late Sir William Hooker, K. C. B. It is purposed to have a central bureau where explorers and others can bring the results of their researches among foreign races, civilized or otherwise, on matters of therapeutical interest. The meetings are to be held in the rooms of the Apothecaries' Company.

Senn Hall Dedicated.—Senn Hall, which will ultimately constitute the east wing of a large structure extending from Harrison street to the corner of Wood street, Chicago, and which is to constitute the clinical building of Rush Medical College, was formally dedicated on December 17th, Sir William H. Hingston, of Montreal, Professor of clinical surgery at Laval University, being the orator of the occasion. The structure cost about \$130,000, the major portion of which was contributed by Dr. Nicholas Senn.

Active at Ninety-five.—Sir. Charles Nicholson, Bart., of London, celebrated the ninety-fifth anniversary of his birth on November 23d. He took his M. D. degree in Edinburgh in 1833, and in the following year went to Australia and engaged in practice in Sydney where he was the leading citizen for nearly thirty years. He was a member of the first Legislative Council of New South Wales, in 1844, and was three times Speaker of that body. He was the first Chancellor of the University of Sydney and held that office from 1854 to 1860. He contributed a collection of Egyptian antiquities to the Sydney Museum, a catalogue of which covers some 150 pages.

The Research Laboratories at Khartoum.—On December 8th Mr. Henry S. Wellcome gave a dinner in London to Dr. Andrew Balfour, on the eve of his departure for Khartoum, where he is to assume the direction of the chemical and bacteriological laboratories presented to the Gordon Memorial College by Mr. Wellcome. Among the speakers and guests present were Dr. Malcolm Morris, Sir Henry M. Stanley, Dr. William Murrell, Dr. T. J. Barnardo, Sir Dyce Duckworth, Dr. A. Chune Fletcher, Dr. Alfred S. Gubb, Dr. Patrick Manson, Surgeon General Sir William Taylor, Dr. Thomas Waksley, Jr., and Dr. Harvey Littlejohn. Dr. Manson announced that the germ of sleeping sickness had been discovered.

The Eastern Medical Society of the City of New York.—At a meeting held at the Educational Alliance, East Broadway and Jefferson street, on Friday evening, December 12, 1902, the following officers were elected: President, Dr. Louis J. Ladiniski; first vice-president, Dr. E. K. Brown; second vice-president, Dr. A. Hymanson; secretary, Dr. Albert Miller; treasurer, Dr. Bernard Gordon; chairman committee on ways and means, Dr. David Robinson; chairman committee on ethics, Dr. Simon Marx; trustee, Dr. A. E. Isaacs; committee on admission, Dr. Charles Goodman, chairman, Dr. M. Wolper, Dr. M. Rabinovitz, Dr. J. Heller, and Dr. M. Frankel.

Grants for Researches in Medicine.—The Committee on Scientific Research of the American Medical Association is prepared to receive applications from gentlemen engaged in scientific research bearing upon practical medicine and surgery. Five grants of \$100 each will be given in support of such investigation. The results of the work in each case must be presented, either in abstract or complete, before one of the sections of the American Medical Association, preferably the Section on Pathology, at the next annual meeting to be held in New Orleans, May, 1903. All applications should be accompanied by a full statement of the applicant's previous work and training and his present facilities, as well as by a sufficient indication of the proposed or partly completed work to enable the committee to decide upon the advisability of making a grant. The members of the committee are Dr. Alfred Stengel, chairman, 1211 Spruce street, Philadelphia; Dr. William Osler, Baltimore, and Dr. Ludwig Hektoen, Chicago.

Physicians as Playwrights.—Two plays have recently been placed upon the stage in Paris written by physicians. One of these *L'Enquete* was written by Dr. Roger, an adjunct professor in the faculty of medicine. This play is presented at the Theatre Antoine. The plot depends upon the murder of a man by an epileptic during a seizure and a total obliteration of this act from the memory of the murderer. The epileptic is a *juge d'instruction* and it becomes his duty to inquire into the cause of death, a duty which he performs without having any idea that he has to do with his own act. During the course of the trial the judge is struck down by another attack. The other play, written by Dr. Bouchinet, medical officer to the baths of Royat, is

a domestic drama known by the title of *Gertrude*, and has no special medical features, though one of the characters is a physician. Another physician, Dr. Charles Richet, an eminent professor of physiology in the faculty of medicine of Paris, has written a new drama in verse which is shortly to be produced by Sara Bernhardt. Professor Richet writes under the nom de plume of Charles Ephyre, and has already written several successful dramas.

Prize Essays on Tropical Medicine.—The *London Journal of Tropical Medicine*, 83 Great Titchfield street, London, W., has announced three prizes of £10 each for essays on the following subjects: "The Nature and Treatment of Diseases, Exclusive of Acute Dysentery, Affecting the Lower Part of the Large Intestine Occurring in Warm Climates"; "The System of Drainage and Sewerage (domestic and municipal) Best Suited for Tropical Climates," and "Critical Examination of the Practical Value of Anti-typoid Inoculation." Intending competitors must send name, address, and the title of the prize to be competed for to the *Journal of Tropical Medicine*, before February 1, 1903; the essays must be sent to the same address by May 1, 1903, and the names of the winners will be announced in July of the same year. The competition is open to all qualified medical practitioners of any nationality, and essays may be written in English, French, German, Italian or Spanish.

A Clinic for the Treatment of Trachoma.—At the request of Commissioner Lederle of the Department of Health, the Trustees of Bellevue and the Allied Hospitals are preparing to establish a clinic for the treatment of trachoma. This disease is prevalent among the school children of the city, and there is at present no city hospital with the facilities for its treatment. The various private hospitals of the city devoted to the treatment of the diseases of the eye, are overwhelmed with the number of cases that come to them for treatment, having been excluded from the schools by the inspectors of the Health Department. These institutions also, are for the most part, unprovided with wards in which the patients may be kept over night after they have undergone operation. The operation usually practiced consists in scarifying the lids, and calls for the use of anesthetics. The Trustees have fitted up the first floor and part of the second of the old building of the Gouverneur Hospital for the treatment of these cases. There will be the usual waiting room, operating room, recovery room and a ward for each of the sexes in which the patients may be kept from 12 to 24 hours. This is looked upon as in the nature of emergency work and it is believed that by vigorous measures now, the disease may be brought under control within a few months.

The Insufficient Supply of Medical Officers in the Navy is referred to by the *Army and Navy Journal* as follows: "In no branch of the naval service will the manoeuvres in the Caribbean Sea be observed with closer attention than in the Bureau of Medicine and Surgery of the Navy Department. All or nearly all of the vessels engaged in those movements were sent to West Indian waters insufficiently provided with medical officers, some ships

which should have had two or three surgeons having actually but one. In other words, the Navy is so short of medical officers that these manoeuvring squadrons, carrying approximately 12,000 officers and men from our forces afloat, have assembled in tropical waters under conditions that make the health problem a matter of the keenest solicitude. Under normal conditions the sick list of a ship's company averages from three per cent. to four per cent., and on a vessel carrying a complement ranking from 400 to 500 officers and men there is ample work for three surgeons. This percentage of sickness increased considerably, even during last summer's manoeuvres in the comfortable climate of the New England coast, and it is quite likely that there will be a still greater increase among the crews of the ships now assembled in the less bracing climate of the Caribbean. It is unfortunate, therefore, that any ship should have been sent to the manoeuvres without a full complement of medical officers, but as we have repeatedly pointed out, the blame for it rests with Congress alone. The attention of that body has been frequently called to the urgent need of a large increase in the Navy medical corps, and in his recent annual report Surgeon General Rixey appealed earnestly for legislation to that end. He also made a plea for hospital ships for the Navy, and the need of such vessels is so plain that it speaks for itself. The manoeuvres now in progress probably will, and we earnestly hope they may, be completed without serious injury to the health of the forces engaged, but we do not doubt that it will sharply emphasize the increasing need of additional medical officers and of hospital ships for the Navy, not merely to provide greater comfort for the sick and wounded, but to permit of higher efficiency on the part of fighting ships in time of action."

The French Academy of Medicine.—On November 25th the buildings of the French Academy of Medicine were formally inaugurated by the President of the French Republic. This institution was established by Louis XVIII, on December 20, 1820. Questions of hygiene, of legal medicine, the use of vaccine, the examination of new remedies and patent medicines, of mineral waters were referred to it for decision, and this body of physicians counsels the government as to the best means of preserving the public health. For a great number of years no specially constructed building had been placed at the disposal of the academy, and it met in turn either in the Louvre, various private hotels, and lastly in the former chapel of the Charity Hospital. This last-named place was notoriously insufficient, and it was decided to build the present structure, which is situated in the Rue Bonaparte, next to the School of Fine Arts. The amount expended in its construction was a little less than \$200,000. The most noticeable parts of the building are a vestibule with busts of celebrated physicians and a painting of Pinel, the eminent alienist, locking up the irons used for insane patients, a large hall for the special meetings of the academy, with a seating capacity of 110, and which is most artistically decorated; different committee rooms, a laboratory and institute for vaccination, and special rooms for the library, containing 120,000 volumes. At the meeting held on November 25th the president of the academy, Dr.

Riche, delivered an address, in which he showed the importance of the Academy of Medicine, more especially on account of the new sanitary laws, how such measures as had already been carried out to protect children or to prevent too great a spread of alcoholism were due to the academy. He cited the words of the celebrated philosopher, Descartes: "It is of medicine that one should ask the solution of problems which concern the happiness and grandeur of the human race." Professor Jaccoud, who is perpetual secretary, made a most eloquent speech, in which he showed how continual the progress of medicine was, and his discourse was very much applauded. The minister of public instruction also addressed the members, and the president conferred the cross of Commander of the Legion of Honor on Professor Jaccoud. There are in all 110 members of the academy, which is divided into the following sections: anatomy and physiology, 10; medicine, 13; surgical pathology, 10; therapeutics and natural history, 10; operative surgery, 7; pathology, 7; obstetrics, 7; public hygiene, legal medicine and medical supervision, 10; veterinary medicine, 5; physics and chemistry, 10; pharmacy, 10, and free associates, 10. There are besides 20 national and 20 foreign associates, 100 national correspondents and 25 foreign correspondents.

Official News.

Public Health and Marine Hospital Service:

Official List of Changes of Station and Duties of Commissioned and Non-commissioned officers of the Public Health and Marine-Hospital Service for the Seven Days ending December 18th, 1902:

PECKHAM, C. T., Surgeon-General. Granted leave of absence for 14 days from December 23.

BARNESBY, P. N., Acting Assistant Surgeon. Granted leave of absence, on account of sickness, for 30 days from December 10.

Casualties.

Surgeon JOHN VANSANT died December 12, 1902. Acting Assistant Surgeon JOSEPH CHARLES died December 11, 1902.

Infectious Diseases in New York:

We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending December 20, 1902:

DISEASES.	Weekend'g Dec. 13		Week end'g Dec. 20	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	81	16	99	18
Scarlet fever.....	153	13	178	11
Cerebro-spinal meningitis.....	6	3	0	0
Measles.....	161	4	145	7
Diphtheria and Croup.....	494	54	383	44
Small-pox.....	7	0	1	0
Tuberculosis.....	218	129	202	139

Army Intelligence:

Official List of Changes in the Station and Duties of Officers serving in the Medical Department of the United States Army for the week ending December 20th, 1902:

CRAMPTON, LOUIS W., Major and Surgeon. Granted ten days' leave of absence.

DEVEREUX, J. R., First Lieutenant and Assistant Surgeon. Granted leave of absence for thirty days.

LEWIS, WILLIAM F., Captain and Assistant Surgeon. Granted leave of absence for thirty days upon being relieved from duty at Fort D. A. Russell, Wyoming.

WOODBURY, FRANK T., First Lieutenant and Assistant Surgeon. Granted leave of absence for fifteen days.

Public Health and Marine-Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending December 20, 1902:

Smallpox—United States.			
Location.	Dates.	Cases.	Deaths.
California—Sacramento	Nov. 29-Dec. 6	3	3
California—San Francisco	Nov. 29-Dec. 6	1	3
Colorado—Denver	Dec. 6-13	9	1
Florida—Jacksonville	Dec. 6-13	1	1
Georgia—Atlanta	Dec. 3-10	2	1
Illinois—Bellevue	Dec. 6-13	1	1
Illinois—Chicago	Dec. 6-13	4	4
Illinois—Freeport	Nov. 29-Dec. 13	3	3
Indiana—Indianapolis	Dec. 6-13	22	2
Maine—Biddeford	Dec. 6-13	2	2
Maine—Portland	Dec. 6-13	1	1
Massachusetts—Boston	Dec. 6-13	21	2
Massachusetts—Chelsea	Dec. 6-13	1	1
Massachusetts—Lawrence	Dec. 6-13	2	2
Massachusetts—Malden	Dec. 6-13	1	1
Massachusetts—Newton	Dec. 6-13	3	1
Massachusetts—Taunton	Dec. 6-13	1	1
Michigan—Detroit	Nov. 29-Dec. 13	68	3
Michigan—Grand Rapids	Dec. 6-13	9	9
Missouri—St. Louis	Nov. 30-Dec. 7	40	40
Nebraska—Omaha	Dec. 6-13	3	3
New Hampshire—Nashua	Dec. 6-13	20	20
New Jersey—Newark	Dec. 6-13	1	1
New York—Binghamton	Dec. 6-13	1	1
New York—Buffalo	Dec. 6-13	1	1
New York—New York	Dec. 6-13	7	7
Ohio—Cincinnati	Dec. 5-12	2	2
Ohio—Cleveland	Dec. 6-13	11	5
Pennsylvania—Altoona	Dec. 6-13	14	14
Pennsylvania—Erie	Dec. 6-13	3	3
Pennsylvania—Johnstown	Nov. 22-Dec. 13	12	2
Pennsylvania—McKeesport	Dec. 6-13	1	1
Pennsylvania—Philadelphia	Dec. 6-13	4	3
Pennsylvania—Pittsburg	Dec. 6-13	20	9
Utah—Salt Lake City	Nov. 29-Dec. 13	12	3 cases imported.
Washington—Tacoma	Nov. 30-Dec. 7	1	1
Smallpox—Foreign.			
Canada—Quebec	Dec. 6-13	1	1
France—Rheims	Nov. 23-30	38	1
Great Britain—Bradford	Nov. 15-29	2	2
Great Britain—Dundee	Nov. 22-29	1	1
Great Britain—Manchester	Nov. 22-29	1	1
Great Britain—Sheffield	Nov. 15-29	9	9
India—Bombay	Nov. 11-18	2	1
Italy—Naples	Nov. 24-Dec. 1	2	2
Italy—Palermo	Nov. 15-22	3	3
Mexico—Mexico	Nov. 23-30	1	1
Russia—Odessa	Nov. 15-22	2	1
Russia—St. Petersburg	Nov. 15-22	7	2
Straits Settlements—Singapore	Oct. 25-Nov. 1	1	2
Uruguay—Montevideo	Oct. 23-30	11	11

Yellow Fever.			
Brazil—Rio de Janeiro	Nov. 1-8	4	4
Colombia—Panama	Dec. 1-8	5	2
Great Britain—Port Limon	Nov. 29-Dec. 6	4	4
Mexico—Tampico	Nov. 30-Dec. 7	18	18
Mexico—Vera Cruz	Nov. 29-Dec. 6	12	3

Cholera.			
China—Hong Kong	Oct. 18-25	1	1
Egypt—Alexandria	Nov. 8-22	39	35
India—Calcutta	Nov. 8-15	24	24
Straits Settlements—Singapore	Oct. 24-Nov. 1	1	19

Plague.			
Brazil—Rio de Janeiro	Nov. 1-8	1	5
China—Hongkong	Oct. 18-25	1	1
Egypt—Alexandria	Nov. 8-22	1	1
India—Bombay	Nov. 11-18	10	134
India—Karachi	Nov. 9-15	1	5
Straits Settlements—Singapore	Oct. 25-Nov. 1	1	1

Naval Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the Week ending December 20th, 1902:

BLACKWOOD, N. J., Surgeon. Detached from the *Alliance* and ordered to the *Chicago*, via steamer sailing December 27th.

BROWNELL, C. DE W., Passed Assistant Surgeon. Detached from the *Panther* and ordered to the *Alliance*.

- HAAS, H. H., Passed Assistant Surgeon. Detached from duty at Culebra and ordered to the *Montgomery*.
- MYERS, T. D., Passed Assistant Surgeon. Retired and detached from special duty at the Naval Hospital, Philadelphia, and ordered to the Navy Yard, League Island, Pennsylvania.
- RODMAN, S. S., Assistant Surgeon. Unexpired leave revoked and ordered to the *Pensacola*.
- THOMPSON, E., Passed Assistant Surgeon. Detached from the *Montgomery* and ordered to duty with the Marines at Culebra, West Indies.

Births, Marriages, and Deaths.

Marriages.

- BOGG-BICKNELL.—In Los Angeles, California, on Thursday, December 4th, Dr. C. P. Bogg, of San Francisco, and Miss Edna Bicknell.
- HOWARD-SMITH.—In Mount Pleasant, Virginia, on Tuesday, December 16th, Dr. C. Norman Howard, of Washington, and Miss Mamie Smith.
- LAPLACE-BORSCH.—In Philadelphia, Pa., on Tuesday, December 16th, Dr. Ernest Laplace and Miss Catharine Borsch.
- MYNATT-HOUSE.—In Beaumont, Texas, on Thursday, December 18th, Dr. Arthur T. Mynatt and Miss Pearl House.
- READ-EATON.—In Beloit, Wisconsin, on Tuesday, December 16th, Dr. Charles F. Read and Miss Ethelwyn Eaton.
- TOMES-COMBES.—In Brooklyn, N. Y., on Wednesday, December 17th, Mr. Percy Austen Tomes and Miss Frances Amelia Combes, daughter of Dr. Rodney C. F. Combes.
- WATERMAN-BROWN.—In Riverside, California, on Monday, December 15th, Dr. James Sears Waterman, of Brooklyn, N. Y., and Miss Sara Clifford Brown.
- WHITEHORNE-WANIER.—In New York City, on Wednesday, December 17th, Dr. Frederick Newton Whitehorne and Miss Julia Wanier.

Died.

- DAGGY.—In Philadelphia, Pa., on Monday, December 15th, Dr. Samuel Daggy, in the eightieth year of his age.
- DEMBY.—In Brooklyn, N. Y., on Wednesday, December 17th, Dr. Alexander Demby, in the twenty-fourth year of his age.
- HAMMOND.—In Berlin, Maryland, on Saturday, December 6th, Dr. John T. Hammond.
- HOON.—In Pittsburgh, Pa., on Tuesday, December 16th, Dr. A. Wilber Hoon, in the twenty-fifth year of his age.
- KRAUS.—In Buffalo, N. Y., on Friday, December 19th, Dr. Jacob M. Kraus, in the thirty-sixth year of his age.
- LAINE.—In San Francisco, California, on Monday, December 15th, Dr. Joseph R. Laine, in the fifty-fifth year of his age.
- LANDIS.—In Chicago, Illinois, on Sunday, December 14th, Dr. Edmund M. Landis, in the fifty-sixth year of his age.
- LASH.—In Chillicothe, Ohio, on Friday, December 12th, Dr. Josiah W. Lash, in the fiftieth year of his age.
- MANNING.—In Cincinnati, Ohio, on Tuesday, December 9th, Dr. Preston L. Manning, in the twenty-seventh year of his age.
- PARROTT.—In Brooklyn, N. Y., on Tuesday, December 16th, Dr. Malcolm E. Parrott, in the fifty-sixth year of his age.
- RODMAN.—In New York City, on Saturday, December 20th, Edith Wyman Rodman, wife of Dr. H. H. Rodman.
- RING.—In Montreal, Canada, on Thursday, December 11th, Dr. John Ring, in the seventy-fourth year of his age.
- TREW.—In Baltimore, Maryland, on Friday, December 12th, Dr. Bartus Trew, in the thirty-fourth year of his age.
- VAN SANT.—In Charleston, South Carolina, on Thursday, December 11th, Dr. John VanSant, in the eighty-second year of his age.
- WILLITS.—In Norristown, Pa., on Tuesday, December 16th, Dr. Mary Willits, in the fortieth year of her age.

Miscellaneous.

THE PLAIN OF THE CAPUT FEMORIS.

At a dinner given last Saturday by Dr. Carl Beck, in honor of Professor Lorenz, the following verses, entitled *Ode an den heiligen Laurentius* and attributed to "Eupirides redivivus," were found printed on the menu:

Es seufzt an schroffer Mauer gelehnt
Der Kopf, so formenvollendet,
Wann, Retter, erscheinst Du, den ich ersehnt,
Der mein trauriges Schicksal wendet?

Dort unten harret mein treues Lieb,
Erschauend in süßem Harme,
Was säumet mein Ritter, warum verblieb
Er fern meinem schmachtenden Arme?

Ach, herziges Pfännlein, wie drängt es mich
In Deinen Fesseln zu liegen;
In ewiger Qual vergehen muss ich,
Kann ich nimmer an Dich mich schmiegen?

Laurentius, heiliger, einziger Mann,
Nur Du kannst uns beide vereinen,
Erbarne Dich unser und löse den Bann,
Lass die Sonne der Gnade uns scheinen!

Zerreisse, Du Starker, das hindernde Band,
Erlös' uns von unserem Leide
Und thu' mit Deiner göttlichen Hand,
Auf immer zusammen uns beide!

The following attempt at a metrical translation, free as it is, may perhaps convey to those of our readers who are not familiar with German some idea of the purport of the original:

A shapely head astray, I sigh
Upon a rough foundation,
Deliverer, when wilt thou draw nigh
And end my desolation?

Down there below my true love waits
In throes of sweet repining.
What is it that my Knight belates,
My suppliant arm declining?

Oh, nest of mine, for thee I yearn
To draw me to thy hollow.
Will torment never from me turn?
Must I forever wallow?

Oh, Lorenz, godly man, alone
Canst thou again unite us!
In pity set this errant bone!
Let heaven's favor light us!

Oh, man of might, tear loose the thongs
That bar me from my bowler!
Oh, surgeon famed for righting wrongs,
For us display thy power!

Pith of Current Literature.

PRACTICE OF MEDICINE.

Note on a Case of "True" Intestinal Sand. By Dr. C. H. Bedford (*British Medical Journal*, December 6th).—The author reports an instance of the passage of "true" intestinal sand occurring in the case of a woman aged forty-four years. The patient had a marked history of gout, and had a large number of gouty deposits in her smaller joints. She had an attack of mucocolitis coincident with the passage of the sand. The deposit was very finely granular and yellowish-brown, and very like fine sand. There was no appearance of vegetable or crystalline structure. The amount passed at any one time was not more than half a teaspoonful. The condition appears to be closely related to gout, and to be favored by a milk diet.

Three Phases of Pancreatic Disease with Report of Cases. By John H. Blodgett, Ph. B., M. D. (*Medical Record*, December 13th).—In all the three reported cases death occurred. In all cases the diagnosis was at fault and in each an autopsy was made. The first case was essentially one of carcinoma of the stomach with, however, almost every other abdominal organ diseased. Neither the history of the case, nor the pathological report, is sufficiently minute to make either of them available as material on which to base inferences. The pancreatic disease in this case was by extension. In the second case the pancreas was diseased as a part of a general process, and in this case, too, it is difficult to say what value, medically, to put either on the history or on the autopsy. The third is a case of "pancreatic disease, *per se*" occurring in a confirmed alcoholic. There was in this case a fibrosis of the pancreas the head of which formed a hard mass and constricted both the common bile duct and the pancreatic duct. Death in this case was from toxæmia due to bile absorption. The author thinks more attention should be bestowed on the pancreas and on the study of metabolism in general.

Pulmonary Syphilis Simulating Pulmonary Tuberculosis. By Henry W. Berg, M. D. (*Medical Record*, December 13th).—The author believes that syphilis of the lungs is far more frequent than is generally supposed and that many of the cases are diagnosed as pulmonary tuberculosis. This is a great injustice to the patient, to say nothing of its being a reproach to the profession. If an error in diagnosis should be made and a tuberculous patient put on antisiphilic treatment, warning is soon received, as the patient will get worse; while, if the case is one of syphilis, ten days will be enough time, usually, in which to notice the improvement that will follow the treatment. From his own experience and from what he has read, Dr. Berg is inclined to recognize the following types of lung syphilis: (1) Those resembling pulmonary phthisis of the tuberculous type; (2) those resembling subacute or chronic pneumonia of the ordinary type; (3) cases of pulmonary gummata, combined with the formation of more or less extensive fibrous bands and adhesions; (4) cases in which, in combination with extensive syphilis of other organs, particularly the

liver and the bronchial glands, the lungs become the seat of one or more abscess cavities, due to the breaking down of such glands and of pulmonary gummata, and gummata of adjoining organs. He gives the chief points by which these main types are to be distinguished from the ordinary lesions they happen to resemble. The diagnosis is not easy, and the therapeutic test will often have to be resorted to. The pathology of the various types is gone into, showing how the physical signs are modified. In those cases in which there is the double infection of syphilis and tuberculosis, the syphilitic treatment should be tried and continued if it does good.

The Cardiac Muscle from a Clinical Point of View. By Dr. S. J. Sharkey (*Lancet*, December 6th).—Sufficient attention has not been paid to the effect of mere increase in rapidity of contraction upon the heart's muscle. Simple tachycardia, if prolonged, brings about exhaustion, and ultimately dilatation. In these cases the heart's muscle, while healthy, is worn out; if its work can be lessened, great improvement will take place. This is best effected by giving complete rest: digitalis, strophanthus, and convallaria are often beneficial, but require healthy muscle to act upon. They also require that the rapidity of the heart's action should be greater than normal. This is the reason why digitalis is not good in aortic disease, where the pulse-rate is usually slow. But where the left ventricle fails in aortic disease, and the rate becomes rapid, digitalis may do much good. As a rule, what is required in aortic disease is to avoid sudden physical strain, nerve shock, or excitement. As regards drugs, what is required is some substance which simply increases the contractile power and nutrition of the cardiac muscle, without slowing the pulse-rate or contracting the peripheral vessels. Caffeine, strychnine, and ammonium carbonate answer to these conditions. In the specific fevers, especially in typhoid fever as it lasts so long, the heart is liable to fail and its failure is one of the chief causes of death. The prolonged increased frequency of the cardiac contractions is a very important element in the production of this cardiac failure. Considering solely the needs of the heart, alcohol is not the best drug to use in these cases, as it dilates the peripheral vessels. Strychnine acts much better. Digitalis is of but little service in the rapid and feeble heart of fever, probably because the cardiac muscle in such cases is not healthy, but is pale, soft, and the seat of "cloudy swelling." Cold sponging is invaluable: it reduces the temperature and so slows the pulse-rate, and further, it contracts the peripheral arterioles. Alcohol appears to be rather a tonic for emergencies: it is also a force-supplying food as well as a cardiac stimulant. In those cases where the cardiac muscle and valves are healthy, but where there is exaggerated peripheral resistance (granular kidney, emphysema, etc.), the first indication is to lessen such resistance by means of nitroglycerin, amyl nitrite, or the nitrites. The effect produced is analogous to what should normally take place when pressure on the internal surface of the heart reflexly dilates the peripheral arteries and so relieves the tension. Once the tension is reduced, then digitalis, strychnine, etc., act with great effect on the failing heart's muscle. In chronic degenera-

tive changes of the cardiac muscle and in the chronic interstitial inflammations, whether partial or general, but little can be done. The diagnosis of valvular diseases of the heart is markedly influenced by the condition of the cardiac muscle. Disease of any of the valves may be extreme without betraying itself by a murmur, provided that the heart's muscle is acting feebly, and murmurs which are loud when the heart is in good condition may become very feeble or disappear entirely when the muscle fails. Mitral stenosis is the condition which is most frequently present without any murmur being heard. Whether the cardiac muscle is feeble or vigorous, mere rapidity of action may make accurate diagnosis of the nature of a murmur or murmurs, absolutely impossible. A very dilated heart may closely simulate pericardial effusion. In conclusion, the author states that in the absence of cardiac enlargement or valvular murmurs the diagnosis of fatty or other degeneration of the cardiac muscle is most difficult. If the apex beat is feeble or absent, if the first and second sounds are short and faint and similar in character, the diagnosis of cardiac degeneration becomes very probable. If to these indications are added syncopal, apoplectiform, epileptiform, or anginal attacks, the diagnosis becomes well-nigh certain. The patients may get thin, pale, and feeble, and suffer from indigestion, dyspnoea, and mental failure; but dropsy, so common in other forms of cardiac disease, is absent in these cases.

Colon Catarrh. By Dr. T. S. Wilson (*British Medical Journal*, December 6th).—Under the heading of colon catarrh, the author includes the following conditions: (1) Simple acute catarrhal colitis, due to errors of diet or chill, and characterized by colicky pain, and diarrhoea, with mucus, and sometimes blood in the stools. (2) Subacute and chronic simple catarrh of the colon. (3) Muc membranous or membranous colitis, characterized by pain, constipation, and the passage of so-called membranes in the stools. (4) Mucous colic—a pure secretory neurosis of the colon, characterized by colic and the passage of mucus. (5) True catarrhal typhlitis—cases of catarrhal inflammation of the caecum associated with the presence of mucus in the stools, in which there is no evidence of appendicular inflammation. They are characterized by the presence of a tumor in the right iliac fossa, due to spasmodic dilatation of the gut. The catarrhal condition of the colon manifests itself by altered function of two kinds: (1) Abnormal secretory activity; (2) abnormal motor activity. The mucus is of a peculiarly firm and membranous character. The abnormal motor activity shows itself by irregular painful contractions and by a peculiar form of tonic rigidity of the muscular coat of the gut, leading to spasmodic dilatation of the bowel.

Catarrh of the colon is due to irritation: this irritation may be due to the abuse of purgative drugs, to irritating enemata, indigestible food, exposure to cold, chill, etc. Gout and the arthritic diathesis play an important part in the aetiology of membranous colitis. The author holds that this variety is a true catarrh and not a neurosis.

The primary symptoms of colon catarrh are: (1) Excessive secretion of mucus. (2) Excessive irritability of the muscular coat of the colon, causing

it to harden and become palpable. (3) Constipation, due, probably, to both altered secretion and altered mobility of the colon. (4) Pain—often colicky;—and tenderness of the colon. (5) Nervous phenomena, especially well-marked mental depression, often hypochondriasis, sometimes true neurasthenia.

In the treatment of acute colitis the rheumatic element must not be neglected—it is met by the administration of the salicylates. In more chronic cases one of the combinations of salicylates with carbolic acid, of the salol type, seems to be more effective. A second point to be remembered is the undue irritability of the colon, both secretory and motor. All articles of food liable to leave an irritating, indigestible solid residue, must be eliminated from the diet—the treatment must be exactly opposed to that usually adopted for simple constipation. In cases of long standing, where the mucous membrane has become damaged, treatment by simple saline or boric enemata, is sometimes of service. In extreme cases it may be necessary to give the colon a prolonged rest by means of the performance of right inguinal colotomy. The author emphasizes the great importance of early recognition of catarrh of the colon, because of the intractable nature of these chronic cases. But the deceptive nature of the early symptoms renders the early recognition of this condition far from easy, because they suggest the presence of a gastric rather than of an intestinal complaint.

The Nature, Causes, and Treatment of Cardiac Pain.—By Dr. A. Morison (*Lancet*, November 29th).

Diagnosis. For the general diagnosis of angina pectoris three chief points have to be borne in mind: (1) The situation of the pain is essentially sternal or retrosternal, and most commonly some point between the level of the third rib cartilages and the ensiform process. Cardiac pain is practically central and in the situation indicated; it is rarely epigastric or over the manubrium sterni. (2) The character of the consequences of the pain. While the general collapse which accompanies hepatic, renal, or other severe pain, may bear some resemblance to that of the later stages of an anginal attack, the characteristic radiation of the pain in cardiac cases usually serves to indicate the seat of the original stimulation. Collapse due to non-cardiac pain is usually of later supervention than when due to angina. (3) The freedom of respiration, and especially the unimpeded character of forced or voluntary respiration, serves to distinguish between cardiac and other thoracic pains, whether direct or reflex, which involve the intercostal or diaphragmatic muscles. The more particular diagnosis of angina pectoris—the distinguishing of varieties of true angina from one another—is often most difficult. In cases of coronary calcification with neuritis, the patients are usually over fifty years of age, there is a history of arthritic trouble, the peripheral blood vessels are thickened, and the patients are apt to be spare in body. In cases of musculospasmodic angina there is usually a history of muscular exhaustion antecedent to the attack; there may be no arthritic history, and the patients exhibit a general embonpoint. In cases of acute aortitis the sufferers are comparatively young

and there is a history of specific infection. In cases of angina associated with aneurysm of the aorta Röntgen skiagraphy is invaluable. The presence of valvular lesions serves to differentiate endocardial angina, and it is questionable whether intracardiac pressure plays more than a subordinate part in these cases.

Prognosis. The prognosis of coronary vascular angina, neuritic or aneurysmal, or both, is most grave; that of acute syphilitic aortitis is dependent upon the extent of the affection. Once safely over the acute stage of such an aortitis the patient, especially if the aortitis is due to syphilis, frequently responds well to specific treatment. The prognosis of neuralgic and vasomotor angina, and of angina reasonably referable to other than cardiac reflexes, such as poisons or tobacco, is good; so likewise is that of the severe cardiac pain associated with valvular lesions, particularly with aortic lesions. Angina sine dolore, being essentially due to cardiac muscular failure, the prognosis is of the gravest. It is a musculoparetic, not a musculospasmodic condition,—hence, possibly, the absence of pain.

Treatment. The most powerful influence in counteracting the paroxysm of angina pectoris must be ascribed to the nitrites—amyl nitrite, nitroglycerin, and sodium nitrite. During an attack the inhalation of the drug is indicated, and there need be no fear of the use of more rather than less than the conventional dose of five minims of amyl nitrite. In some cases the nitrites have no effect upon the pain; chloroform, ether, and the hypodermic injection of morphine must then be used. The author is not in favor of the use of the higher nitrates (nitrates of erythrol and mannitol) in the interval between attacks. To secure an equable blood pressure, certain drugs must be avoided, as, for instance, tobacco. The use of the milder mercurials to combat intestinal fermentation and promote the flow into the primæ viæ of the natural secretions which secure a normal blandness of intestinal content is of the first importance. Potassium iodide is often of great service, but it has at times a tendency to cause gastrointestinal irritation, and thus provoke reflex irregularities in vascular pressure.

The Clinical Associations of Reduplicated First Sound. By Dr. A. G. Phear (*Lancet*, December 6th).—The common clinical conditions with which a reduplicated first sound may be associated are as follows: (1) Valvular lesions of the heart, for the most part mitral regurgitation. (2) Arterial degeneration with raised systemic tension and accentuated aortic second sound. The reduplication of chronic interstitial nephritis, a condition which is always associated with cardiovascular lesions. (3) Pulmonary emphysema, with or without bronchitis. (4) Anæmia, chiefly of the chlorotic type, with the usual circulatory disturbances, including an accentuated and sometimes reduplicated pulmonary second sound. (5) In cases the prevailing symptoms of which are those of dyspepsia—discomfort after food, flatulence, constipation, and the like—there may be reduplication of the first sound without any other evidence of cardiac inefficiency. The above classification was based on a series of 109 cases. Valvular lesions other than mitral incompetence were rare. In the second group (arterial degeneration) there

was a history of lead poisoning in eight cases. The author holds that the double first sound is due to a lack of coincidence in the moments at which mitral and tricuspid valves, being thrown into tension, give rise to sounds. There is a lengthening of the period between the closure of the valve and the production of sound on the side of the ventricle, which has to meet the greater relative resistance. Combined reduplication of both sounds is uncommon. The prognostic value of a double first sound is not great, although some hold it to be an indication of impending cardiac failure.

SURGERY AND ANATOMY.

Massage and Movement in the Treatment of Sprains and Dislocations.—Noble Smith (*Lancet*, November 8th) reaffirms the principles published by him in the *British Medical Journal* for January 7, 1888, which were substantially as follows: (1) To allow as short a time as possible to elapse before the reduction of the dislocation is attempted; (2) to avoid, as a rule, making such attempts until the patient is under an anæsthetic; and chiefly (3) daily movements of the joint, commencing soon (twenty-four hours, perhaps) after reduction.

This active treatment is not only applicable to sprains and dislocations, but may well be applied to fractures also and especially to fractures in the neighborhood of joints. Mr. Noble Smith adds that the appreciation of the value of massage and early movement in the treatment of dislocations and fractures seems to be gaining ground in recent years, but some writers apparently date its introduction to a quite recent time. He does not know to whom the credit is due of originating the methods referred to, but he does know that he was very severely criticised and found fault with when he recommended such a line of practice in 1882. The treatment of sprains and dislocations and fractures by massage and movement "is not sufficiently known," or, rather, the advantages of that treatment are not sufficiently recognized.

On Encysted Hernia of the Tunica Vaginalis, and its Origin. By Dr. K. I. Soussloff. (*Rousky Vrach*, November 2nd).—The author's study of the encysted type of hernia into the vaginal tunic leads him to the following conclusions regarding its origin: (1) The basis of the mechanism of an encysted hernia is an irregularity in the development of the vaginal process of the peritoneum. (2) When the process is closed somewhere along its course, while the lumen of the lower portion is not destroyed, a testicular encysted hernia results. (3) When the lumen remains intact above the constriction, a hernia of the cord is present. (4) The serous coverings of the testicle and cord glide into the most available space, and thus the hernia is formed. (5) Hydrocele is a secondary phenomenon in these cases. (6) The communication between the hernial sac and the peritoneal cavity is the result of a perforation. (7) A diagnosis is very difficult before operation. (8) Operations on these encysted hernias are comparatively devoid of serious difficulties, as aside from the presence of a peritoneal sac around the hernial sac there is nothing to be encountered that complicates matters, as is the case in ordinary inguinal hernias.

Ligneous Phlegmon of the Neck.—Dr. A. N. Koudriasscheff (*Roussky Vrach*, November 2nd) describes a rare affection of the neck which has been named by Reclus "ligneous phlegmon." This type of inflammation has not received very much attention in the past, and Reclus records five cases which he observed minutely. In these the process was localized in one or another region of the neck, was chronic in character, not accompanied by fever or by only slight rises of temperature, and was entirely painless. The consistency of this inflammatory mass was like that of wood, and it was situated in the thickness of the subcutaneous fascia and muscles. It grew very slowly in size, and the skin over it assumed a wine-colored tint. It was not definitely circumscribed and its surface tended to become nodular. Very little tendency to suppuration was noted in these cases, but after a considerable time, some of these inflammatory masses showed softened and suppurating spots. Examination of the pus revealed chains and groups of cocci, and while the disease may not be a specific one, Reclus regards it as one of bacterial origin. The great resemblance of these cases to instances of scirrhus cancer is of importance. One cannot be sure that the case is not one of cancer until the patient has been entirely cured of this inflammatory growth. The disease is said to occur most frequently in emaciated and weakened subjects, among the hard-working and the poor. Persons of middle age are most often affected; men more often than women. A great variety of views is held regarding its causation, some considering it an intermediate condition between a new growth and an abscess, while others think it a form of actinomycosis, which is not inclined to suppuration. Various cocci have been found in the pus since Reclus examined it, but no specific germ has been found. The author reports a case of this rare affection in a man aged thirty-eight years, who was extremely emaciated and almost starving. The suppurating area of the growth was opened, and the wound was swabbed out with Lugol's solution. The growth, however, very slowly diminished in size, the patient having been given potassium iodide internally to facilitate its absorption. The author says that the affection is rare, but that it is often overlooked, and as its true nature is not known, the name ligneous phlegmon is as good as any other.

A Method of Removing Small Metallic Foreign Bodies from the Stomach Without External Operation. By S. Mayou, F. R. C. S. (*Lancet*, December 6th).—The author's method of removing small metallic foreign bodies from the stomach consists in the use of a small electromagnet, two inches in length and five sixteenths of an inch in diameter with a lifting power of a quarter of a pound. This magnet is inserted into an ordinary stomach tube, cut off square, the wires of the magnet running through the tube. A narrow silver band is placed on the outer side of the stomach end of the tube. The patient being anesthetized, the x-ray tube is placed beneath him, and the tube passed into the stomach. Both the foreign body and the magnet become visible: they are brought into contact, the current allowed to flow, and the magnet is pulled into the tube by means of its wires, drawing the foreign body with it. As soon as the latter

has entered the tube (as shown by its passing the silver ring) the tube is withdrawn, bringing with it the foreign body.

A Modified Method of Circumcision.—Dr. Louis J. Krouse (*Cincinnati Lancet-Clinic*, November 29) describes several methods of operating, including the following: "Others split the foreskin on the dorsal aspect of the organ up to the corona. Each half of the foreskin is then removed separately with a pair of scissors, the line of excision running parallel to that of the corona. By this method the cutaneous and mucous layers are removed on the same plane." Dr. Krouse continues: "The operation last described may appear ideal to one who has never seen it done, but to those who have performed the operation frequently, or seen it done repeatedly, it lacks something. The appearance is not *comme il faut*, nor pleasing to the sight. The line of excision is not even. * * * This necessitates the trimming off of the uneven edges before the final approximation of the two layers." In order to overcome this imperfection, Dr. Krouse has attempted to improve the technics so as to make the incision perfectly even. To effect this, the first step consists in passing a grooved director between the glans penis and the foreskin up to the corona. A sharp pointed bistoury is then passed along the director piercing the prepuce. The director is then removed and reintroduced from above through the opening made by the knife, the bistoury remaining in position until the director is reintroduced. The foreskin at one side of the frænum is next pierced with the knife, and the grooved director passed from the upper opening through the lower one at the side of the frænum. One half of the foreskin is thus stretched over the grooved director, which lies in the sulcus, posterior to and parallel with the corona. The parts overlying are then steadied and made taut with the thumb and index finger of the left hand and cut with a pair of scissors. The same manipulation is done on the opposite side. The foreskin is now detached all around except at its lowermost portion, where it is still attached by the frænum. This is now severed. If we look at the organ at this stage of the operation we notice that the raw edges of the inner and outer layers of the stump of the foreskin are in close apposition. The line of excision is perfectly straight and smooth. The skin and mucous layer require only a few stitches to keep them in position. Union by first intention has always been the rule, says Dr. Krouse, and one who has not seen the result of this operation will be surprised at the cosmetic effect.

OBSTETRICS AND DISEASES OF WOMEN.

A Case of "Dissecting" Puerperal Metritis.—Dr. V. I. Polkanoff (*Roussky Vrach*, November 2nd) describes a case of a rare type of metritis which occurred in a puerperal woman, aged twenty-two years, a primipara, who was brought to the hospital in the midst of attacks of eclampsia after a labor lasting fifteen hours. The child was delivered with forceps, a complete laceration of the perinaeum resulting from the extraction. On the fifth day a marked enlargement of the uterus, and a foul

odor of the lochia were noted; there came a rise of temperature and of the pulse, and the other symptoms of puerperal metritis. On the thirty-first day after the labor, there came out of the cervix a piece of the affected uterus in the form of a mass of uterine tissue of irregular shape, covered by peritonæum. Most authorities state that it is impossible to make a diagnosis of dissecting metritis before the piece of uterus is expelled. Garrigues, however, states that in such cases the uterus remains high, does not contract after labor, and there is an edema of the external genitals. Beckman confirms the observations of Garrigues in this respect. Most cases reported have ended in recovery, but death took place from sepsis in 27.5 per cent. of cases, according to Beckman. Recovery is due to the formation of adhesions of peritonæum about the opening in the uterus. The treatment of this affection is chiefly expectant, and should be limited to rest in bed and antiseptic vaginal douches. All forcible attempts at removing the gangrenous portion of the uterus should be avoided.

Deep Transverse Arrest of the Head as an Indication for Forceps.—Dr. C. B. Reed, (*Illinois Medical Journal*, December) summarizes a paper on this subject as follows: (1) Deep transverse arrest of the head is a relatively common complication in labor. (2) The diagnosis is easily made from the position of the sagittal suture, and the fontanelles. (3) The normal termination of the case cannot be waited for in most instances, but forceps should be applied as soon as it is evident that rotation will not occur spontaneously. (4) The blades should be applied in that pelvic oblique diameter toward which the occiput lies. (5) Location of the occiput must be determined before the blades are applied. (6) Traction and rotation must be simultaneous.

NERVOUS AND MENTAL DISEASES.

On Gastric Digestion, Particularly on the Secretory Function of the Gastric Glands in the Insane (Concluded).—Dr. A. I. Iustchenko (*Rous-sky Vrach*, November 2nd) concludes as follows as regards the gastric digestion of the insane, basing his statements on extensive series of investigations: In patients with secondary mental weaknesses, workmen who were satisfied with their lot and who had good appetites, there were no serious digestive disturbances. Patients with mania, melancholia, paranoia, and some other types of insanity, and having a good appetite did not present any marked derangements in the gastric function, but it is possible that in these patients there were some characteristic changes in the functional activity of the stomach, dependent on a derangement of the nerve supply of the glands. In progressive paralysis and in neurasthenic psychoses, however, these characteristic changes were found present in the shape of an asthenia of the gastric mucosa. This asthenia was not proportional to the stage of the disease or to the presence of a marked desire to eat. In melancholics with lowered appetite the gastric disturbances evidently depend upon a lack of secretion of the "appetite juice," but it is possible that, in addition to a disturbed appetite phase of digestion, these pa-

tients also have a deranged nervo-glandular apparatus. In maniacs and in patients with catatonia there were found changes in the gastric functions summed up by the word asthenia, manifested clinically by loss of appetite and blunted sense of hunger. In most paranoiacs the gastric function went on regularly, but there were cases in which severe disturbances were noted, the latter probably depending on a destruction of the sense of smell and taste. In cataleptic attacks in paranoia there is a cessation of the secretion of the psychical gastric juice.

The practical value of these studies is considerable. The administration of hydrochloric acid and of pepsin solutions is of value in cases of insanity with gastric disturbances; in cases of loss of appetite the acid is ordered before eating, at the beginning of digestion; while in cases of asthenia, the remedy is given after meals. In some cases there was a marked diminution in the amount of pepsin and the hydrochloric acid alone was not sufficient but pepsin had to be added. Thus the examination of the stomach contents in the insane presents valuable hints as to the therapeutic measures to be adopted. In feeding the insane affected with loss of appetite and gastric asthenia small quantities of food frequently repeated are advisable, and enough substances stimulating the organs of taste should be introduced into the bill of fare to counteract the lack of appetite present in persons leading a sedentary life devoid of activity, such as the insane in confinement.

Causes of Epilepsy in the Young. By A. Jacobi, M. D., LL. D. (*American Medicine*, December 13th).—The actual or the proximate cause of generalized epilepsy is in the cerebral cortex; its origin is in anatomical lesions of different localities. Thus, epilepsy may be cerebral, it may be the result of persistently abnormal circulation, or it may be of reflex nature. It is, therefore, only the most painstaking examination of all the organs and of the whole surface of the body which gives a promise of finding the cause of the disease as well as the indications for rational causal treatment. Jacksonian epilepsy is mostly the result of a coarse lesion, which, by directly irritating the brain surface, sets up a series of epileptic convulsions. The predisposition to epilepsy may be inherited, or acquired during either intrauterine or extrauterine life. It appears to be more directly inherited than any other cerebral disorder. Echeverria, with 533 cases, showed a direct inheritance from an epileptic parent in 29.72 per cent. of the victims. Gowers's figures are 35 per cent, and Spatling's 66 per cent. Matrimony between relatives is not a proved ætiological factor in the causation of degeneration or mental disease in the offsprings. Intrauterine influences, both inflammations and intoxications, are certainly powerful as occasional causes of epilepsy. Hereditary syphilis is a frequent cause of both the Jacksonian and the universal type. When children five or seven years of age are suddenly attacked with epilepsy, syphilis should be suspected. One should be cautious, for while there are not many cases of epilepsy that can be directly attributed to syphilis, yet a great many epileptics exhibit suspicious symptoms. Genuine hypertrophy of the brain is rare, but has occurred with epilepsy. Pre-

mature ossification of the fontanelles and sutures, and this must not be confounded with microcephalus, is also a cause of epilepsy, and a more frequent cause than is microcephaly. Meningocele spuria, which is generally a traumatic fissure of the cranium and of the tightly adherent dura mater under an intact scalp, is another cause, and is susceptible of operative treatment. The foregoing causes are unpromising so far as treatment is concerned. The extra-uterine causes of epilepsy are also powerful and their results can more frequently be prevented than cured. Asphyxia of the new born, whatever its cause may be, is dangerous. Its anatomical results in the cranium are excessive hyperæmia, tense veins, sanguineous effusion, extravasation, and thrombosis. When the baby lives at all, a meningitis or meningo-encephalitis may follow, and paralysis in many cases; in many more, idiocy or epilepsy or both are the final results. Hundreds of cases of epilepsy are due to this cause; it is, therefore, the paramount duty of the physician to shorten asphyxia, even to the extent of neglecting the mother who may be urgently demanding attention. Intracranial hæmorrhage not connected with asphyxia, which is very frequent, gives rise to similar results. Convulsions in infancy and childhood are another danger. Those of the first six weeks are of cerebral origin, after this time they are either reflex or toxic. Whatever their origin they are equally dangerous and threaten rupture of blood vessels and their consequence. The causes of infantile convulsions are many. It should be understood more generally that dentition is not a cause of convulsions or of the majority of the ailments so often attributed to this normal physiological function. Amongst the most frequent causes of convulsions are: nephritis, enteritis, jaundice, coal-tar medication, the infectious fevers, etc. The minor and major attacks of convulsions in rhachitis are always of central origin. They mean hyperæmia or œdema accompanying the rhachitic softening of the cranial bones. Phimosis may lead to erection, sexual excitement, and masturbation, in the youngest infant. But Dr. Jacobi adds: "I can say, however, that I never in my life saw such a case that I could ascribe to phimosis, and never a recovery from paralysis, idiocy, or epilepsy, due to circumcision." In a good many cases, epilepsy results from masturbation in the adolescent. Unless it is continued too long, the unconscious infant and child does not permanently suffer from the practice. It is quite possible, however, that in those cases in which epilepsy follows masturbation, both may be of the same central origin and both are probably incurable.

DISEASES OF CHILDREN.

Infantile Paralysis; an Epidemic of Thirty-eight Cases. By Charles F. Painter, M. D. (*Boston Medical and Surgical Journal*, December 11th).—The cases constituting the epidemic occurred in Gloucester, Mass., from the latter part of June to the first part of September, 1900. All cases fell within a radius of four miles, but most of them were in a more circumscribed area. Thirty-one of the cases are reported in detail. The importance of recording this epidemic is considerable: (a) because it is the largest authenticated epidemic on record, and (b) because so many authorities who have written

on infantile paralysis have either not mentioned its possible epidemic character, or have done so only in an incomplete manner. The ætiology of the disease is still a pure conjecture, and careful recording of epidemics and their possible causation would probably go far to show that the disease is infectious in character. Unfortunately, there was no autopsy in the only case in which death occurred. The following statistics conclude the article. "There were twenty-three males and nine females. The youngest was thirteen months and the oldest ten years. Seventy-one cases were three years or younger; eight cases, two years or younger, and seven cases, four years or older. No cases observed got entirely well," and only one death occurred, but this case is not included in those reported.

OPHTHALMOLOGY.

A New Departure in the Treatment of Hypopyon Keratoiritis. By Dr. G. H. Burnham. (*Lancet*, December 6th).—In the most severe type of hypopyon keratoiritis the author recommends a purely constitutional treatment, consisting in the use of mercury and potassium iodide taken internally, and pilocarpine hypodermically. A four-grain solution of atropine is dropped into the eye once every day or every second day, and the eye is bathed with boric acid. The pain is quickly relieved, the pus in the anterior chamber lessens, and improvement once established, no relapse takes place. The remaining opacity keeps ever growing less in size and denseness, so that finally it will disappear or leave a non-disfiguring opacity.

CUTANEOUS MEDICINE AND SURGERY.

Leucoplakia. By Frederick C. Cobb, M. D. (*Boston Medical and Surgical Journal*, December 11th).—Leucoplakia or, as it has also been called, leucokeratosis and leucoma, is a disease which usually affects the skin of the face or the mucous membrane of the lips, cheeks, and tongue. It is of uncertain ætiology. Among the most important causative factors are alcohol, syphilis, smoking, and it is asserted the red vulcanized rubber out of which the plates for false teeth are made. Syphilis and tobacco seem to be the two chief causative, or at least predisposing factors. Thus, Fournier noted that in 65 non-syphilitics with leucoplakia, 64, or 98.4-10 per cent. were smokers. And again, in 324 cases of leucoplakia, 259, or 80 per cent., had had syphilis, and of these 259 cases 96 per cent. were smokers. Other authorities give similar statistics, except that Zambacco Pasha, who has seen much of the disease amongst Turkish men, has not seen a single case in the women, although the latter are inveterate smokers. Pathologically, the disease has the following characteristics: Thickening of the superficial layers of the epidermis under which is a stratum of granulation tissue with the cells filled with eleidin; the Malpighian layer is not much altered; the submucous layer presents a great infiltration of small cells around the vessels. Treatment is not satisfactory. Papayotin, excision, cautery, alkaline washes, and "let alone," all have their advocates. Some patients get well, others improve, but a considerable number die of carcinoma after

variable periods. Dr. Cobb has collected twelve cases which occurred during the last five years at the Massachusetts General Hospital. Of these, ten cases have been followed up. The average age was 50.4 years. There were two females and eight males, the latter were all smokers. Three patients admitted syphilis. The duration of the disease was from five months to twenty-three years. Four out of ten patients developed carcinoma.

PHYSIOLOGY AND PATHOLOGY.

The Bactericidal Effect of Human Blood.—Dr. A. E. Wright, professor of pathology at the Army Medical School, Netley, and F. N. Windsor, B. A., B. Sc. (*Journal of Hygiene*, October 1st), sum up the detailed account of their investigations into the Bactericidal Effect Exerted by Human Blood on Certain Species of Pathogenic Microorganisms and on the Antibactericidal Effects Obtained by the Addition of the Blood *in vitro* of Dead Cultures of Microorganisms in Question, as follows: On reviewing the experimental data which we have set forth, it would seem clear that (1) Human serum has a powerful bactericidal effect upon the typhoid bacillus, and the cholera vibrio, while it is without bactericidal action upon the *Staphylococcus pyogenes*, *B. pestis*, *Micrococcus meliitensis* (and so far as we have gone, upon the *Streptococcus pyogenes*, and *B. diphtherie*. (2) Sterilized cultures of those species of pathogenic microorganisms which are killed by the serum, appear, in contradistinction to those species of microorganisms which are not affected by the serum, to possess the power of directly abstracting a bactericidal element from the blood. The first of these generalizations appears to possess a far-reaching significance in connection with the general theory of immunity. (a) It has an obvious bearing on the question of the mechanism by which bacteria are destroyed in the organism. (b) It also bears on the question as to whether the bactericidal action is acquired only after withdrawal from the organism, and after the disintegration of leucocytes. For it would seem difficult to assume that the bactericidal power of the serum is only a particular manifestation of a digestive power or originally resident in the leucocyte, when we have realized that the serum exerts a bactericidal action only on particular species of microorganisms while the leucocyte exerts a digestive action on bacteria generally. The second of the generalizations arrived at above would seem to point to the bactericidal effects being the result of definite chemical combinations occurring between the bactericidal substance or substances in the blood and the affected bacteria. In conclusion, reference may be made to a possible relation between the danger or relative absence of danger associated with the hypodermic inoculation of different species of bacteria, and the effect or absence of effect of the blood upon these microorganisms. A notable contrast obtains in this respect between the event of inoculations of cholera and typhoid on the one hand, and plague and Malta fever on the other hand.

While inoculation with living cultures of cholera is, as has been shown in connection with Haffkine's anticholera inoculations, practically unassociated with risk, and while inoculations with small quantities of living typhoid bacilli are—judging from the

event of an experimental inoculation undertaken by one of us, and from the immunity from accident which has attended wholesale manipulations with this microorganism—associated with only slight risk, the results are quite other in the case of even minimal inoculations of plague and Malta fever cultures. That extreme risk attaches to the inoculation of even minimal quantities of living plague bacilli is attested by the numerous cases of plague which have supervened upon the accidental inoculation of infected material into small superficial scratches. The risk attaching to even minimal inoculations of the *Micrococcus meliitensis* is less well known. Six cases of the disease have occurred in connection with bacteriological work on Malta fever undertaken at Netley, and two further cases have originated at the Royal Naval Hospital, Haslar, and in the Philippines respectively, in connection with bacteriological work. Of the cases occurring at Netley, one originated from an accidental prick with a needle of a syringe containing a Malta fever culture; a second arose in connection with an experimental inoculation; and a third has recently occurred in connection with the accidental projection of the end of a contaminated capillary sedimentation tube into the eye. The three other cases at Netley arose apart from a recognized inoculation in the case of observers working with living cultures. It would seem difficult to conceive of inoculations with quite minimal quantities of cultures being so effectual in the case of microorganisms subject to the bactericidal action of the blood and lymph.

On the Distribution of the Toxine of Hydrophobia in Some Organs, Tissues and Fluids of Animals.—Dr. A. M. Tcherevkoff (*Roussky Vrach*, November 2nd) records the results of a number of interesting experiments concerning the places where the toxine of hydrophobia is found in the animal body after inoculation. He examined, after injecting the toxine under the dura of the brain in rabbits and dogs, the blood, spleen, submaxillary glands, liver, muscles, pancreas, bone marrow, fluid of the lateral ventricles the cerebrospinal fluid, the sciatic nerve, the kidneys, the suprarenal capsules, the lungs, etc., of the animals. The experiments showed that, with the exception of the peripheral nervous system and the submaxillary gland, the toxine was absent from any organ or tissue of the body. Sometimes, however, the poison was found in the fluid of the lateral ventricle of the brain. Injections of the poison directly into the blood and not into the subdural space brought out the following facts: The poison of hydrophobia, injected into the blood circulates therein for from half an hour to an hour. A part of it is lodged in the liver, spleen, and brain, so that after thirty minutes its presence may be shown in the organs named. After an hour the poison is completely removed from the blood, being held partly in the brain, spleen, and liver. After three hours the poison can no longer be found present in the liver, spleen, and brain. The longer the interval between the injection and the inoculation of an emulsion of the liver, spleen, or brain into another animal, the weaker is the poison.

If the poison of hydrophobia infects chiefly when its gets into a peripheral nerve in the course of a dog bite, then the question arises whether the disease

is transmitted by the blood at all. Indeed, inoculations of even 2 cc. of emulsion from hydrophobic animals did not produce the disease in animals experimented upon. The author found also that there was a clinical difference as regarded the symptoms of the disease, according to the part of the body into which the poison was injected. Thus, if it was injected into a part of the body supplied by a nerve arising in the brain, the first symptoms of the disease would generally be found to be lassitude, apprehensiveness, sleeplessness, and general irritability (symptoms of affection of the corpora quadrigemina and the optic nerve), and attacks of affection of the cortex of the hemispheres, dilatation of the pupils, photophobia, dysphagia, palpitation of the heart (paralysis of the sympathetic nerve), dyspnea and difficulty in respiration (the last three are symptoms of disease of the medulla) and other signs of primary involvement of the brain. If the wound is made where a nerve originating in the spinal cord is distributed, the symptoms begin with formication in the wounded extremity, disturbances of sensation in various parts, contractions of various muscles, dysuria, retention of urine and of feces, convulsions, opisthotonos, salivation (irritation of the cervical sympathetic), and other spinal symptoms. As the poison spreads from the spinal cord to the brain and vice versa, the symptoms of the two groups described begin to coalesce. Other facts pointing to the spread of the poison from the wound along the peripheral nerves are the centripetal character of the pain, which spreads from the wound upward on the limbs, the coldness of the affected part, and the anesthesia about the wound, etc. The period of incubation is shorter in wounds to the head than in wounds to the extremities, and shorter in children and in small animals.

Eosinophilia Associated with Bilharzia Disease.

By Dr. A. E. Russell. (*Lancet*, December 6th).—The author reports the case of a man, aged twenty-five years, who went through the war in South Africa and was invalided back to England because of cough and hæmoptysis. One month after his arrival he developed hæmaturia. Examination of the urine showed typical bilharzia ova. Examination of his blood showed a moderate anemia and no leucocytosis, but a marked increase in the eosinophilic leucocytes. Three examinations were made. The percentages of the eosinophiles being 33.6, 31.8 and 23.8, respectively.

On the Polymorphism of the Plague Bacillus.

Dr. V. V. Favre (*Roussky Vrach*, November 2nd) describes the variations in morphology with the bacillus of bubonic plague present under different conditions. The polymorphism of the germ in question is very wide, and is expressed by physiological, pathological, and racial differences in each subtype of the plague bacillus. Irregular, involution forms are formed very easily in plague cultures, more easily than in the majority of other germs, under the influences of slight changes in the culture media and conditions of growth. The properties of the cultures and colonies of the germ remain the same under the same condition, while the microbes growing thereon may show differences in morphology. Irregular forms of the microbe grown on salt

agar showed a predominance of the spherical form in some races, and spirilla forms in other races of the germ. Irregularities in the forms found indicate, not a degeneration, but an adaptability to the conditions of the medium. The germ may be distinguished from the other microbes resembling it, such as that of pseudotuberculosis in rodents, etc., although there are many points of resemblance between some of the irregular forms of plague bacilli and these germs.

Case of Chorion-epithelioma Malignum.—Dr.

O. Schmidt (*Centralblatt für Gynäkologie*, October 18th) records a case of a woman twenty-three years old in whom the malignant growth followed upon the presence of a uterine mole. A vaginal hysterectomy resulted in a cure. The author is inclined to accept the theory of Albert and Kworostansky, that deficient coagulative power of the maternal blood with a diminished hæmoglobin is a favoring element for the development of the growth.

The Influence of the Bile on the Resistance of the Red Cells of the Blood.

By Dr. Viola and Dr. R. Tarugi (*Riforma medica*, September 16th and 17th).—A number of studies on the resistance of the red cells in jaundice have been published, the results of which are fairly uniform, but the methods used are in each case different. The authors have studied the resistance of the red cells in jaundice both *in vitro* and *in vivo*, and find that while there is not a constant ratio of increase in the resistance of these cells in jaundice, yet the resistance is increased in the majority of cases of both acute and chronic jaundice. In some cases of acute jaundice intense in character, there may be a diminution in the resistance. The intensity of the jaundice is not therefore a measure of the increase of the resistance of the red cells. All the experimental findings in this work have not as yet been explained, and the authors content themselves with recording them.

The Bacteriolytic Serum-complements in Disease.—Dr. Warfield T. Longcope. (*University of Pennsylvania Medical Bulletin*, November)

summarizes the results of his work done in the Ayer Clinical Laboratory of the Pennsylvania Hospital, and reported in the *Bulletin*, in the following conclusions: (1) Normal individuals show slight fluctuations in the bacteriolytic complement-content of their blood. (2) In many prolonged chronic affections, such as nephritis, cirrhosis of the liver, and diabetes mellitus, there is a marked decrease in the bacteriolytic blood complement, which becomes more marked toward the end of the disease. (3) Terminal infection in chronic disease is probably the direct result of the diminished state of the bacteriolytic complement. (4) The blood serum of certain individuals suffering from chronic disease does not show a reduction in complement; these individuals appear to escape terminal infection. (5) Hyperleucocytosis is frequently associated with high complement-content of the blood serum for typhoid and colon bacilli. (6) The blood serum of some typhoid fever patients shows a diminution in the specific complements for the typhoid bacillus. (7) Human blood serum contains a multiplicity of bacteriolytic complements.

Our Subscribers' Discussions.

A SERIES OF MONTHLY PRIZE ESSAYS.

[Questions for discussion in this department are announced once a month. So far as they have been decided upon, the further questions are as follows:

XX.—How do you treat buboes that threaten to suppurate? (Answers due not later than January 10, 1903.)

XXI.—How do you treat infantile convulsions? (Answers due not later than February 10, 1903.)

XXII.—How do you manage occipitoposterior positions of the presenting head? (Answers due not later than March 10, 1903.)

XXIII.—How do you treat ingrowing toenail? (Answers due not later than April 10, 1903.)

Whoever among our subscribers (with the limitations mentioned below) answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short, if practicable, no one answer to contain more than six hundred words. So far as our space will allow, we shall publish the substance of such of the answers as seem to us most likely to prove interesting to our readers, and we reserve the right to publish any of the answers in any department of the JOURNAL.

Only subscribers to the NEW YORK MEDICAL JOURNAL (including regular and volunteer officers of the medical corps of the United States Army, Navy, and Marine-Hospital Service, commissioned or under contract) will be entitled to compete, and all persons known to be engaged in medical journalism are disqualified. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish.]

The prize of \$25 for the best essay submitted in December has been awarded to Dr. Charles S. Butler, of the Navy, whose paper appears below:

PRIZE QUESTION NO. XIX.

THE TREATMENT OF FROSTBITE.

By CHARLES S. BUTLER, M. D.,
ASSISTANT SURGEON, UNITED STATES NAVY.

In the treatment of frostbite we have two principal conditions to consider. First, the part frostbitten is partially or completely bloodless from extreme contraction of the blood vessels. If this condition persists for any considerable time, the tissues will be so extensively damaged that return to normal is impossible. The second condition to consider is that if the vessels are too suddenly dilated, paralysis of their walls takes place and consequently engorgement, thrombosis, and exudation occur. The result in either condition is the same, viz., gangrene, the only difference being that in the one case the gangrene is dry, and in the other it is moist. We have, then, to guard against, in frostbite, prolonged contraction of the blood vessels on the one hand, and sudden and excessive dilatation on the other, and the key to the treatment is to keep the blood vessels of the part as far as possible under control. To do this, each case is a law unto itself. Two things, however, will apply in each case. First, let the temperature of the part and of the surroundings be elevated from that under which the freezing took place to normal gradually and by successive stages.

Second, do not give internal stimulants unless absolutely compelled to by the general condition of the patient. He who takes his frostbitten patient into a warm room and fills him with whiskey and strychnine will probably rue the day, or if he does not, his patient will. Of course, when the patient is unconscious from the effects of cold, internal stimulation (hypodermic) may be necessary. But for the ordinary case of frostbite I believe it is wise to withhold stimulants until the need is absolute. It is easy to give a glass of whiskey, but it is impossible to recover it after it has started the heart to pumping blood in excessive quantities into an area that may be already gorged. This item, small though it may seem, can make the difference between a gangrenous and a normal member. Of course, the extent of the frostbite will determine the extent of application of these principles. Ordinarily we can begin treatment upon the patient immediately after he is found or while transporting him to some place for further treatment, by friction, either with the bare hand or with snow rubbed vigorously upon the part. The patient should be placed first in a cold room, and the friction continued. When he begins to experience tingling in the member, we should take care lest we elevate the temperature too suddenly, thus causing the most excruciating pain. The amount of pain he experiences is a fair gauge to our success, for it should not be great. This can be controlled by placing the part in iced or cold water from time to time or by elevation. When sensation begins to return, we can build a small fire in the room or begin otherwise to elevate its temperature, gradually bringing it up to 70° or 75°F. When the patient begins to feel comfortable, it is wise to put a flannel roller upon the limb with a small amount of pressure, and elevate. This will obviate any further tendency toward engorgement. For more extensive frostbite the after-treatment may necessitate continuous immersion in warm water, as in the case of extensive burns. Erythema and ulceration following frostbite should be treated as in case of burns, with picric acid and other soothing and antiseptic applications, and in case of gangrene we should amputate, of course always waiting for a line of demarcation. But these things would not properly come under consideration here, as they are not a necessary part of frostbite, but rather its sequelae.

U. S. F. C. S. *Albatross*, Station D., San Francisco, California.

Dr. J. W. Posthauer, of New York, writes:

Some of the mild cases, those characterized by simple erythema, require very little active medication, if any. A mixture of equal parts of vinegar, alcohol, and ammonia water applied for a short time, followed by the application of some soothing unguent, as with zinc or lead ointment, or painting

the affected parts with compound tincture of benzoin is sufficient. In other cases of greater severity, where the symptoms are more pronounced and the skin is cyanotic, more active measures are indicated. Besides friction with shaved ice or snow or cold water, the application of equal parts of tincture of black pepper and tincture of cantharides is excellent. Three parts of sulphurous acid, and one of glycerin act quickly. Frequent bathing of the parts with a turpentine wash gives great relief. The persistent itching and burning following thawing, especially noticeable at night, are alleviated by applying cloths dipped in lime water or any alkaline solution, covering the parts with oiled silk and wrapping them in cotton wool. For the restless wakefulness sometimes following frostbite the fluid extract of gelsemium in full doses procures quiet and rest. The after-treatment of the ensuing dermatitis requires soothing remedies. Compound tincture of benzoin, with or without collodion, is very good. An ointment of bismuth oxide, oleic acid, and vaseline is most healing. Occasionally the erythematous patches persist and threaten to break down. A weak solution of nitrate of silver or of salicylic acid in spirit of nitrous ether is beneficial. Galvanism, if persisted in, restores the vascular tone. Deep puncture with a heated Paquelin cautery is of service in some cases. Painting with tincture of iodine is of no avail. If the primary treatment of this class of cases fails, the affected parts become progressively worse and we have a *severe type* characterized by the formation of bullæ with or without pustule, ulcer, or sloughing as complications. For the pain we may use a three-per-cent. solution of cocaine to denuded areas or a belladonna fomentation. Opiates may be required. Later on, protect the eruption by applying powdered phosphide of zinc, covering with muslin or cotton wool. An ointment of resin or balsam of Peru is very good; this applies also to the treatment after the removal of the epidermis. Zinc and borax ointments are sometimes of service. The strictest antiseptic precautions are essential. Absolute rest must be enforced. If ulceration resulting is persistent, strapping, with suspension of the limb and stimulating treatment, is indicated. Where sloughing is taking place, hot linseed poultices aid and hasten recovery. Should there be areas of sup-puration, free drainage and multiple incisions are indicated. Secondary or moist gangrene may follow.

The New York Skin and Cancer Hospital.—A series of clinical lectures on diseases of the skin will be given on Wednesday afternoons, by Dr. L. Duncan Bulkley, in the out patient hall of the hospital, commencing on January 7, 1903, at 4.15 o'clock. The course will be free to the medical profession.

Letters to the Editor.

THE X RAY TREATMENT OF CANCER.

1 EAST THIRTY-THIRD STREET,
NEW YORK, December 16, 1902.

To the Editor of the NEW YORK MEDICAL JOURNAL:

Sir: In the *New York Medical Journal* for December 6, 1902, a case is reported of "Cancer of the Larynx Cured by the X ray." For several reasons the author appears to have alleged too much. As to his diagnosis of cancer, no microscopical examination of the growth was made, and thus the conclusive proof of the existence of malignant disease was omitted. The symptoms noted, namely, progressive hoarseness, loss of mobility of the cricoarytenoid articulation, ulceration, fetid discharge, and occasional dyspnea, might all have been present in certain other forms of laryngeal disease, especially syphilis. The visual appearances of cases of laryngeal swelling and ulceration of the kind described in this report are proverbially misleading. But while the absence of the tubercle bacillus and of the involvement of other organs, and the subsequent history of the case, would probably exclude tuberculosis, the possibility of syphilis is not excluded simply through the absence of its history or of its signs, or through the alleged failure of the therapeutic test. The diagnosis of cancer seems to have been distinctly unconfirmed.

The symptoms described in this case are often present in laryngeal syphilis. No mention is made of lancing pain. In carcinoma of the larynx this is very common. The final breaking down and disappearance of the diseased area as described are characteristic of a certain manifestation of syphilis. It seems not improbable therefore that the disease was specific, and not malignant.

A point corroborative of this is that, while a number of other experts in the use of the x ray have applied it in cases of laryngeal cancer, no one thus far has recorded any such result as that alleged by your contributor. This, of course, proves nothing, but it at least suggests the possibility of an error founded upon wrong diagnosis.

It is greatly to be desired that all possible information upon this subject should be gathered and published as soon as possible. But in the cases reported there should be no question as to the actual presence of malignant disease.

LARYNX.

Book Notices.

The Nose and Throat in Medical History. By JONATHAN WRIGHT, M. D., Brooklyn. With Ten Illustrations. St. Louis: The Laryngoscope Company, 1902. Pp. 5 to 244. (Price, \$2.)

This work is a reproduction in book form of a series of papers that ran in the *Laryngoscope* for about twelve months. It is well worthy of such reproduction, not only for the laryngologist, but also for the general physician, both of whom will find an accumulation of most interesting material in relation to the history and development of medicine

and the medical profession. It would prove a worthy companion to an admirable and scholarly work noticed by us in an editorial article in our issue for May 4, 1901—we refer to McKay's *History of Ancient Gynaecology*. The study and research involved in the production of the present volume are enormous, for the notes have been taken chiefly from the original sources, and are not merely a *réchauffé* of well worn quotations. Clearly, the work has been truly a labor of love to its author. It is divided into the following sections: Egyptian medicine; Chaldaean medicine; the medicine of the Parsees; the medicine of the Talmud; Hindu medicine; pre-Hippocratic medicine in Greece; from Hippocrates to Celsus; Roman medicine; Celsus and the pre-Galenic writers; Galen; the Greek writers of the Eastern Empire; the Arabians; the pre-renaissance period; the renaissance; the reformation and the diffusion of medical science; the results of the renaissance; intranasal surgery and pathology of the seventeenth and eighteenth centuries; the nineteenth century—the prelaryngoscopic era; the laryngoscope; and, finally, the problems of the present, with subdivision as follows: Laryngeal paralysis and the innervation of the larynx; laryngeal cancer and its extirpation; the accessory nasal sinuses; bacteriology of the nose and throat; and the structure of oedematous nasal polypi. But neither is this work a mere collection of quotations; the whole is welded together by a philosophical running commentary, displaying clearly the author's breadth of grasp and his logical mind no less than his patient research and scholarly attainments. Besides the classical authors of antiquity, whose works, of course, form the basis of the book, and such historical monuments on the history of medicine as the works of Sprengel, Baas, Whittington, and others, the author has laid under contribution the labors of Draper, Gibbon, Grote and other well known historians. Apart from its value as a work of scholarship, it is an eminently readable book, containing much of interest in the matter of folk lore, e. g., "When we read in Xenophon's *Anabasis* (III, xi, 9) that the soldiers cried out when their comrade sneezed, *Ζεῦ σόσον*, 'God save you,' immediately comes to our mind the Frenchman's ejaculation '*Dieu vous bénisse*,' and the German's hail, '*Gesundheit*.'" Then follows a parallel between Hippocrates's account of the death of Deales and Dame Quickly's word picture of the end of Falstaff. We have not space for any lengthened description of this monograph, but we are sure that it will prove a welcome addition to the library of every physician who, with Huxley, believes that "science and literature are not two things, but two sides of one thing."

According to the *British Medical Journal* for November 22nd, Déjerine, professor of the history of medicine in the Paris Faculty of Medicine, in closing recently the inaugural lecture of his course, said that the teaching of the history of medicine offered a choice of methods. For instance, the teacher might set forth the succession of doctrines in chronological order; or he might take one of these doctrines and study its origin and evolution; or he might sketch the life-work of all the men who had helped to make the science of medicine, indicating their influence on its progress; or, lastly, he might confine himself to one organ or group of diseases and study

its history. Professor Déjerine adopted the last method choosing the history of the brain and its diseases. It is this method also which Dr. Wright has chosen and so admirably carried out in the present work.

Elementary Lessons in Latin. By OTTO A. WALL, M. D., Ph. G., Professor of Materia Medica, Pharmacognosy, and Botany in the St. Louis College of Pharmacy, etc. St. Louis: August Gast Banknote and Lithographing Company, 1900. Pp. 148. (Price, \$1.50.)

This is an exceedingly practical little book, intended, as we gather from the preface, chiefly for the use of such medical and pharmaceutical students as have not had much of a classical education. It is exceptionally well suited for them, because, while it is thorough and sound in its principles and method, it applies those principles and that method, not by means of a vocabulary and sentences in the exercises such as will never be found outside of the classical writers, but by the use of such words and phrases as will of themselves be of great practical utility to the student in his later work. For instance, to take a few of the words that form the vocabulary upon which the exercises are based: *cera*, *cantharis*, *gustare*, *preparare*, *compleire*, *miscere*, *bullire*, *lenire*, *efflorescere*, *lana*, *apotheca*, *systole*, *abyssus*, *pharmacus*, *foramen*, etc., are intermingled with words of every day occurrence. In short, there is hardly a word used in the book that will not be found useful by the student in due course; for all the words that are not technical are such as would be required in writing, reading, or speaking in Latin about the ordinary affairs of life. The student who learns his Latin by the study of the great classical authors, unless he has time and inclination to do it very thoroughly, often finds himself utterly at sea when it comes to using his knowledge for writing or reading of the affairs of to-day. The grammatical principles and construction of the Latin language can obviously be exemplified by such sentences as "*genua feminarum sunt gracilia, tenera, et formosa, sed raro valida*," "*infusa herbarum aut aqua frigida, aut aqua fervida parentur*," just as well as by sentences derived from elegant classical writers, the very refinement of which often adds to their obscurity. The grammatical part of the work, which is in our opinion very wisely kept separate in Part I, instead of being interspersed throughout the work among the vocabularies and exercises, is clear, concise, far-reaching, and sound. If we have any fault to find, it is that the words in the vocabularies are occasionally ill chosen. By this we mean that many Greek words, for instance, are given in Latinized form when there are good sound classical Latin words in existence, which would surely be used by any medical writer sufficiently familiar with Latin to write a paper or treatise in that language. We refer, for example, to *cyste* for bladder, which should surely be *vesica*; *cline*, for bed, in place of *torus*, *cubile*, or *lectus*, etc.

It is unfortunate that almost all the words used in relation to the druggist himself are of anything but a complimentary character. *Pharmacus*, for instance, was almost always a term of reproach and commonly meant a poisoner or sorcerer; *pharmaceutria* meant in Vergil's time a witch or sorceress;

and pharmacopola was a vendor of quack nostrums. However, that these words have come into use as signifying a pharmacist, male or female, or a druggist, must not be laid to the author's charge; and, indeed, as with a man so with a word, it is much better to raise it from a base to a noble signification than to degrade it.

We have, however, one serious criticism to make. It is bad enough in English to have fluidounce, fluidrachm, but why abuse Latin by the introduction of fluidrachma for the two words drachma fluida? Also, we protest against centimeter, decimeter, etc., as alternative forms in Latin for centimetrum and decimetrum. They are bad enough in English, but at least they have the old standing precedent of thermometer, etc., while they are entirely opposed to the genius of the Latin, which converted the termination of Greek words ending in *ron* into *rum*. These faults are, however, but trivial. The book is one that we heartily recommend to all medical and pharmaceutical students who have not had a sound classical education, and also to those physicians and pharmacists who find their earlier Latin training has been forgotten, and who would gladly devote a little time to study of that language provided it could be pursued in such a method as would prove of practical utility to them.

Miscellany.

The Curse of Gonorrhœa.—Dr. Joseph Taber Johnson, in a paper read before the Southern Surgical and Gynæcological Association at its recent meeting at Cincinnati, said that while many diseases, both medical and surgical, had been shorn of their terrors by the discoveries and advances of the Nineteenth Century, very little seemed to have been discovered to prevent the complications which constituted the curse of gonorrhœa. The evidence was indisputable and overwhelming that many women lost their lives annually from the pelvic inflammations caused by these complications, and that from the same cause thousands probably lost their health or their power of conception. One reason for these sad results might be inappropriate treatment by unskilled persons and the too early discharge of patients of both sexes, as cured, while they were still able to infect others. Another important point was that this disease and its dire effects were not confined to the debased, criminal, and outlaw classes of society. Innocent brides had had their lives ruined by marrying supposedly healthy husbands who honestly thought themselves cured. While two great wrongs had been committed in such cases it was possible that the greater wrong had been done by our own profession in giving an opinion, either through ignorance or carelessness, that the patient was so far cured that it was perfectly safe for him to marry.

From the best obtainable statistics there were 300,000 women in this country leading lives of prostitution; and health officers and the police superintendents in thirty large cities, estimated that for every woman regularly residing in a house of ill-fame, there was at least one, if not more, just as bad, who never or rarely became known to the police. This would give half a million, at the lowest

estimate, of candidates for this disease in our country alone. Taking the world at large, as in estimating the probabilities in other diseases, the women in the world who had this disease to-day, or were liable to have it to-morrow or next week, might fairly be reckoned by millions. The author had learned that the average length of life of these women was only five years from the time they began a life of prostitution, and that 40,000 of them died annually. While some died from the effects of dissipation and the ordinary diseases incident to humanity, it would seem fair to assume that from thirty to fifty per cent. died annually from the effects of gonorrhœa. He thought Bland Sutton, of London, correct in giving gonorrhœa as the chief reason of sterility among prostitutes. A gonorrhœal salpingitis, whether it went on to suppuration and the formation of pus tubes and ovarian abscesses or not, frequently destroyed the epithelial lining of the tube, and so crippled the ovary as to render conception next to impossible. Among other complications might be mentioned: Inflammation and suppuration of the vulvovaginal glands, urethritis, cystitis, urethritis, pyelitis, nephritis and pyonephrosis; proctitis, endocervicitis, endometritis, salpingitis, ovaritis, tuboovarian abscesses, pelvic and general peritonitis; paratubal, ovarian and uterine inflammations; puerperal complications, and very destructive infantile ophthalmia. It might also attack serous membranes and fibrous tissue, synovial sacs, bursæ, tendon-sheaths, the peritonæum, pleura, and pericardium. Familiar illustrations were gonorrhœal rheumatism and ulcerative endocarditis. The peculiar germ of gonorrhœa might reach near or distant parts of the body through the lymph and blood streams and might penetrate the tissues, produce suppuration, and cause glandular adenitis, especially in the inguinal region.

The frequency of the occurrence of these important and dangerous complications, could not be stated in exact percentages, as the experience of surgeons and writers differed. Those in free dispensary and charity hospital practice, would see many more of these sad cases than those who were doing only private practice among the better class of patients. But even these were too frequently innocent victims of accidental occurrences. Sanger had announced that twenty-five per cent. of his hospital and private patients had gonorrhœa. Lomer had found the gonococcus in sixty per cent. of the cases in Schroeder's clinic, while one observer placed the average as high as eighty per cent. Lawson Tait had told the author that quite a good proportion of his abdominal operations were on account of the complications of gonorrhœa. Evidence to the same effect had been given by Dr. Williams, of Philadelphia, in a paper read recently to the Association of Obstetricians and Gynæcologists, and by Dr. Robbins, who, in the *Maryland Medical Journal* for January, 1899, quoted from German statistics, to show that from 23 to 28 per cent. (English and American statistics, 70 per cent.) of all cases of annexal disease were due to gonorrhœa.

All prominent modern authorities agreed that the two chief causes of suppurative and destructive inflammation of the female pelvic organs were puerperal sepsis and gonorrhœa. Some named one of these first and some the other. Of the two, the

specific cause was more destructive of function than the septic. If a patient recovered from a serious pelvic inflammation of septic origin, she was more likely fully to regain her health and have other children later on, than when the cause was specific. Relapses occurred from the latter cause and sterility was the usual lot of all women who had once suffered from gonorrhoeal salpingitis.

Latent Chronic or Residual Gonorrhoea.—Since Noeggerath had written his philippic on Latent Gonorrhoea, in 1876, there had been much discussion, much investigation, many denials that he was right and many misgivings lest he might be. Quite a storm had been created by his assertions that many cases of gonorrhoea in the male were never cured—that the disease remained latent for months and years; in other words, that a virulent poison remained behind a stricture or existed in a gleet discharge, which was capable, under the excitements and possible excesses of newly married life, of re-exciting the disease in the subject and infecting the innocent and unsuspecting wife.

Dr. A. Palmer Dudley, of New York, and Dr. Cushing, of Boston, were cited in support of the assertion that even now this matter was but ill-understood or acted upon. The power of the gonococcus to infect another after the lapse of an indefinite period from the acute attacks, had been denied, but instances were not infrequent where the most disastrous results had followed the marriage of supposedly cured husbands, months after all pain and discharge had ceased.

When, if ever, might we give our professional sanction to the marriage of a man positively known to have had this disease, and our professional assurance that the trusting and innocent wife would be absolutely free from any danger of infection? was the author's next point.

It was probable, said the author, within the personal knowledge of every doctor in the room that wives had been infected with this disease by ignorant or careless husbands. In some instances these men had been assured by their physicians that they were cured beyond the danger of transmitting the disease to others. This assurance had been construed into a professional permit and sanction of matrimony. The physician might not have thought, when he gave this opinion, that these gonococci were lying back behind a deep and only partial stricture, ready to spring into deadly activity upon the occurrence of venereal excitement or sexual excess. The doctor himself might not have known what we had the most abundant authority for stating now, namely (Dudley's *Gynaecology*, 2nd edition, p. 155), that "the chief power of the gonococcus for harm lies in the lasting vitality of the germ after *apparent cure*." From the same work the author cited recent experiments of Wertheim, who had reported that in human serum agar at from 40° to 43° C. gonococci retained their full reproductive capacity. A direct experiment with pure culture from a gleet discharge of two years' standing had given the following interesting results: (1) Attempted reinfection of the original urethra with this culture was always a failure; (2) the culture when transplanted to a coccus-free urethra produced typical acute gonorrhoea; (3) infection from this back again to the original urethra gave a fresh gonorrhoea, which,

after a typical course of five or six weeks, again subsided into a chronic gleet. Thus by passing the gonococci through another individual—that was, through a new culture ground—they became again virulent to the urethra which was invulnerable to them before.

This explained the fact that an apparently healthy subject of chronic or latent gonorrhoea might infect his hitherto uninfected wife and become infected from her, the gonococci passing through the new culture ground of the wife, becoming virulent again for the husband. We could now understand why the gonococcus, even after years of apparent cure, might regain its full virulence. This germ might be found in the uterus and tubes long after it had disappeared from the vagina. The crypts of the uterine mucosa furnished a ready resting-place for the gonococcus; it might for long periods remain concealed in a quiescent state, a menace to health and to life itself.

In the fall of 1899 the author was requested by a medical friend to see a young lady, who had been married only one month, who was suffering from a severe acute pelvic inflammation, and to save her life, he was compelled to remove two large pus tubes and also the infected ovaries. The disconsolate husband stated that several months before marriage he had contracted gonorrhoea, for which a physician had treated him. Finally, when all symptoms had disappeared, he had pronounced him cured, and the patient a few weeks later married. After the first week of married life his symptoms all returned, and he did not hesitate to state that he must have unfortunately infected his wife, as she had symptoms very similar to his own. He was heart-broken over the calamity and freely asserted that if his wife died he would blow his brains out. He was very bitter against his medical adviser who had pronounced him cured. He had, in the same hospital, two young women who had been just operated on for gonorrhoeal pus tubes, and was at the time treating a young lady, twenty years of age, who was married four years ago. She was taken with a severe "womb disease," very soon after marriage. She gradually grew worse, was in bed two months, suffered terrible pains in the lower part of her abdomen, took a great deal of morphine and finally got able to be about again. Another lady under the author's care, had no idea at the time of her illness, of its cause, but a year ago her husband confessed that he thought when he was married, that he was entirely cured of a gonorrhoea, which he had contracted more than a year previously. His physician, he said, had not only pronounced him cured, but had assured him that it was perfectly safe for him to marry, and that there was no danger of his communicating the disease to his wife. Within a week after marriage his symptoms all returned, and she became infected, with the result above stated.

Dr. Tyner, of Washington, recently a resident in Texas, had informed the author that he was in charge of a blind asylum in that State at one time, and that his records showed that there were under his care 1,700 cases of blindness. Six per cent. of these among the white patients, and 18-23 per cent. among the black, had had their eyes destroyed by gonorrhoeal ophthalmia, making 24-23 per cent. in all.

There were in the United States, according to the last census, more than 50,000 blind persons. We were certainly within the mark in assuming that 15,000 of these blind persons lost their sight from neglected sore eyes in infancy. Taking the cost of maintenance of a single person, according to the statements of our best regulated asylums, as, at the least, \$132 a year and the average net earnings of a single able-bodied person at \$1 a day, we found that the total loss to the commonwealth of the United States from the ravages of this disease reached the sum of \$7,500,000 *annually*. This point would seem to be equally true in regard to all the other complications of gonorrhoea. Had this disease been cured in its acute stage none of these complications would have occurred and much suffering and untold sorrow been prevented.

In Norris and Oliver's recent *System on Diseases of the Eye*, Dr. Swan M. Burnett said of ophthalmia neonatorum "the infection comes from the vagina of the mother almost without exception, and that this is proved by the measures that have been instituted for its prevention and cure, the success of which is one of the greatest triumphs of modern scientific medicine."

If the ophthalmologists could prevent the occurrence of 15,000 cases of blindness annually, and a yearly loss of \$7,500,000 to the commonwealth, it would seem to be very natural to ask why the general surgeons and the gynecologists could not prevent the occurrence of so many thousands of pus tubes, ovarian abscesses, and abdominal sections from the same cause.

Professor Valentine said among other conclusions: 1st. That an apparently fresh outbreak of gonorrhoea is no proof positive of a new infection. . . . 3rd. That treatment can be effective only on discovery of the site or sites where gonococci are resident. . . . 8th. That when the urine has become microscopically clear, it by no means indicates the patient's freedom from gonococci. . . . 11th. That precise diagnosis is obtainable only through the urethroscope—and 12th, may require completion by the microscope. . . . 17th. That fissures at the meatus may possess gonococci.

The point, however, on which the author laid the greatest emphasis was that we should make ourselves much more certain in the future than in the past that our patients of both sexes were absolutely cured beyond the danger of a relapse, before we dismissed them from further observation, control, and treatment. Our female patients should be so vigorously treated as to prevent, if possible, the extension of the disease beyond the vagina and the external parts. The question of "latent, chronic or residual gonorrhoea," and its possible disastrous consequences, should be more constantly in mind when we were treating these cases, and our management should be so radical, thorough, and complete, as to prevent the occurrence of pelvic infection and annexal complications. These cases should be no longer left to the care of drug clerks, medical students, and irresponsible persons to treat. Some hospitals still refused, he was informed, to admit venereal diseases, and some physicians regarded it as beneath their dignity to attend them. Patients

were driven, not infrequently for this reason, and also on account of the high charges of good physicians, to consult unskilled persons and advertising quacks. One of the consequences of this unwise course was that they were only half cured, were permitted to go about thinking themselves cured, and some of them would undoubtedly contaminate innocent persons. The day had gone by when it could be said, as all had probably heard it said, that gonorrhoea was less to be dreaded than a bad cold, and so forth. The difficulty of a perfect cure had been recognized and emphasized by the most skilled specialists in this department of medicine. Our consciences, continued Dr. Johnson, as well as our treatment, needed revision in regard to the dismissal of gonorrhoeal patients as cured so absolutely and permanently as to make marriage safe beyond the possibility of the contamination of the innocent wife. How long after the gonococcus ceased to be found by the microscopist in the urethral secretions or discharges could we safely give our professional sanction to matrimony? This was one of the burning questions of the day, and should be considered with the greatest care and conscientiousness. If the ophthalmologists could reduce, as they now affirmed that they could, twenty-five per cent. of the blindness of the world to a fraction of one per cent., why could not the profession generally, by equally thorough and early preventive treatment, stamp out the curse of the gonorrhoeal complications and abdominal sections referred to?

The Blood of Pregnancy and the Puerperium.

—Dr. George R. Pray (*American Gynecology*, October) after recording in his article the observations of prior observers, gives the detailed results of investigation into the cases of twelve patients in the obstetrical service of the University of Michigan Hospital. The observations included 104 examinations and counts of red cells, white cells, hæmoglobin, and 25 differential counts of leucocytes. Eight of the patients were primipare, and the ages varied from sixteen to forty-one years. The conclusions drawn by the author are as follows: (1) Where blood generation fails to keep pace with the increased vascular area a serious dilution of the blood takes place. (2) In the majority of cases this is not serious, and can be overcome by simple hygienic measures—fresh air, good food and the overcoming of constipation. Cases in which the vitality is overtaken by the increased demand for nutrition may call for iron or other hæmatinic treatment. (3) The regeneration of the blood is partly effected by the lessening of the vascular area after labor and subsequent transudation of fluids of the blood into the tissues. (4) The leucocytosis is due to increased action of enlarged lymph glands of the pelvis, and in part to increased metabolism, which causes a somewhat toxic condition. Its decrease is caused by the lochial discharge. Its persistence is accounted for by the fact that the involution of the hypertrophied pelvic organs and breasts is accomplished in a great measure by the leucocytes. (5) A study of the blood of a woman delivered by the Cæsarean operation shows the same general behavior of the blood constituents as does that of women after normal labors.

INDEX TO VOLUME LXXVI.

PAGE

ABRAMS, A. Studies in stethophonometry	677
Abscess of the liver, tropical or amebic, and its relation to amebic dysentery retrocal, developing three years after removal of the appendix	608
splenic, a case of	1111
traumatic, and necrosis of the triangular cartilage	833
two cases of, treated conservatively	206
"Absent treatment" industry, the post office and the	904
Abstracts that are not abstracts	878
Abuse, hospital, and its effect on the general practitioner	697
Academy of Medicine and Surgery, Richmond	26, 707, 861, 949
French	1124
New York	598, 643, 688, 730, 775, 1019, 949, 1039, 1078
Accidents, street	422
New York, past, present, and future of the	1023
Accouchement forced with Bossi's dilator	563
Acetone products in connection with diabetic coma	390
Acetonuria in disease of the female generative organs	477
Acidity, gastric	316
Aene, treatment of	1073
Acroparasthesia, and injury	871
Actinomycosis, anorectal	388
human, study of	168
Addison's disease cured by suprarenal extract	421
Address, changes of	423, 453, 513
president's, before the American Association of Obstetricians and Gynecologists	992
Adenocarcinoma, cystic, of the liver, a rare form of	837
successful removal of the cecum and ascending colon for	241
Adulterers, women, medical treatment of	152
Age, environment as a cause of	561
treatment of, by hypodermic injections of quinine	1044
Air, entrance of, into the veins	554
Albumin, urine, origin of	596
Albuminuria, constant and intermittent, variations in albumin in	654
during pregnancy	122
myelopathic	243
Alcohol, action of, on human metabolism	768
a declaration concerning	1052
and the resistance of the organism to disease	431
diseases preceding and following the abuse of	809
in experimental tuberculosis	647
mental dissolution the result of	826
virtues of	723
Aldrich, C. J. Peliosis rheumatica	49
Alexines, quantitative determination of in the serum of human beings	477
Alkalies, use of, in treatment of	528
Allopecia areata, etiology of	1004
congenital, a case of	684
static electricity as a cure for	798
Altitudes, great, and treatment, infections and contraindications for	836
Amaurosis, hysterical	1043
Ambulance arrangements at the royal procession	904
service in the British navy and army	1028
Ambulances, railway, in Germany	246
Amenities, medical, in the seventeenth century	792
Amenorrhoea, for	66
Anaesthesia	367
Amputation, double, on a child under spinal cocaineization	62
Amputations in Russia, statistics of	153
Amydalitis, acute, for	153
Anemia, balloon treatment of	948
for	509
of infancy, splenic	606
pernicious	383
pernicious, and the gastro-intestinal tract	603
pernicious, changes in the spinal cord and medulla in	471
plumbic, haematological findings in a case of	648
splenic, of infants	564
the oedema of	31
Anemias, pernicious, their diagnosis and treatment	78
severe, spinal cord conditions in	136

Anaesthesia apparatus, Roth-Dräger oxygen, experiences with	693
bromide of ethyl, in operations in the throat	516
chloroform, changes in the blood produced by	1089
cocaine	393
general, in obstetrics by pure ethyl	122
primary, in minor surgery	254
surgical, different forms of	121
Anaesthetics in surgery	880
Anaesthetist, field view of the	869
hereditary syphilis in the nose and throat	143
Aneurysm, aortic, consideration of the	286
hypoplasia of the aorta as a cause of, of the ascending arch of the aorta treated by serum gelatin injections	348
ruptured gluteal, a case of	429
thoracic, inequality of the pupils in cases of, with gelatin	207
treatment of, with subcutaneous injections of gelatin	121
Angiotribes in pelvic surgery	878
Angina	954
due to the bacillus megatherium	354
pectoris following syphilitic aortitis, neurotic origin of	163
scarlatinal, antidiphtheritic serum	735
Ankylosis, ligamentous interposition in the treatment of	158
of the spinal column	515
Ankylostomiasis	1006
atrophy of the skin as an early sign of	701
in Cuba	702
Anomalies of the anus and rectum, surgical treatment	430
Anopheles, is the, the exclusive agent in transmitting malarial disease	439
Anorexia of phthisical subjects, for the	110
Antonia, new method of vaccination against	111
serum treatment of	827
Antitoxine case, St. Louis, another suit in the	291
state manufacture of, in Massachusetts to be discontinued	114
Antituberculous agitation in Missouri	776
Antrum, suppurative of, the treatment of	385
Aortitis, syphilitic, neurotic origin of an	163
Aperient medication for children	857
Aphasia, a curious case of	870
motor, from injury to the head, rapid cure by operation	295
puerperal, with an analysis of eighteen cases	255
uræmic	738
Apparatus, new, for therapeutic applications of the Röntgen ray to the larynx, tongue, rectum, etc.	47
Appendicitis	264
a consultation with Professor Dieulafoy on	314
diagnosis between acute and chronic	121
the right side and	121
differential diagnosis of	307
from a physician's standpoint	779
irritation, starvation treatment of	703
leucocytosis in	210
medical treatment of	692
some cases of	428
treatment of	428
when and how to operate for	955
why, is an American disease	377
Appendix, some phases of interest in the	75
vermiform, when should the, be removed	780
Appendicitis, New York State	995
Arch, right aortic, with abnormal disposition of the left innominate vein and thoracic duct	561
Argyria, in diseases of the nose and throat, and ear	1044
Army, changes of medical officers of the	26, 73, 117, 161, 205, 250, 294, 338, 355, 460, 514, 661, 662, 664, 666, 778, 820, 866, 908, 952, 995, 1030, 1082, 1128
medical corps, vacancies in the	27
medical service, vacancies in the	291
Arnold, E. T. Active movements in the chronic stage of paralysis	277
Arrest, deep transverse, of the head, as an indication for forceps	7131

PAGE

Arrhythmia, chronic myocardial degeneration in relation to	874
Arsenic as a cause of cancer	202
Arterial disease in comparatively early life	101
Arterio-sclerosis, for the vertigo of	598
Artery, lingual, ligation of the, through the mouth in excision of the tongue	342
Arthritis, septic, "open method" of treating exceptional cases of	76
Articles, professional, not imported free of duty	71
Articulation, thyreo-hyoid, congenital anomaly of the	125
Ascariades, a case of, in the vagina of a girl three years old	607
Asch, Dr. M. J., in memory of	863
Ashley, D. D. Report of the clinic of Professor Lorenz	1070
Ashley, J. L. The functional weight-bearing method of treating congenital dislocation of the hip, as practised by Professor Lorenz	970
Asphyxia neonatorum, remote effects of, a new method of resuscitation in	528
of the newly born, a new method of resuscitation in	890
Association of Physicians of Long Island	687
Association, an, for the prevention of venereal diseases	160
ASSOCIATIONS, MEETINGS OF MEDICAL:	
Alumni of the Internes of Christ Hospital, Jersey City	687
American Electro-therapeutic	71, 424
American, for the Cure of Inebriety	994
American Medical, 36, 81, 125, 169, 213, 357, 1019	
American, of Genito-urinary Surgeons	655
American, of Obstetricians and Gynecologists	831
American Public Health	992
British Medical	293
Canadian Medical	335, 379
Fetters Valley Medical	202
Harlem Medical	558
Laramie, Wyoming, County Medical	643
Medical, of the Greater City of New York	644
Mississippi Valley Medical	336, 599, 775
National, for the study of Epilepsy	730, 995
National, of Hospital Superintendents	1078
New Haven Medical	730
New Jersey Sanitary	467
New York Nurses	916
New York State Medical	203
New York State Medical, Fourth District Branch of the	993
New York State, of Railway Surgeons	302
Rocky Mountain Interstate Medical	599
Southern Surgical and Gynecological	643
Tri-State Medical, of Mississippi, Arkansas, and Tennessee	775
Tri-State Medical, of Pennsylvania, Maryland, Western Pennsylvania, and West Virginia	116
Western Surgical and Gynecological	950
Asthma, choroid, or retinal, cured by hypodermic injections of atropine in	520
of children, iodine and arsenic in the	681
Astragal, reduction of luxation of	165
Esmerach's bandage	291
Asylum, Kankakee Insane	291
Asylums, State lunatic, on Ward's Island	557
Ataxia, locomotor, pregnancy and	297
Atelectasis of the lungs in a newly born child	957
Atresia, congenital and transverse, of the vagina	343
Atrophies, reflex muscular, of articular origin, treatment of	119
Atropia, locomotor, idiopathic, of the brain, progressive muscular, a case of in a young child	13
Atropia, reduction of luxation of	165
intestinal action of	653
Aurea, epithelioma of the	140
Ayres, E. L. Recognition and treatment of its early	534
recognition and treatment	534

BACCELLI, DR., a presentation to	1081
Bacilli, differentiation between typhoid, color, and functional	566
tubercle, in the sputum, culture of	434
typhoid, in roseolar spots	299

PAGE	PAGE	PAGE
Bacillus, anthrax, in rabbits, action of typhoidized gelatin culture of the.....	298	
Eberth's in the blood of typhoid patients.....	250	
non-virulent diphtheria, an attempt to transform, into a pseudodiphtheria bacillus and into a virulent diphtheria bacillus.....	915	
pest, agglutination of the.....	433	
plague, polymorphism of the.....	1134	
the short, of diphtheria.....	1004	
Bacteria, anaerobic, and their presence in fatal suppurations.....	1090	
in the Atlantic Ocean.....	513	
so-called acidophile, in the faces of the skulls.....	1006	
Bacterium coli, bacillus typhosus, and related species, media for distinguishing.....	62	
Bacteriology, transcendental.....	685	
Balls, hair, and other concretions in the stomach.....	1086	
Banham, J. The vaccination question.....	519	
Banti's disease, surgery and hepatic otopharynx.....	517	
three cases of.....	471	
Basedow's disease, blood pressure in.....	564	
in children.....	607	
Bates, Dr. William H.....	730	
Batch, companionship of the.....	158	
Bathing in winter.....	352	
Baths, Manhattan public, sanitary.....	294	
of the.....	292	
Bayles, J. C. Gas leakage and the public health.....	309	
Beck, C. Operative treatment of fractures as indicated by the Röntgen rays.....	1097	
Bedsore, a, of rapid formation.....	641	
Bedsore, new cases of.....	607	
Bellevue and insane patients.....	538	
changes at.....	820	
Bile, elimination of, influence of mineral matters upon the.....	521	
influence of, on the resistance of the red cells of the blood.....	1134	
Bilious hemoglobinuria, fever.....	836	
Billing, J. S. Results of examinations of the blood for the Widal reaction performed at the Diagnosis Laboratory of the Health Department of New York City during 1909.....	715	
Births in families of physicians.....	690	
733, 778, 822, 886		
not reported in the Borough of Queens.....	906	
Bite, a case of tarantula.....	694	
shark, three cases of.....	597	
"Black water" fever, a case of, from the Philippines.....	460	
Bladder, disturbances, cerebral.....	344	
disturbances, caused by myoma.....	164	
gonorrheal disturbances of the.....	166	
Blepharitis, ciliary, treatment of.....	595	
Blind, possibility of bringing sight to the.....	87	
Blindness, congenital, operation on, adults.....	100	
congenital, remarkable statement concerning.....	112	
Blood cells, white, enumeration of.....	433	
counts, value of, in abdominal disease.....	953	
human, bactericidal effect of.....	1133	
human, identification of.....	450	
portal, deviation of the.....	749	
pressure in mental disease.....	167	
results of examinations of the, for the Widal reaction.....	715	
the, in pregnancy, parturition and the puerperium.....	702, 1140	
Board of Coroners, increased appropriations for the.....	494	
to abolish the.....	494	
Board of Health, Chicago.....	26	
Illinois, minimum requirements of the.....	336	
in the Philippines, work of the.....	115	
Michigan, secretary of the.....	818	
New York, annual report of the.....	863	
Wisconsin, to have a bacteriological laboratory.....	906	
Boards, health, a suit necessary to determine the status of.....	423	
Bodenhamer, W. The anatomy, physiology, and pathology of the normal sacculi.....	320	
Bodies, foreign, exploratory puncture for.....	384	
foreign, in the bladder.....	476	
foreign, in the ear, detachment of the acule for.....	481	
foreign, in the uterus.....	79	
foreign, method of removing small, from the stomach, without operation.....	1130	
punct, relation of, to certain metabolic disorders.....	31	
Body, foreign, in the male urethra.....	106	
human, financial value of the.....	709	
swallow in tubercular disease.....	843	
Boils, treatment of.....	724	
Boile, H. J. Endometriosis.....	1083	
Boussignant, P. Some of the therapeutic value of the.....	104	
Jones, persistent interparietal, and mental defects.....	377	
BOOK NOTICES:		
Abbott, A. C. The Principles of Bacteriology.....	966	
Abel, C. Gynecological Pathology.....	699	
Abel, E. The Diagnosis of Surgical Diseases.....	622	
Allichin, W. H. A Manual of Medicine.....	391	
Allen, C. W. The Practitioner's Manual.....	966	
Allingham, W. and H. W. The Diagnosis and Treatment of Diseases of the Rectum.....	480	
Bacon, G. A Manual of Otolaryngology.....	876	
Barthelemy, H. Sémiologie pratique des pommuns et de la plevre.....	525	
Bigelow, H. R. An International System of Electrotherapeutics.....	570	
Bouville, H. Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie.....	525	
Brühl, G. and Politzer, A. Atlas and Epitome of Otolaryngology.....	922	
Brugace, A. H. A Manual of Toxicology.....	875	
Brunton, Sir L. On Disorders of Assimilation, Digestion, etc.....	437	
Buck, A. H. Reference Handbook of the Medical Sciences.....	301	
Budgett, S. P. Essentials of Physiology.....	42	
Bulkeley, L. D. Eczema.....	613	
Bulkeley, L. D. and others. Syphilis. A Symposium.....	219	
Bunge, G. Text-book of Physiological and Pathological Chemistry.....	923	
Byrd, H. T. Manual of Gynecology.....	1049	
Chapin, H. D. The Theory and Practice of Infant Feeding.....	875	
Chase, R. H. General Paresis.....	1040	
Clado, M. Diagnostic gynecologique.....	834	
Cheney, W. W. A Manual of Surgical Treatment.....	1091	
Cohn, T. Leitfaden der Elektrodiagnostik und Elektrotherapie.....	1009	
Cooley, W. T. Treatment on the Acute Infectious Exanthemata.....	799	
Cotterell, E. The Pocket Gray, or Anatomist's Vade Mecum.....	391	
Crothers, T. D. Morphism and Narcotics from others.....	525	
Cunningham, D. J. Text-book of Anatomy.....	1047	
Curse, H. and Osler, W. Typhoid Fever.....	1070	
Davies, J. Clinical Hematology.....	1092	
Davenport, F. H. Diseases of Women.....	438	
Davis, E. P. Mother and Child.....	875	
Davis, G. The Principles and Practice of Bandaging.....	1008	
Defendorf, A. R. Clinical Psychiatry.....	1007	
de Plasse, L. La longévité ou l'art de prolonger la vie.....	834	
Dickson, C. R. First Aid to the Sick.....	1049	
Disse, J. Harn- und Geschlechtsorgane.....	1040	
Dorland, W. A. N. Modern Obstetrics.....	613	
Eccles, W. McA. Hernia: Its Etiology, Symptoms, and Treatment.....	924	
Eight Annual Report of the Craig Colony for Epileptics.....	1008	
Ellis, H. Studies of the Psychology of Sex.....	660	
Fenwick, E. H. and Walker, J. W. T. Obscure Diseases of the Urethra.....	438	
Fox, G. H. A Practical Treatise on Smallpox.....	921	
Fox, G. H. Photographic Atlas of the Diseases of the Skin.....	921	
Frost, W. D. A Laboratory Guide in Elementary Bacteriology.....	210	
Gee, S. Medical Lectures and Aphorisms.....	964	
Golesecano, C. Les aveugles à travers les âges.....	746	
Gould, G. M. The American Year Book of Medicine and Surgery.....	877	
Gravel, H. Diseases of the Nose.....	1003	
Gerrish, F. H. A Textbook of Anatomy, Physiology and Hygiene.....	901	
Gray, C. P. The Diseases of the Nose, Throat, and Ear.....	630	
Hall, I. W. The Pure Bodies of Food Stuffs.....	609	
Hall, A. A. Text-book of Practical Hygiene.....	829	
Hare, H. A. Practical Diagnosis.....	1011	
Hayden, J. R. Venereal Diseases.....	438	
Head, G. P. The Practical Medicine Series of Year Books.....	173, 614, 701, 787, 964, 1008, 1010	
Hemmeter, J. C. Diseases of the Intestines.....	1036, 1004	
Hirsch, W. O. A Physician's Practical Gynecology.....	875	
Hirsch, L. Klinisches Jahrbuch.....	745	
Holmes, H. W. Outlines of Anatomy.....	331	
Hopkins, W. B. The Koller Bandage.....	965	
Horridge, F. Dynamic Aspects of Nutrition and Heredity.....	1048	
Hyde, J. N. and Montgomery, F. H. A Practical Treatise on Diseases of the Skin.....	43	
Jackson, C. T. The Ready Reference Handbook of Diseases of the Skin.....	513	
Jacobson, W. H. A. and Steward, F. The Operation of Surgery.....	905	
Jennings, O. La guérison de la morpheumatisme sans souffrance.....	1008	
Jewett, C. Manual of Childbed Nursing.....	571	
Johnson, E. G. Outlines of Physiology.....	351	
Kenell, A. Human Embryology and Morphology.....	437	
Kelsey, C. B. The Surgery of the Rectum.....	965	
Kerley, C. G. Short Talks with Young Mothers on the Management of Infants and Young Children.....	479	
Kimber, D. C. Text-book of Anatomy and Physiology for Nurses.....	437	
King, W. H. Electricity in Medicine and Surgery.....	570	
Langerhaus, D. Grundriss der pathologischen Anatomie.....	746	
Lehmann, A. Leçons de Physiologie.....	1093	
Leroy, L. Essentials of Histology.....	1093	
Leser, E. Die spezielle Chirurgie.....	1000	
Leser, E. Operations-Verademum für Chirurgen, Praktischen Arzt.....	923	
Marsh, H. Clinical Essays and Lectures.....	834	
Marshall, J. S. Principles and Practice of Operative Dentistry.....	478	
Mason, W. P. Water Supply.....	660	
Mercier, C. A. Psychology Normal and Morbid.....	305	
Merkel, F. Darmsystem.....	1049	
Meyer, H. Die Krankheiten der Farbstoffchemie für Histologen.....	965	
Morton, H. H. Genitourinary Diseases and Syphilis.....	923	
Neff, H. J. First Manual of Prescription Writing.....	101	
Northrup, W. P. Nothnagel's Encyclopædia of Practical Medicine.....	964	
Oppenheim, N. Mental Growth and Development.....	1007	
Ostrom, K. W. Massage and the Original Swedish Movements.....	877	
Packard, A. S. Lamarck, the Founder of Evolution.....	480	
Paget, S. Selected Essays and Addresses by Sir James Paget.....	570	
Penrose, C. B. A Text-book of the Diseases of Women.....	614	
Perey, A. M. Intuition.....	965	
Plehn, A. Die Malaria der afrikanischen Negerbevölkerung.....	875	
Puschmann, T. Handbuch der Gynäkologie.....	478	
Quain's Dictionary of Medicine.....	700	
Raymond, J. H. Human Physiology.....	481	
Regnier, L. R. Radiothérapie et photothérapie.....	1047	
Reynolds, E. and Newell, F. S. Practical Obstetrics.....	1010	
Richer, P. Introduction à l'étude de la figure humaine.....	834	
Rosenau, M. J. Disinfection and Disinfectants.....	1048	
Sachs, F. M. Studien über die Neurosen bei Kindern.....	1009	
Sahli, H. Lehrbuch der klinischen Untersuchungsmethoden für Studierende und praktische Ärzte.....	1000	
Savage, G. C. Ophthalmic Myology.....	744	
Savill, T. D. Clinical Lectures on Neurosthenia.....	1008	
Schäfer, E. A. Directions for Clinical Work in Practical Physiology.....	1050	
Schmitt, G. A Brief of Necropsy and its Medico-legal Relation.....	1002	
Schmitt, G. A. Veneral Diseases.....	1002	
Sedgewick, W. T. Principles of Sanitary Science and the Public Health.....	700	
Selby, Sir F. A. The Principles of the Principles of Local Treatment in Diseases of the Upper Air Passages.....	175, 600	
Senn, N. A Nurse's Guide for the Operating Room.....	1048	
Sherrington, J. V. A Practical Treatise on Materia Medica and Therapeutics.....	671	
Simon, C. E. A Manual of Clinical Diagnosis.....	524	
Sommat, M. Les dilatations de l'estomac.....	834	
Starr, L. Diseases of the Digestive		

	PAGE		PAGE		PAGE
Organs in Infancy and Childhood...	664	Calculus, pancreatic, with notes of a case...	340	Chloroform, administration of...	364
Stohr, P. P. Text-book of Histology...	593	uterine, on the right side, diagnosis be-	121	death from the remote effects of...	773
Taylor, J. J. The Physician's Pocket...	525	tween, and appendicitis...	121	pure...	168
Account book...	525	Caldwell, E. W. A special type of Crooke's...	896	Chloroform, administration of...	615
Thayer, A. E. Compend of General...	218	tube for therapeutic application of...	896	Cholecystectomy, indications for in a bil-	385
Pathology...	218	Kontgen rays to the cervix of the...	896	lithiasis...	385
Pathology...	218	uterus...	896	versus removal of the mucous mem-	694
The International Medical Annual...	702	Caldwell, E. W. New apparatus for thera-	896	brane of the gall bladder...	694
The Medical News Visiting List...	1093	peutic applications of the Röntgen...	896	Cholelithiasis, acute, and chronic...	760
The Physicians' Protective Association...	1093	ray to the larynx, tongue, and...	47	treatment of...	760
Thompson, H. C. Acute Dilatation of...	922	etc...	47	subsequent to hepatic colic, for...	770
the Stomach...	922	Calomel, poisoning by a purgative dose of...	804	among American soldiers in the Philip-	776
Transactions of the American Ortho-	86	Campaign, anti-mosquito, in Corsica...	119	pines...	70
Transactions of the American Ophthal-	86	Canal, of the middle ear...	146	due to eating raw shell fish...	379
mic Association...	86	Cancer and malarial infection...	210	in the Philippines, 116, 160, 334,	905
Transactions of the National Associa-	86	and tuberculosis...	210	687, 729	905
tion for the Study of Epilepsy and...	86	arsenic as a cause of...	165	Cholesteatoma of the middle ear...	518
the Care and Treatment of Epilep-	86	contagiousness of...	165	Chorea and its relation to the infectious...	427
Turner, A. L. The Accessory Sinuses...	1007	early, of the larynx, treatment of...	1003	diseases, especially rheumatism...	427
of the Nose...	1007	thyrotoxy...	1003	arsenic in the treatment of...	518
Tyson, J. A. Guide to the Practical...	175	in Astrakhan...	1003	minor due to intestinal intoxication...	383
Examination of Urine...	1050	inoperable, treatment of...	610	polycytemia, and ties...	564
Ultzmann, R. The Neuroses of the...	896	inoperable, treatment of, with methyl...	610	Sydenham's...	474
Genitourinary System in the Male...	896	blue...	610	Chorioepithelioma of the vagina...	343
Virus, of Malignant nerves...	1008	late recurrences of...	1041	Chlorionepithelioma, malignant, a case of...	1134
Wall, O. Elementary Latin...	1137	mammary, Bosc's cure of...	1041	the so-called "carcinoma malignum"	1134
Walsh, D. The Röntgen Rays in Med-	479	cases of...	1041	some authors...	959
ical Work...	479	of the breast, inoperable, treated by...	693	Christian Science...	240
Wassermann, H. Handbuch der patho-	1092	removal of the ovaries...	693	a clergyman on...	88
gen Mikroorganismen...	1092	of the larynx, a case of, cured by...	884	by diet...	512
Webster's International Dictionary of...	816	x rays...	884	healers and the reporting of infectious...	904
Wharton, H. R. Minor Surgery and...	218	of the esophagus without obstruction...	884	disease...	904
Bandaging...	218	of the penis, radical treatment of...	605	the intimate idealism of...	905
Williams, F. H. The Röntgen Rays in...	570	of rectum, excision of...	605	treatment, a child dies under...	775
Medicine and Surgery...	570	of the tongue, new operation for com-	454	Christian Scientists charged with man-	819
Withaus, R. A. The Medical Stud-	438	plete extirpation of...	454	slaughter...	819
ent's Manual of Chemistry...	438	of the uterus, hysterectomy in...	650	Christ, C. Spinal cord conditions in...	121
Woolsey, G. Applied Surgical Anat-	1009	sections, methylene blue and eosin as a...	175	severe anemias...	136
omy Regionally Presented...	1009	stain for...	175	Circulation of blood in the head, influence...	1003
Wright, H. Studies from the Institute...	896	statistics...	427	of morphine and physostigmine upon...	566
for Medical Research...	896	of the early diagnosis of...	1001	the...	566
Wright, J. The Nose and Throat in...	1136	uterine, palliative treatment of by li-	427	Circumcision, a method of...	575
Medical History...	1136	gation of the hypogastric and ova-	825	a modified method of...	1139
Zuckerkandl, O. Atlas and Epitome of...	923	rian arteries...	1001	a plastic substitute for...	1003
disinfective Surgery...	923	in the treatment of...	1001	Cirrhosis of the liver, elastic tissue in...	308
Books, disinfection of, by powder...	521	Candidate, medical, for the majority of...	685	of the liver, treatment of...	637
Boucher, J. B. A case of successful re-	27	Detroit...	685	in Climatology in Southern California...	24
moval of a kidney for intermittent...	27	Carbuncles, treatment of, without incisions...	1041	Climate, climatological studies in...	432
hydronephrosis...	27	Carcinoma, axillary, amputation through...	1041	Club-foot in young children, a new principle...	35
Boucher, J. B. The ascending colon for ad-	241	of the shoulder, routine proce-	1041	of curing...	35
enocarcinoma...	241	dure in...	1041	Coca-cola, poisoning by...	702
Bradford, E. H. Shoe deformities...	661	embryological aspects and etiology of...	125	Cocaine, intraspinal injections of, operations...	640
Branchiomata, cervical...	476	in women, chiefly in its clinical aspects...	957	under anesthesia produced by...	640
Breast, hysterectomy for...	79	of the breast, inoperable, com-	296	Cocaine, spinal, with double amputation...	80
Breasts, suspension of, the rôle of the skin...	476	for...	296	child...	62
and cutaneous muscles of the neck...	476	primary medullary, of the lung...	572	Cohn, S. The use of electricity in the treat-	410
in the...	476	primary, of the kidneys, metastases of...	433	Colic, lead, olive oil in the treatment of...	462
Breath, freid, for...	330	of the liver...	433	lead, treatment of...	814
Brickner, S. M. Pain as a symptom in...	544	primary, of the vermiform appendix...	572	Cold, exposure to, as a pathogenic factor...	991
gynecological disease...	544	rectal, complicating pregnancy...	572	College, Bellevue Medical, improvement...	378
Bromides, use and abuse of, in the treat-	1001	removal of the bladder and prostate...	697	City...	378
ment of mental disease...	1001	of the bladder and prostate...	697	Chicago Eye, Ear, Nose, and Throat...	159
Bronchiectasis, congenital, in a patient with...	741	tonal and hypogastric laparotomy...	781	Cincinnati, of Medicine and Surgery...	70
inverted position of the viscera...	741	vaginal hysterectomy for, during preg-	826	Medical, of Ohio...	26
Bronchitis, chronic...	720	nancy...	826	of Medicine, Denver and Gross...	71
diphtheria...	720	Carey, Dr. George F., in memory of...	160	o, Physicians and Surgeons, Cleveland...	26
for fatal...	724	Carey, Dr. George F., in memory of...	160	of Physicians and Surgeons of Kansas...	643
for infantile...	724	Cartilage, eroid, ossification of the...	1005	City...	26
Bronchopneumonia, acute infantile...	604	Carcinoma, eroid, ossification of the...	1005	of Physicians and Surgeons, New York...	26
delirium of remittence...	604	Carcinoma, eroid, ossification of the...	1005	Rush Medical...	687
language during the...	32	Carcinoma, eroid, ossification of the...	1005	Rush Medical, admits women...	70
incipient in infants, treatment of...	124	Carcinoma, eroid, ossification of the...	1005	Rush Medical, admits women...	70
Brooke, W. W. Spinal coccalization with...	624	Carcinoma, eroid, ossification of the...	1005	for...	949
double amputation on a child...	624	Carcinoma, eroid, ossification of the...	1005	Woman's Medical, of Baltimore...	636
Brown, S. L. R. Alexander's operation...	1066	Carcinoma, eroid, ossification of the...	1005	Collings, S. P. The relationship lies bears...	802
Buboes, climatic...	482	Carcinoma, eroid, ossification of the...	1005	Colony, leper, at Honolulu...	203
Building and environment...	993	Carcinoma, eroid, ossification of the...	1005	Colorado, climatic and electric peculiarities...	805
Burch, J. D. The plague; its diffusive...	993	Carcinoma, eroid, ossification of the...	1005	of, favoring recovery in pulmonary...	805
dency; Haffkine's anti-plague virus...	993	Carcinoma, eroid, ossification of the...	1005	and other diseases...	805
vs Dr. Yersin's serum...	485	Carcinoma, eroid, ossification of the...	1005	Colotomy; tumors complicating it...	44
Burke, foundation for a permanent prop-	764	Carcinoma, eroid, ossification of the...	1005	Coma, diabetic, acetone products in connec-	390
homes for the convalescent poor of...	764	Carcinoma, eroid, ossification of the...	1005	unexplained...	861
Burn, severe, of the eye and face by nitrite...	739	Carcinoma, eroid, ossification of the...	1005	Commercialism, the aim of...	113
x-ray, action for...	739	Carcinoma, eroid, ossification of the...	1005	Commission, Maryland State Tuberculosis...	424
Burns, calcium hypochlorite for...	850	Carcinoma, eroid, ossification of the...	1005	Commissioner of street cleaning, a hint...	202
non-irritating, antiseptic ointment for...	850	Carcinoma, eroid, ossification of the...	1005	to the...	202
of the skin, severe, blood examinations...	318	Carcinoma, eroid, ossification of the...	1005	Committee on tuberculosis, Charity Organ-	204
x-ray, damages claimed for...	820	Carcinoma, eroid, ossification of the...	1005	Imposition of more careful...	204
Burns, volatile oils in the therapeutics of...	820	Carcinoma, eroid, ossification of the...	1005	examination and treatment of women...	1001
Burns, the ill effects of surgical improve-	649	Carcinoma, eroid, ossification of the...	1005	after...	1001
Burtenshaw, J. H. Gynecology and the...	360	Carcinoma, eroid, ossification of the...	1005	Children, mental and physical development...	748
country doctor...	360	Carcinoma, eroid, ossification of the...	1005	neurotic education and development of...	351
Buttermilk as an infant food...	566	Carcinoma, eroid, ossification of the...	1005	to keep, healthy...	487
CALCULY combination, therapeutic...	653	Carcinoma, eroid, ossification of the...	1005	Chloride of gold in tuberculosis...	197
uses of the...	653	Carcinoma, eroid, ossification of the...	1005	Chlorine in chloroform administra-	366
Cactus grandiflorus in circulatory disorders...	462	Carcinoma, eroid, ossification of the...	1005	tion...	366
Cactus, success in removal of the...	241	Carcinoma, eroid, ossification of the...	1005		
adenocarcinoma...	241	Carcinoma, eroid, ossification of the...	1005		
Cæsarean operations, four, on one woman...	649	Carcinoma, eroid, ossification of the...	1005		
Calcium chloride, hemostatic action of intra-	149	Carcinoma, eroid, ossification of the...	1005		
venous injections of...	149	Carcinoma, eroid, ossification of the...	1005		

Congress, a, on the hygienic treatment of adults, in St. Louis tetanus cases, 1903	283	Damages, a hospital sued for.....	424	cardiac, clinical notes on.....	417
Egyptian Medical.....	203	Davis, E. P. Polyhydramnios: its dif- ferential diagnosis and treatment.....	58	certain common, contrasts between, in children and adults.....	691
Fourth International, of Gynecology and Obstetrics.....	28	Davis, F. W. Otitis media purulenta treat- ed by the dry method.....	50	chronic suppurative, of the middle ear.....	355
Fourteenth International, of Medicine and Surgery.....	16	Deafness, catarrhal, the constitution, at- tributed to.....	629	communicable, in Michigan.....	239
Fourth Scandinavian Medical.....	425	versus.....	629	congenital, in Connecticut, a medical nurse concerning.....	376
International Medical, at Madrid, 643, Latin-American Medical, the second, 850	861	chronic middle-ear, ozone in.....	872	infectious, in New York, 28, 73, 117, 161, 204, 249, 293, 337, 381, 425, 469, 539, 559, 907, 954, 955, 959, 1031, 1125	1125
of American Physicians and Surgeons Pan American, January.....	862	of middle-ear, ozone in.....	143	in infants, intestinal, prevention of, during the summer.....	891
Conjunctivitis, rôle of the pneumococcus in the clinical pathology of.....	522	Death from vaccination, city sued for.....	424	West Indies.....	123
Conscientiousness and charity.....	600	rate of Boston.....	204, 248, 467, 644	of operations in suppurative.....	1063
Consent, age of.....	909	rate of Brooklyn, low.....	818	of the female genital, relation of, with rates.....	1081
Conspicuous clinical remarks about.....	407	rate of Chicago.....	467, 601, 731, 862, 994	pulmonary, intra-laryngeal medication in.....	6
habitual, electricity in the treatment of.....	410	sudden, in animals immunized with the blood of other species under the influence of intravenous injections of the same blood, causes of.....	478	Disinfection.....	15
"of the lungs".....	246	Deaths from consumption.....	993	Dislocation.....	970
spastic.....	779	Deaths in the profession abroad.....	993	Dislocations, multiple and multiple in the treatment of.....	1129
Consumption in the navy.....	607	Deaths of physicians, or members of their families, 30, 74, 118, 162, 206, 250, 292, 348, 389, 434, 470, 474, 539, 604, 639, 650, 733, 782, 826, 866, 908, 952, 996, 1082, 1126	1126	Disorders, summer, in children, dietetic treatment of.....	243
prevention of.....	600	Deaver, J. B. Diseases of the gall bladder Decapsulation, renal, versus nephrotomy resection of.....	956	Dispensary, a free medical dispensary, Boston, New York Orthopedic.....	903
pulmonary, modern treatment of.....	230	Decorations, Italian, for Dr. Wasdin and Dr. Geddings.....	1078	Dispensing, should physicians engage in.....	827
Consumptives, travelling.....	280	Deflection of the cartilaginous septum, sim- plified method of operating for.....	519	Disturbances, circulatory, in the collapse of.....	909
Contractions, of the stomach, treated by operation.....	956	Deformities, various.....	661	Diuretic, hypodermic, for uræmic patients.....	110
Convolutions, purpuræ, veratrum viride subcutaneously.....	422	Deformity, vicious, and tuberculous dis- ease, excision of the knee for.....	333	Dock, G. The works of Edward Jenner and their value in the modern study of smallpox.....	978
Coordination, defective, in utero.....	504	Degeneration, myeloid, of the spleen and lymphatic glands.....	388	Doctors, lodge.....	1077
Cord, umbilical, placental insertion of.....	651	of the heart.....	742	why, become doctors.....	835
Cornea, transplantation of the.....	354	Degrees, American dental, and the title of Dr. abroad.....	248	Donoghue, A. F. The immediate repair of.....	767
Cornell, S. S. Clinical notes on cardiac diseases.....	417	Dengue fever, epidemic of.....	208	Douglass, B. My summer in Wood's Hole.....	235
Corporation, Albany.....	907	in Burma.....	194	Dreams.....	135
of a hospital, Governor Odell lays the cornering, J. L. The service of the sick.....	728	Dental facts worth knowing by physicians.....	1051	Drennan, J. G. Beaton's cure of inoperable cancer.....	590
Coroner's physician, contest for the post of vacancy in the office of.....	292	Depletion and depression.....	352	Drennan, J. G. Maturation of ova in re- lation to puberty and the menopause.....	241
Corps, burial in the army, manual of.....	950	Dermatitis, chloric electrolytic.....	826	Drug habit, hyoscine in the treatment of.....	1001
medical, a foreign military service.....	950	Dermatoma, ovarian, removal of, by the vaginal route.....	1042	Duncan, Dr. Thomas C., death of.....	159
medical, foreign service, an act to establish a, in the medical depart- ment of the United States Army.....	966	Diabetes, acute, in a child three years old insipidus transformed into diabetes mellitus.....	120	Duty, professional articles not imported free of.....	71
summer medical, women in the.....	702	Diagnosis in abdominal lesions.....	221	Dyer, I. The age of consent.....	407
Corpuscles, nucleated colored, the action of certain hemolytic agents on.....	609	Diagnosis in infants.....	329	Dyes, hair, dangers of.....	835
CORRESPONDENCE:		Diarrhea, chronic, treatment of, by hydrochloric acid.....	129	Dysenteric, prevention and treatment of, in children.....	608
Letters from Brussels.....	549, 634	Diarrhea, chronic, treatment of, by hydrochloric acid.....	129	Dysmenorrhea, nasal.....	79
Letters from London.....	549	Diarrhea, chronic, treatment of, by hydrochloric acid.....	129	Dyspepsia and its treatment by antiseptics.....	1084
Letters from Manila.....	328	Diazotization, of.....	129	Dujardin-Beaume's treatment of.....	509
Letters from Montreal.....	592, 886	Diet, enforced milk, for the accidents ac- companying an.....	32	Dystocia due to carcinoma of the cervix.....	386
Letters from Toronto.....	987	saccharine, influence of, on gastric acidity.....	773	EAK, middle, chronic suppurative diseases of the.....	255
Cough, hysterical, of the lingual tonsil caused by.....	341	Dietetics, etiological.....	834	Eclampsia, fetal theory of the causation of pathogenesis and treatment of.....	254, 343
Council, Medical, of Ontario.....	73	Digestion, effect of bodily activity and nutrition on.....	904	puerperal, in the light of thyroid in- adequacy, and its treatment by thy- roid extract.....	731
Couvade, the, in mediæval verse.....	880	Digestive disturbances in diseases of the nose and rhino-pharynx.....	972	puerperal, pathogenesis and treatment of.....	394
Craig, C. F. A new method of staining the parasites, with a description of the staining reaction of.....	451	Dilatation, atonic, of the stomach.....	672	Ectopic, congenital, of the kidney.....	590
Craig Colony for epileptics.....	291	value and treatment of.....	672	Eczema, etiology of.....	387
Cranietomy, double, for wound of the brain.....	860	of the cervix, rapid, with Bossi's dilator of the stomach.....	860	Eczema, etiology of.....	387
Crawford, G. A. Tumors; suppu- rations; and malignant.....	453	of the stomach, atonic, treatment of, with high-frequency currents.....	823	Ectopy, congenital, of the kidney.....	590
Crawford, J. Lynn. See G. E. Crawford.	453	Dinner, a, to Dr. Keen and Dr. Wood.....	820	Eczema, etiology of.....	387
Crothers, T. D. Diseases preceding and following the abuse of alcohol.....	755	Diphtheria, and the bacillus of diphtheria in scarlatina.....	212	Ectopy, congenital, of the kidney.....	590
Cryoscopy.....	1088	a report on forty-three consecutive cases of.....	252	Eczema, etiology of.....	387
Cullen, T. S. Retrolachrymal cyst, re- moving three years after removal of the appetites.....	648	associated with.....	252	Eczema, etiology of.....	387
Current differentiation illustrated by a case of tubercular necrosis of the epiphyseal chondromatous degeneration of the cord Cursing, cause, historic.....	582	associated with scarlet fever.....	251	Eczema, etiology of.....	387
Curvature, lateral, rotation in.....	573	laryngeal, operative treatment of.....	253	Eczema, etiology of.....	387
Cysts, of the spine, rotary.....	573	with and without antitoxine.....	736	Eczema, etiology of.....	387
Cystitis, of the ovary, origin of.....	1090	Diploma, requirement under the interstate reciprocity in medical licensing.....	247	Eczema, etiology of.....	387
Cystitis, bacterioides of.....	1090	Diplomas, charged with foreign.....	247	Eczema, etiology of.....	387
chronic, with dysuria and strangury, for.....	945	Director, New York State Medical As- sociation's new, for 1904-1905.....	687	Eczema, etiology of.....	387
in medicine in.....	645	the County Medical Society's new.....	643	Eczema, etiology of.....	387
Cysts, echinococcus, of the liver, treated by immediate suture without drain- ing.....	473	Dirt under the nails, infectiousness of, as cause of tetanus.....	32	Eczema, etiology of.....	387
ectodermal, in the broad ligament, on the uterine cord, the epiphyseal of the fetus and the new born.....	434	Disease, actinobacillary, of the hip joint.....	263	Eczema, etiology of.....	387
of the female genital, origin of.....	783	contagious, fixed for failure to report.....	993	Eczema, etiology of.....	387
of the head of the pancreas.....	1080	Diseases, acute infectious, circulatory dis- turbances in the collapse of.....	909	Eczema, etiology of.....	387
of the urinary bladder, origin of.....	107			Eczema, etiology of.....	387
Cytodiagnosis, value and significance of.....	874, 1010			Eczema, etiology of.....	387
DALTON, W. R. L. The dependence of skin affections upon nutritive dis- turbances.....	766			Eczema, etiology of.....	387
Damages, suit, a health officer loses.....	1123			Eczema, etiology of.....	387

PAGE	PAGE	organs, their associated diseases, symptoms, and treatment	PAGE
disease, remittent limp in the first ap- parent stage of	279	Jenner, Edward, the works of, and their value in the modern study of small- pox	925, 978
Hirschsprung's disease and idiopathic en- largement of the colon	867	Southey's tribute to	1051
Hodgkin's disease, treatment of, with the Rontgen rays	598	Jervoy, J. W. The successful treatment of hay fever	231
Hoffmann, P. The passive carrying func- tion of the arm; its importance, its destruction, and an operation for its restoration	355	Johnston, the late Dr. Wyatt	113
Holiday, virtues of a	430	Journal, a biochemical, to be established ..	992
Holmes, A. M. Life in thy treatment	513	a new Cuban	202
honors, coronation, for medical men	69	a new gynecological	285
for a physician in high office	334	the Woman's Medical	263
Hopkins, S. D. Amnesia, with report	367	Journals, a merger of	1023
Hospital, a new, for immigrants on Ellis Island	775	Jubilee, the, of Lister	1121
a new city, for Jersey City	729	Judson, A. B. Rotary curvature of the spine	753
a new, for Harvard College	599	K ELLOGG, K. E. Tetanus	57
a new, for Jamaica, L. I.	687	Kellogg, T. H. Historic element in mental disease	107
a new, for deaf mute	687	Keratitis, acute suppurative, ligation of the canaliculi in	166
a new, for the Bronx	1078	Kerley, C. G. The prevention of summer diseases	891
Bellevue	408	Kidney, congenital ectopia of the	650
Boston City, request to the	774	granular, dietetic treatment of	914
Boston Floating	1078	movable, appearance of	121
Cincinnati City, investigations at the Columbus, Ohio, State	818	carbolic acid	605
Cook County, Ill., typhoid in the	70	subparietal rupture of the	605
Dono Emergency	514	successful removal of a, for intermittent hydrocephalus	327
Floating, of St. John's Guild	514	Kimberlin, Dr., shot by a patient	906
for children, a proposed new free, in Milwaukee	203	King Edward's interest in the medical pro- fession	376
for contagious disease in the Bor- ough of Queens	242	Kissing, gonorrhea	1077
for East New York	558	Klotz, W. C. A method of circumcision ..	575
for persons threatened with insanity ..	26	Knapp, M. I. Insufficient pylori as a sequela of chronic gastritis	585
for insane, Kankakee, Ill., officers exonerated at the	596	Knee, extension of the, for large cities ..	133
G. A. R., Washington, D. C.	680	joint, after-treatment of erosion of the septum	563
Harlem	514	of treating	76
Lebanon	1078	Knopf, S. A. The Burke foundation, and a plea for proper homes for the con- valescent	764
Lincoln	334	Koch's defense of his views on the trans- mission of animal tuberculosis to man	773
Long Island State, crowded in the	116	Kraus, H. R. Superior, to	819
New York State, to enlarge the	992	L ABOR, conduct of, in contracted pelvis day	430
New York Metropolitan	774	normal third stage of, management of the	296
Ohio State, for Epilepsy	114	Laboratories, research, at Khartoum	1123
Philadelphia, for contagious disease ..	114	Laboratory, a, for the	558
Philadelphia Municipal, no write for the	1079	of Chicago, Department of Health be- suit, the University loses in the	906
Providence, El Paso, Texas	861	Lacerations, cervix, immediate repair of ..	767
St. Luke's, South Bethlehem, Pa.	730	Lacnantes tinctoria, chemical and ther- apeutic properties of	211
Wills Eye	26	Lane, the late Dr. Levi Cooper	25
Woman's, of Philadelphia	116	Laparotomy, extraperitoneal hypogastric, for uterovaginal and intestinal car- cinoma	781
Hospital, requests to a kidney for	337	Pfannenstiel's suprapubic method of ..	386
Chicago, license fee for	687	successful late, for gunshot wound of the intestine	372
Cuban, deterioration in	1079	Laryngectomy for malignant disease	1020, 1059
guarding against fire	1122	Laryngitis, chronic, correlation of diagno- sis and treatment	518
for contagious diseases	161	Laryngeal paralysis of the	857
of Paris, to recognize	819	Lavage of the colon	340
Philadelphia	577	Law, vaccination, constitutionality of the New York State	26
Hot air therapy in gynecology	646	vaccination, no dead letter in New Jersey	25
Hour-glass stomach, diagnosis of	698	Lead, white, regulation of the use of, in France	430
Hughes, H. Administration of chloroform and ether	314	LEADING ARTICLES:	
Hughes, M. L. Prevention of smallpox ..	767	Academic course at Columbia, the pro- posed	682
Humerus, fractures of the shaft of the, treatment of	429	Anaphylaxis, operations between attacks, Sir Frederick Treves on	199
Hydatid disease, eosinophilia associated with	935	Army medical service in time of war ..	638
Hydatids, postoperative grafting of	355	Bacillus, diphtheria, in persons who are not sick	332
Hydrophrophosis, intermittent, successful re- covery of a kidney for	337	Bellevue Hospital	493
Hygiene, school, in New York	577	Ben faction, Mr. Burke's	67
Hymanson, A. A case of amaurotic family idiocy	60	Bond, H. The successful case	680
Hyperaesthesia	596	Bond, fractured, the wiring of, with- out a cutting operation	111
Hyperaesthesia of the skin and their connec- tion with various diseases of the in- ternal organs	661	Chest, the tuberculous, the shape of ..	464
Hyperphagia, case of	388	Children, chronically diseased, and the visit to the	1085
Hyperpyrexia, rheumatic, with symptoms resembling those of disseminated sclerosis	252	Cholera and the Chinese in the Phil- ippines	858
Hypertrophy, chronic, of the faucial and pharyngeal lymphoid or adenoid tis- sues	998	Cholera infantum	331
Midfoliole, general, ten cases of splenec- tomy for	779	Chronic Science cure, the neurotic factor in	510
of the lingual tonsil as a cause of cough	341	Conductivity, electrical, of the urine, as a diagnostic aid	157
of the prostate, semile	607	Conductive, the, as	109
prostatic, cured by resection of the vesica deferentia	1044		
Hyperchloruria, ten cases of	1087		
Hypochloruria in acute and chronic cases	783	J ACKSON, H. C. Subcutaneous injec- tions of white of egg	813
Hypochondriasis, a prescription for	374	Jacobi, L. Aortic reoperation	324
Hypophoria, of the aorta as a cause of myocardium	315	Jaques, D. W. K., appointed bacteriologist of Chicago	150
Hypophoria keratitis, new departure in the treatment of	1342	Jelks, J. L. A study relative to the pelvis	

Critical days	43	Howard, F. A. Rhus poisoning	1094	Malum perforans pedis	77
Curriculum, medical, more of the demon-		Larynx. The x ray treatment of can-		Management, hospital, reforms in	77
strative and less of the didactic		cer	1136	Manifesto, antivenereation	247
required in the	725	Lee, E. W. A slight to the profession	436	Manila, sanitary conditions in	43
Diction, correct, the importance to sci-		Lowrey, J. M. Gunshot wounds of		Manley, Dr. Thomas H., a reception to	1122
ence	859	the abdomen	435	Marley	78
Disces, Pinkus's hair	375	McCracken, W. D. Defense of Christian		Lesions	221, 281
Disease, infectious, connivance in the		Science	523	Marasmus infantilis	572
spread of	102	McNamara, A. Gunshot wounds	130	Marine-hospital Service	72
Efficiency, physical in children	919	Mann, K. W. Mr. McCracken's con-		Medical	
"Electrocuting" as a therapeutic agent		tations in support of Christian Sci-		officers of the	118, 205
2000	157	ence	611	293, 338, 381, 500, 602, 645, 732,	
Forest reserve, the proposed	23	Ranney, A. L. Eye strain and wry		777, 820, 805, 907, 951, 990, 1081, 1125	
Appalachian	23	neck	743	Markes, Dr. Solon, a dinner to	114
Foot and mouth disease	1076	Robinson, B. Dieulafoy's views on ap-		Marriage and venereal disease	166
Glands, a disease resembling in the		pendicular inflammation	659	legislative restriction of	308
Philippines	980	Rose, A. Gastroptosis and nephrop-		of the hips	762
Glands, tuberculous, of the neck	288	ty	217	Marriages of physicians, or members of	
Hæmorrhage, post partum, manipula-		X. Y. Z. The proposed two-year ac-		their families 30, 74, 118, 162, 206,	
tive treatment of	816	ademic course	833	250, 294, 338, 382, 420, 470, 514,	
Harvard preparatory medical	375	Leucocyte count, differential, in the new-		500, 602, 640, 731, 778, 822,	
Hospital's, a bad example	372	born	610	886, 908, 952, 996, 1082, 1126	
Insufficiency, thyroid and parathyre-		Leucocytes, emigration of	698	Martineque eruption, cause of death in	71
oid, in the pathology of puerperal		Leucocytosis in infectious diseases	1005	Massage, gynecological	682
ecclampsia	1119	postoperative	359	Mastoid	
Jane Toppin, the case of	112	Leucopæcia	132	Mastoiditis, Mecklen as a health	
Licensing disease, the regional factor		Levy, R. The effect of climate on laryn-		resort	414
in the atiology of	555	geal tuberculosis, with special refer-		Mastoid cells, inflammation of the	447
Lorenz, Professor	1035	ence to high altitudes	763	diseases in adults complicated with ery-	
McBurney's point, Sir Frederick		Lewis, J. E. Importance individual		thematism	591
Traves on	156	predisposition in the development of		Maternity, wholesale	702
Medical corps, the proposed foreign		tuberculosis, and the relation of		Mathews, J. M. Treatment of prolapse of	
service	946	to human susceptibility	235	the rectum	667
Medicine in art	111	Lithiasis, biliary, influence of diet upon		McCall, J. F. Primary epithelioma of the	
Medicine, veterinary, the penalty of		licensing, medical, diploma requirements		uvula and soft palate, and treatment	
neglecting	245	under the proposed interstate rec-		with the Röntgen rays	225
Microscope, Boscovich	244	ognition	247	McCuroy, S. L. R. Expressed fracture of	
Milk, condensed, for babies	289	Licéault, homage to	686	the malar bone	849
Mosquitoes and yellow fever	331	Ligation, a simplified method of	781	McDowell, N. D. Sympathetic ophthalmia	
Names, men's, the unwarranted use of		Light, electric, in diseases of the respira-		Measles, hæmiplegia as a complication of	
Nomenclature, medical, consideration		tory organs	61	Medical men in Egypt	202
on	683	Limbs, lost, sensations referred to	597	methods, conditions of permanence or	
Nurses, military, women as	1037	Limp, remittent, in the first apparent stage		profession, King Edward's interest in	
Ophthalmologist, the	420	of hip joint disease	279	the	376
Paralysis, medullary, and the		Lisle, J. The identification of		dissection of the rectum, the an-	
antitoxic treatment	771	blood	456	other attempt at	377
Phototherapy	639	Lithotomy, suprapubic, in childhood	165	profession, sympathetic tribute to the	
Poisoning with hydrastis	772	Liver, diseases of, the sodium glycocholate		Medication, intra-laryngeal, in pulmonary	
Professor Lorenz's visit to Chicago	683	in	387	dissection	65
Proprietary preparations and the medi-		primary sarcoma of the	164	intraurine	329
cal journals	815	resection of the, and its influence upon		Medicine, a chair of colonial	334
"Protector," intra-uterine, deadly work		of the gaseous metabolism in animals	830	samples, danger from	290
of an	726	Lloyd, S. Clinical cases of gastric	313	Medicine, desired	
Reciprocity, medical, a possible step		Lloyd, S. Personal experience with		Medicine, the	738
toward	726	Graw's method of gastroenterostomy	112	Mediterranean fever	924
Regulations, hospital visiting	947	Lobe, temporal, of the brain, removal of		Melana neonatorum, treatment of	124
Remedies, trade	556	Loeb, Professor, goes to California	906	Melancholia	202
Report, annual, of the surgeon-general		Lorenz, Dr. Adolf. 776, 819, 906, 949, 995		Melancholia	202
of the navy	901	Loveland, B. C. Clinical value of	1079	Melancholia	202
Rickets, recent observations on	726	ment of atonic dilatation of the		Meningitis, cerebrospinal, epidemic of, at	
Schools, the day of fewer	463	stomach	672	men	868
Secret, professional, proposed total abo-		Lovett, R. W. Rotation in lateral curva-		serous, of otitic origin	163
lition of the	1074	ture	573	Menopausa, maturation of ova in relation	
Skin markings as a method of clinical		Lues, the relationship of, to the body pol-		to the	241
diagnosis	990	itic	802	Mental	724
Small-pox and vaccination	112	Lumbago and articular rheumatism, for		Mercuric chloride solutions in obstetric	
Spiders, poisonous	67	Lung, J. G. Cases of the, appointed surgeon		practice, abuse of	737
Spurting a woman, difficulty of	51	the president	334	Metabolism, anomalies of, in alcoholics	211
Styes, treatment of	289	Lupus erythematosus from the clinical		relationship, of the	159
Surgeons, volunteer, in the Philippines	419	point of view	872	and importance of individual predis-	
Surgery, American contributions to	419	vulgaris, pathological changes in the		position in the development of	
Testicle, undescended, treatment of	727	skin produced by rays from a Fin-		tuberculosis	235
Tinctures, the strength of	507	sen lamp	913	Methemoglobinemia in man, intraglobular	
Tuberculin test in cattle	590	vulgaris, treatment of, with formalde-		hy	698
Unification prospects in the State of		hy	1087	Methemoglobinemia in man, intraglobular	
New York	590	vulgaris, T. R. tuberculin treatment of		Methemoglobinemia in man, intraglobular	
Veneral disease in the army	858	Luxation of the astragalus, reduction of,		Methemoglobinemia in man, intraglobular	
Veneral disease, the campaign against		by Eschmarch's bandage	165	Methemoglobinemia in man, intraglobular	
Water in organic combination	555	unilateral, of the fourth and other		Methemoglobinemia in man, intraglobular	
Wounds, blood	376	cervical vertebra	786	Methemoglobinemia in man, intraglobular	
Le Breton, P. Tenotomy and myotomy,		Lyddite shells, effect of	302	Methemoglobinemia in man, intraglobular	
with reports of eight illustrative		Lymph, formation of, in the liver	80	Methemoglobinemia in man, intraglobular	
cases	269	Lymphatic	80	Methemoglobinemia in man, intraglobular	
Lectures, Cartwright, of the Alumni As-		venereal	475	Methemoglobinemia in man, intraglobular	
sociation of the College of Physi-		MAC NEILL, J. E. Climatic and electric		Methemoglobinemia in man, intraglobular	
cians and Surgeons	893	peculiarities of Colorado favoring		Methemoglobinemia in man, intraglobular	
Lecture, the Medical Department of		the		Methemoglobinemia in man, intraglobular	
Lane medical	378	diseases	805	Methemoglobinemia in man, intraglobular	
popular medical, at the College of		Macphatter, N. Complications in the		Methemoglobinemia in man, intraglobular	
Physicians and Surgeons	863	passage of a gall stone	557	Methemoglobinemia in man, intraglobular	
Lee, E. W. Radical treatment of		Macphatter, N. Complications in the		Methemoglobinemia in man, intraglobular	
of the penis	404	passage of a gall stone	557	Methemoglobinemia in man, intraglobular	
Lee, E. W. Suggestions favoring a stan-		Malar bone, depressed fracture of the	177	Methemoglobinemia in man, intraglobular	
dard technique in operative surgery	799	Malaria, experiments in infection with		Methemoglobinemia in man, intraglobular	
Legacy, a, to the Medical Department of		the		Methemoglobinemia in man, intraglobular	
Tulane University	1122	Malaria in middle Italy	871	Methemoglobinemia in man, intraglobular	
Leigh, S. Nutritive infusion	386	in Turkistan, observations on	78, 251	Methemoglobinemia in man, intraglobular	
Lemondade, white of egg	418	inhalations of hydrofluoric acid in		Methemoglobinemia in man, intraglobular	
Leprosy in Russia, recent measures taken		the treatment of	945	Methemoglobinemia in man, intraglobular	
against	828	latent, action of iron preparations in	739	Methemoglobinemia in man, intraglobular	
Lesions, abdominal, diagnosis in	221, 281	leucocytes in	654	Methemoglobinemia in man, intraglobular	
tuberculous, chloride of gold in	197	parasite of, action of quinine on the	344	Methemoglobinemia in man, intraglobular	
LETTERS TO THE EDITOR:		Malaria, disease, after-treatment of	330	Methemoglobinemia in man, intraglobular	
Carrrington, J. P. Gunshot wounds	130	is the anopheles the exclusive agent		Methemoglobinemia in man, intraglobular	
Edebohl, G. M. Gastroptosis and		in transmitting	439	Methemoglobinemia in man, intraglobular	
nephropatia	523	fever congenital	220	Methemoglobinemia in man, intraglobular	
Herzog, A. W. Vaccination of public		fever dependence of, upon the an-		Methemoglobinemia in man, intraglobular	
school children	825	opheles mosquito	740	Methemoglobinemia in man, intraglobular	
		Mallein, alleged toxicity of, in frogs	434	Methemoglobinemia in man, intraglobular	

Mucosa, gastric, a contribution to our knowledge of the large and small intestine, necrosis of the, with hemorrhage into the tissues.....	739
Mud, the, specific.....	749
Murdoch, F. H. Orthoform in the diagnosis of gastric ulcer.....	390
Muscular, the.....	942
Murphy, J. B. Perforating ulcers of the duodenum.....	399
Muscle, the cardiac, from a clinical point of view.....	1127
Myles, R. C. Traumatic abscess and necrosis of the triangular cartilage.....	233
Myocarditis, for permanent wounds with.....	3
Myomectomy, the.....	53
Mymoma of the vagina.....	5
Mymoma, bladder disturbances caused by.....	614
Myomectomy versus hysterectomy.....	651
Myomectomy, contribution to the etiology of.....	651
Myotonia, periodic.....	651
NARCOLEPSIA	163
Navy, changes of medical officers of.....	29
Necrosis, the.....	496
Necrosis of the lung, two cases of localized of the mucosa of the large and small intestine, with necrosis of the mucous tissues, produced by streptococci.....	749
Neff, J. M. See Murphy, J. B.....	496
Neoplasms, vascular, treatment of, by the infusion of water at a high temperature.....	969
Neoplastic metamorphosis, a case of.....	389
Nephritis in small-pox, study of, based upon an analysis of urine in one hundred and twenty-eight cases.....	823
Nephro-sclerosis.....	299
Nephroproxy, modified Vulliet's, simplified use of.....	955
Nerve, facial, paralysis of the, following acute otitis media.....	256
Nerves, peripheral, surgical relations of.....	780
Nervous system, acute disease of the.....	1002
Neuralgia, facial, a local application for.....	33
Neuralgia, facial, treatment of.....	110
Neuralgia, the.....	243
Neurasthenia and anemia, injections of artificial serum in.....	330
Neuritis, multiple.....	31
Neurotic, influence of, on the occurrence of, in cases of intracranial tumor.....	582
Nieuwstaedt, M. A case of progressive muscular atrophy and one of pseudo-hypertrophic paralysis in young children.....	13
NEW INVENTIONS:	
Blake, J. A. An improved container for spray tubes.....	571
Griffith, F. An aid in securing asepsia while operating.....	307
Griffith, F. An aseptic instrument holder.....	791
Griffith, F. A new testing instrument.....	94
Griffith, F. W. A new aseptic holder.....	174
Newspaper example, a mischievous.....	290
Nicholson, Sir Charles, active at ninety-five.....	1123
Noise, the suppression of.....	465
Noma, etiology of.....	954
Noma, cured, by excision.....	954
Nose, a, bursts into flames.....	949
Nucleic formation of a new, by Vreeland.....	57
Nucleic acid in tuberculosis.....	516
Nuisance, the dog, in New York.....	948
Nurse, an engagement for, a revocable.....	820
Nurse, a charge for the services of.....	1079
Nurses in the public schools.....	1123
Naval, training school for.....	395
Nausea, temperature of.....	564
Nystagmus, congenital, in father and child.....	924
OBITUARIES:	
Asch, Morris J. M. D., Milwaukee.....	382
Asch, Morris J. M. D., Milwaukee.....	648
Branche, J. A. S. M. D., Montreal.....	382
Branche, J. A. S. M. D., Montreal.....	648
Branche, J. A. S. M. D., Montreal.....	940
Branche, J. A. S. M. D., Montreal.....	940
Damon, Mary Bliss, M. D., Minneapolis.....	250
Estes, Joseph, M. D., Indianapolis.....	338
Hendrickson, C. M. D., Berlin.....	338
Hendrickson, W. F. D., Philadelphia.....	338

	PAGE
Jells, James Thomas, M. D., Hot Springs, Ark.	30
Jenks, Ernest Potter, M. D.	74
Johnston, Wyatt, M. D., Montreal	30
Longenecker, John Henry, M. D., Isip.	382
May, J. W., M. D., Kansas City, Kan.	62
Parker, Edward L., M. D., Kings Park, L. I.	64
Phillips, Abel M., M. D.	64
Phillips, Thomas H., M. D., Canton, Ohio	602
Reed, Walter, M. D., United States	918
Schenck, Leopold, M. D., Vienna	338
Stokols, Dr. Barend Joseph, Amsterdam, Holland	686
Vincent, Kukulski, M. D., Kie	686
Whitehead, William Riddick, M. D., Denver	686
Williamson, Nicholas, M. D., Brunswick, N. J.	382
Obsessions, verbal	744
Obstruction, acute intestinal, cases of	341
intestinal	297
nasal and defecatory	825
jaw, teeth, and palate	825
of the bowels from Meckel's diverticulum	603
Occlusion of the lateral sinus and internal jugular vein	606
Oedema, chronic trophic	176
essential	1049
hepatic, local, a fatal case of	33
malignant, bacillus	830
segmentary	78
serum of, chemical analysis of the	698
the of anemia	11
Osaborn, J. M., M. D., the diagnosis and treatment of	341
Officers in the navy, medical, insufficient supply of	1124
Onion, non-irritating, antiseptic, for burns	330
Olive oil in the treatment of lead colic	462
Omentum, the great, in plastic operations	1085
Oophorectomy for inoperable carcinoma of the breast	956
Operation, Alexander's	1006
Operations, abdominal, normal saline solution in	747
indications and limits for	622
the vaginal route	622
urethrostaphic, in gynecology on Subbotin's plan	606
Operatives in sulphur mines, work and diseases of	163
Ophthalmia neonatorum, Créde's method of alleviating	218
sympathetic	218
Ophthalmology, teaching, to undergraduates	475
Ophthalmic, hepatic, and it's disease	517
Ordinance, anti-spitting, to enforce	514
O'Reilly, Colonel, to be surgeon general	160
Organism, reducing substances of the, new reaction upon some	298
Organs, digestive, sodium persulphate to locate the	320
local treatment of the	320
respiratory, electric light in diseases of the	51
of the pelvic, the treated diseases, symptoms, and treatment	51
Orthoform in the diagnosis of gastric ulcer	942
Oster, William, M. D.	90
Osteochondritis, hypertrophic, inflammation	70
Osteomyelitis of the occiput	516
Osteopaths and death certificates	686
not mentioned in the medical practice act of Colorado	1079
registered in Iowa	379
Otitis media, acute, paralysis of the facial nerve following	256
pubertate treated by the dry method	50
Ova, maturation of, in relation to puberty and the menopause	241
Ovary, folliculoma malignum	211
Ovary, during pregnancy	957
Ovary, incision of the, for the relief of ovarian tension	31
Oxygen, intravenous injections of, in man	595
Ozone	475
in chronic middle-ear deafness	852
PACKING, tarrentine in metrorrhagia	1044
Packs, electric hot	1044
Pain, cardiac, nature, causes, and treatment of	1188
ovarian tension, incision of the ovary for the relief of	31
Palate, soft, primary epithelioma of the, with treatment by the Roentgen rays	225
Pancreas and the gastric glands, adaptable as a factor in the work of the	609
Pancreatic disease, a physiological	609
Pancratis, acute, associated with cholelithiasis	609

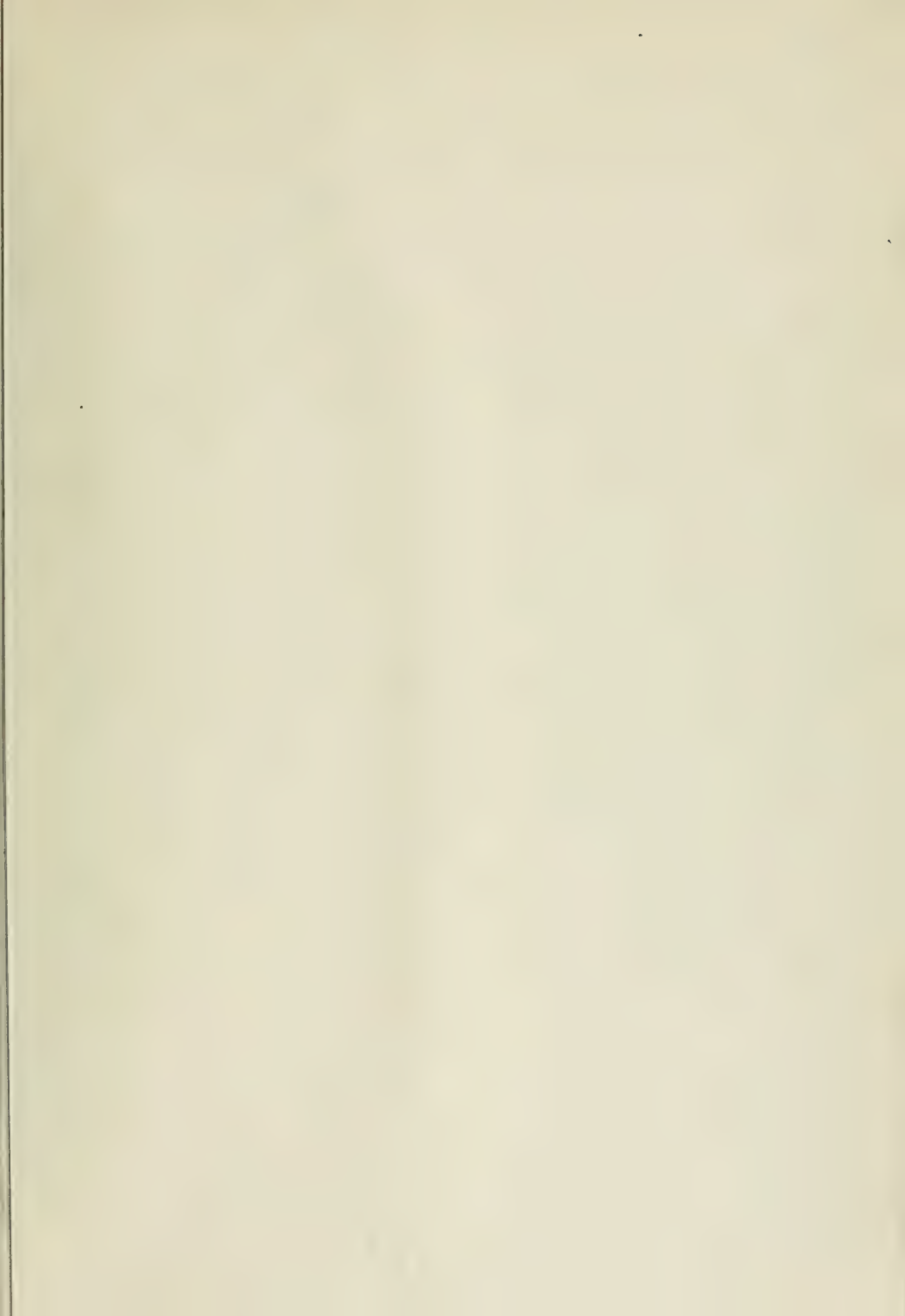
	PAGE
thiasts and glycosuria.....	869
chronic, some case of.....	869
Pannus, Scott's operation.....	642
Panzeri, Dr., a monument to.....	71
Paracelsus, a language to.....	781
Paracrotasis of the pericardium, a case.....	760
Paraffin in coniferity.....	861
use of, in restoring the bridge of the nose.....	606
Parasitic eruptions, with.....	837
Parasitic eruptions, list.....	827
arsenical, from the therapeutic administration of arsenic.....	80
chronic stage of, acute development.....	277
the.....	277
functional and organic, diagnosis of.....	911
infantile, an epidemic of thirty-eight cases.....	1132
infantile, section as division of the tendo achillis for the relief of equinus following.....	89
of nasal cavity.....	256
otitis media.....	256
progressive, congestion of facial veins.....	506
pseudo-hypertrophic.....	13
young child.....	13
spastic and syphilitic spinal.....	764
spastic infantile, surgical treatment of as a sequel to typhoid.....	253
Paraneuritis and pyonephrosis as sequel of furuncles.....	433
Paraoarian theory, new data in favor of.....	79
Parasitic.....	740
India.....	740
Parasites, malarial, a new method of staining.....	451
Paratyphoid fever.....	909
Paratyphus, an epidemic of.....	26
Park, Dr. Russell, at Yale.....	344
Parkinson's disease, anatomical and histological changes in the nervous system.....	691
Parotiditis, epidemic, new method of treating.....	724
and salicylate.....	691
Passages, nasopharyngeal, a new method of treatment in catarrhal conditions of.....	1043
Paste, to protect the skin against moist dressings.....	550
Pathology, comparative, problems of.....	964
transcendental.....	247
Patient, a, killed by accident in a hospital.....	423
hospitals.....	718
Pearce, F. S. Treatment of the insane in private practice.....	243
Pease, Dr., Daniel P., in memory of.....	1122
Peliosis, dermatitis.....	499
Pelvis, female, inflammation in the, and its treatment.....	177
Perforation, instrumental, of the uterus.....	210
Pericardial aneurism, treatment of.....	692
Pericarditis, traumatic, radiodiagnosis of a case of.....	360
Peritonitis, acute, similar to, of, by pleuro-pneumonic diseases.....	395
perforation, in typhoid fever in children.....	383
Peritonsillitis and intussusception, diagnosis between.....	835
in women.....	33
Perliche, bacteriological researches upon.....	388
Perline, the superior, as an obstacle to progress.....	220
Pertussis, use of pyridine in.....	691
Perrary, present status of the.....	296
Pertussis, W. J. Successful late laparotomy after removal of worm of the intestines.....	372
Pharyngitis, granular, treatment of.....	66
Phelps, Dr. A. M., the late.....	731, 854, 993
Phenol, toxicity of, in frogs and guinea-pigs.....	434
Phenolphthalein as a purgative.....	599
Phenomena, cardiac, revealed by the Röntgen ray.....	132
Phimosis, medical cure by.....	640
method.....	640
Phimosis, massage and movement in.....	1130
Phlegmon, ligneous, of the neck.....	739
Phonograph in school.....	821
Phototherapy in the fourteenth century.....	796
Phthisis, causation and prevention of.....	473
gold mine's.....	432
possibilities of cure.....	823
pulmonary, a new system of treatment in.....	873
pulling out, to favorable conditions.....	608
vegetation of.....	794
voluntary institution of.....	87
Physician, American, to go to India for the Boer Government.....	95
in politics.....	201
Physicians as playwrights.....	1123
hospital, denied the right to vote.....	847
Phyostigmine, influence of, upon the circulation of blood.....	596
Piers, recreation, physician on duty on the.....	251

	PAGE		PAGE		PAGE
Fills, Meglin's, for nervous troubles.....	418	Pruritis, internal administration of lactic acid for.....	197	Robbery, grave, indicted for.....	775
Pinapple, therapeutic uses of.....	660	Psoriasis, for.....	166	Rockwell, A. D. Current differentiation illustrated by a case of peripheral neuritis due to parenchymatous degeneration of the cord.....	582
Placenta prævia and cesarian section.....	517	lingual for.....	681	Röntgen ray, cardiac phenomena.....	132
Placophallia.....	534	thyroid extract in.....	1073	by the.....	132
Plague as a soil infection.....	427	treatment of.....	913	influence of the, upon different varieties of sarcoma.....	605
bubonic, in Japan.....	420	Pterygium of the neck.....	245	new apparatus for therapeutic applications of the, in the larynx, tongue, rectum, etc.....	47
bubonic, in this port.....	1078	Puerperal fever, annual variation of.....	36	operimentum grovum, with.....	850
diagnosis of.....	873	Pupillary distances, syphilitic and nervous disease.....	167	upon living tissue.....	47
in Batum in November, 1901.....	427	Pupils, inequality of the, in cases of thoracic aneurysm.....	207	in the treatment of Hodgkin's disease.....	59
in India.....	378	Purgative, a synthetic.....	827	in the treatment of primary epithelioma of the alveolar process of the jaw.....	225
plague virus.....	485	phenolphthalein as a.....	509	rays, operative treatment of deformed fractures as indicated by.....	1097
of fish in Louisiana.....	114	Purgatives, hypodermic.....	827	special type of Crooke's tube for therapeutic applications of to the cervix of the uterus.....	896
Pleurisy, for rheumatic, in children.....	66	synthetic.....	827	Ross, Major Ronald.....	576
post-operative, relation of pulmonary embolism to.....	297	Purpura, idiopathic, following.....	295	Rötheln, rubella or German measles.....	232
primary tuberculous, cytologic evolution of.....	213	Pus in the pelvis complicating appendicular disease in women.....	1085	Rudis-Jicinsky, J. Experimental investigations with Röntgen rays upon living tissue.....	850
Poison, tetanic, presence in the organs of animals dead from tetanus.....	80	Pyloric, pure puerperal staphylococcus.....	518	Rudis-Jicinsky, J. X rays in the treatment of malignant growths.....	370
Poisoning, acute formalin.....	653	Pyelitis, in infants.....	298	Ruminants, a family of.....	188
alleged blood, from vaccination.....	248	chronic, for.....	845	Rupture, complete spontaneous uterine.....	805
arsenical, outbreak of.....	432	Pyelonephritis, calculous, nephrectomy for.....	925	of the kidney, subperitoneal.....	646
by a purgative dose of calomel auriferous gas, clinical cases of.....	1004	early nephrotomy, of, in the treatment of.....	259	of the spleen, following.....	605
lysol, two cases of.....	1007	Pyle, Dr., resolutions regarding the death of.....	68	empyema and recovery.....	605
mussel, paralytic form.....	748	Pyometra, extensive, in a puerperal uterus.....	473	uterine, in the early months of pregnancy.....	651
Poisons, certain, antitoxic power of.....	213	Pyosalpinx, disputed points in the treatment of.....	879		
ganism and of the tissues against.....	213	QUARANTINE, a cattle, in New England.....	993	SACCHAROMYCETOLYSIS.....	1045
Polak, J. O. Early diagnosis of uterine cancer; operative limitations.....	103	cholera.....	934	Sacculi, ani, normal, anatomy, physiology, and pathology of the.....	320
Police, Parisian, and first.....	818	choleræ, the, of the non-existent.....	528	Septum, cartilaginous, of the palate, operating for deflection of the.....	519
Pollakiuria nocturna.....	345	Quinine.....	344	Saliv.....	1095
Poliomyelitis, its differential diagnosis and treatment.....	58	laria.....	344	Saliv.....	1095
Polyps, nasal, fibroma of the palate associated with.....	164	administration of, in malarial disease.....	602	Saliv.....	1095
Pomeroy, Dr., resolutions regarding the death of.....	28	as an internal hemostatic.....	988	Saliv.....	1095
Poor, convalescent, of large cities, a plea for proper homes for the.....	764	hemorrhagic infection, of, in the treatment of ague.....	1044	Saliv.....	1095
Porcher, W. E. The diagnosis of.....	591	RABIES, death from, seven months after Pasteur inoculation.....	648	Saliv.....	1095
Porro, Professor, the late.....	377	Radiodiagnosis of traumatic perioritis.....	360	Saliv.....	1095
fractures, metoposterior, strychnine in the treatment of.....	1094	Radiography, x ray treatment, and light treatment.....	914	Saliv.....	1095
Post-office, physician, office of, abolished.....	995	present status follow in cutaneous diseases and cancer.....	958	Saliv.....	1095
Posture, Trendelenburg, antiquity of the.....	158	Raney, A. L. The detection and relief of eye strain.....	781	Saliv.....	1095
Potassium permanganate and thymol lotion.....	462	Rats and plague.....	882	Saliv.....	1095
Powder, a diuretic.....	71	Rays of the sun, experiments upon the effect of the, during the spring months.....	1088	Saliv.....	1095
Potassium in New Mexico, requirements for unlicensed, a minister fined for.....	687	Reaction, Ehrlich's dimethylamido-benzol, clinical value of.....	1088	Saliv.....	1095
Precipitates of Kraus, specific, conditions favoring the formation of.....	829	new, upon some reducing substances of the organism.....	298	Saliv.....	1095
Precipitins, experiments on the.....	169	the so-called Malot's, and the specific determination of phosphoric acid in the urine.....	782	Saliv.....	1095
Pre disposition, individual, importance of, in the development of tuberculosis.....	235	Widal, results of examination of the blood for the.....	715	Saliv.....	1095
Pregnancy, albuminuria during.....	797	Reading in the dark.....	968	Saliv.....	1095
and locomotor ataxia.....	880	Reciprocity, interstate, diploma requirements under the proposed, in medical licensing.....	247	Saliv.....	1095
after removal of the ovaries.....	201	in Indiana.....	290	Saliv.....	1095
a "novel".....	167	Red cross, sanctity of the.....	290	Saliv.....	1095
ectopic, an old-time.....	1052	Reed, Major, in memory of.....	995	Saliv.....	1095
ectopic, early and correct diagnosis of.....	386	Reflex, the corneomandibular.....	422	Saliv.....	1095
ectopic, eight cases.....	727	Registration, exchange of, between Indiana and Illinois.....	70	Saliv.....	1095
extra-uterine, treatment of.....	387	fraudulent, in Indiana.....	423	Saliv.....	1095
false.....	870	state, for nurses.....	775	Saliv.....	1095
hemoglobinuria of.....	122	Regulation, muscular, in its relation to women's diseases.....	675	Saliv.....	1095
hemorrhage during the formation of.....	517	Report of the clinic of Professor Lorenz.....	1079	Saliv.....	1095
of, and early stages of labor.....	386	Resection of the liver, and its influence upon the gaseous metabolism in animals.....	130	Saliv.....	1095
hemorrhage into the spinal cord during.....	781	Resort, health, New Mexico as a.....	414	Saliv.....	1095
in double uterus.....	527	Respiration, artificial, in an asphyxiated new-born babe.....	242	Saliv.....	1095
ovariotomy during.....	957	Retentive, urine, from surgical treatment of.....	66	Saliv.....	1095
tubal, vaginal removal of.....	211	Retina, photography of the.....	1003	Saliv.....	1095
uterine rupture in the early months of.....	551	Retroflexion, movable, of the uterus, clinical significance of.....	210	Saliv.....	1095
Preservatives, food, effect of, on the health.....	291	Revocation, some clinical aspects of.....	871	Saliv.....	1095
President Roosevelt undergoes an operation.....	559	Review, a Russian medical, in German.....	819	Saliv.....	1095
President's case, the.....	598	Rheumatism, articular, tuberculous.....	340	Saliv.....	1095
Pressure, abdominal.....	735	acute polyarticular, differential diagnosis of, from a surgical standpoint.....	197	Saliv.....	1095
effects of.....	735	Bourget's ointment for.....	66	Saliv.....	1095
Prize, Alvarenga, of the College of Physicians of Adelaide.....	1080	for.....	176	Saliv.....	1095
Edward v. Gibbs, memorial.....	1123	gonorrheal, in an infant.....	340	Saliv.....	1095
Prizes, the Nobel.....	202	infantile, and cardiac symphysis.....	340	Saliv.....	1095
Profanity and the telephone.....	667	the causal relation of cocci to.....	300	Saliv.....	1095
Prolapse of the rectum, treatment of.....	913	Rhinitis, atrophic, paraffin injections in the treatment of.....	818	Saliv.....	1095
Prostate, intracapsular resection or total extirpation.....	958	Rhinitis, atrophic, paraffin injections in the treatment of.....	818	Saliv.....	1095
cure of enlargement of that organ.....	558	Rhinitis, atrophic, paraffin injections in the treatment of.....	818	Saliv.....	1095
Prostatectomy by the perineal route.....	440	Rickets, E. President's address.....	256	Saliv.....	1095
cases of, with remarks on the operation.....	475	Ries, E. The treatment of extensive rectal strictures.....	1028	Saliv.....	1095
infrapubic section for.....	782	Rigor mortis in a dead fetus in utero.....	300	Saliv.....	1095
perineal.....	79	Ringworm of the face.....	843	Saliv.....	1095
Prurigo of hebra, for the.....	330			Saliv.....	1095

PAGE		PAGE		PAGE	
Thrush, sporadic.....	632	treatment of, with tuberculin.....	32	Vaccinator, a, held, for vaccinating a child	114
Thyroid, extra-lobular.....	1053	Tubercular legion, pulmonary, inoperable	1001	a, honorably discharged.....	820
rare cases of sarcoma of the.....	263	nature of the.....	1001	Vaccinators, eight additional, New York	861
Thyreotoxine, a contribution to the study	502	Tubes, permeability of, pulmonary.....	650	Vaccine as a remedy for gripe.....	219
of cellular poisons, cytotoxines.....	502	tumor, interstitial nervous, of the uterus.....	870	virus, antitoxines, etc., to regulate the	70
Tissue, elastic, character of, during preg-	328	tumoral, epithelioma of, of the uterus.....	31	sale of.....	431
of the uterus, elastic, during preg-	820	incidence of optic neuritis in cases of	203	congenital and transverse atresia of the	343
nancy.....	820	of the stomach, syphilitic.....	203	myoma of the.....	343
Tissues, faucal and pharyngeal lymphoid,	168	Tumors, brain, surgery of.....	1002	primary cancer of the.....	175
chronic lymphoid, of the.....	168	constitutive.....	339	Vance, an observation on.....	738
Tobacco as a preventive against infection	63	gastric, diagnosis of.....	339	testicular surgery.....	140
Toenails, ingrowing, treatment of by lead	770	mixed, of the buccal salivary glands.....	434	Van Vr zeh, Dr. W. W.....	686
nitrate.....	770	of the anterior abdominal wall, chimo-	740	Varicelloe.....	738
Toe phonomancy.....	125	marked.....	740	Varicella and varicella, diagnosis between	164, 728
Toeplitz, M. Clinical contribution to the	125	ovarian, suppurative and malignant	453	Vascular system, syphilitic disease of the	472
study of empyema of the frontal	125	degeneration of.....	453	Vasomotor disturbance of the eye.....	912
and ethmoidal sinuses complicated	125	spinal cord.....	1083	Vegetables, contamination in the Havana	112
by eye disease.....	125	spinal cord, metallic magnesium in the	537	market.....	112
Tongue, excision of the ligament of the	404	treatment of.....	537	Veins, varicose, of the lower limbs, points	1090
lingual artery through the mouth in	404	Tunnel, the, a menace to the health of	337	relating to.....	1090
Tonsils, hypertrophied lingual, treatment of	516	New York.....	337	the transmission of, by water closets.....	333
Tonsils, of the omentum, a case of.....	516	Turck, E. B. Epithelioma of the stomach	709	Ventroscopy.....	383
Torticoils, congenital, treatment of.....	239	pathological changes.....	709	Veratrum viride subcutaneously in puerper-	422
Tousey, S. Antiseptic treatment of rectal	239	Turpentine as a hemostatic in gynecology	593	Verge, C. Radiodiagnosis of a case of	360
and genital chancrel.....	239	typhoid fever.....	591	traumatic peritonitis.....	360
Toxins of hyphrophobia, distribution of in	1133	and drinking water for.....	591	Vermiform appendix, surgery of the.....	25
some organs.....	1133	at Camp Thomas, Chickanauga Park	113, 159	Vermin, treatment of, epilepsy.....	108
typhoid, the nature of.....	1133	castor oil in.....	1083	of arterio-sclerosis, for the.....	108
Toxines, blood cell, transmission of, to the	476	diet in.....	736	Virchow, accident and illness of.....	954
setus.....	476	domestic animals as sources of.....	818	a story of.....	954
diphtheria and tetanus, influence of	389	for cardiac failure.....	1118	laryngeal, treatment of, epiglottitis.....	862
upon the morphology, the hemoglo-	389	Hubbard's abortive treatment for.....	689	a monument for.....	950
bin, and the specific gravity of the	389	in Atlantic City.....	1087	in memoriam of.....	792, 1051
Trachoma, a clinic for the treatment of.....	1124	in Chicago.....	294, 685	in memoriam of.....	688
prevalent in New York.....	1124	in Pittsburgh.....	203	in memoriam of.....	688
Training School for Nurses, Jewett.....	775	Alark Iwan and.....	1121	in memoriam of.....	688
Transplantation, an exchange.....	999	significance of abdominal pain in.....	736	in memoriam of.....	688
Transmatism, vaginal, in cotus.....	473	surgical features of.....	502	in memoriam of.....	688
Traumatism, severe intrinsic, of the spine	291	ulnar paralysis as a sequela to.....	523	in memoriam of.....	688
Traves, Sir Frederick, appointed sergeant	632	without intestinal changes.....	792	in memoriam of.....	688
surgeon in ordinary to King Edward	632	ULCER, gastric, orthoform in the diag-	942	in memoriam of.....	688
Triflor, an emulsion of.....	127	nosis of.....	942	in memoriam of.....	688
Triplets.....	632	gastric, treatment of.....	79	in memoriam of.....	688
Troops in the Philippines, improvement in	499	malarial, of the throat.....	958	in memoriam of.....	688
the health of.....	499	rodent, its pathology and treatment.....	955	in memoriam of.....	688
Trypanosoma, a case of in a European of	553	Ulcers of the leg, amatory treatment of	155	in memoriam of.....	688
a, occurring in the blood of man.....	553	of the leg, amatory treatment of	155	in memoriam of.....	688
Tubage, pernasal.....	563	perforating, of the duodenum.....	529	in memoriam of.....	688
Tube, Crookes's spiral type.....	856	Unication, the approaching, of the State	863	in memoriam of.....	688
Thyroid, application of Roentgen rays	856	Medical Societies of New York.....	863	in memoriam of.....	688
to the cervix of the uterus.....	856	Uniform.....	116	in memoriam of.....	688
Tubercle, solitary, in the cerebellum, a case	32	proposed changes in the.....	116	in memoriam of.....	688
Tuberculin, alleged toxicity of, frog.....	32	University, Columbian.....	147	in memoriam of.....	688
Tuberculosis, abstracts of certain experi-	873	National, at Washington, changes.....	147	in memoriam of.....	688
ments on.....	873	news, foreign.....	292	in memoriam of.....	688
acquired from the tuberculous organs	169	Northwestern.....	687	in memoriam of.....	688
of a cow.....	169	of Florida.....	72	in memoriam of.....	688
administrative prevention of.....	476	of Michigan, Department of Medicine	234	in memoriam of.....	688
etiology and prophylaxis of.....	373	and Surgery.....	234	in memoriam of.....	688
animal, Koch's defense of his views on	783	of Pennsylvania, a hundred thousand	26	in memoriam of.....	688
the transmission of.....	783	dollars for.....	26	in memoriam of.....	688
cancer and.....	339	Uramia, an exceptional death from.....	1038	in memoriam of.....	688
chronic intestinal, radical treatment of	648	Urea, some new properties of.....	610	in memoriam of.....	688
chronic pulmonary, pure urea in the	999	Urethra, artificial, formation of an in a	385	in memoriam of.....	688
treatment of.....	999	patient suffering from epispadias.....	385	in memoriam of.....	688
cutaneous.....	999	happin in the.....	782	in memoriam of.....	688
development of, importance of indi-	215	posterior, how to "gargle" the.....	938	in memoriam of.....	688
vidual predisposition in the.....	215	Urethrectomy for traumatism.....	938	in memoriam of.....	688
doubtful questions in.....	389	Urethrectomy for gynecological practice.....	973	in memoriam of.....	688
experimental, alcohol in.....	647	Uric acid, others.....	943	in memoriam of.....	688
hetol treatment of.....	1068	diathesis, dietetic treatment in the.....	755	in memoriam of.....	688
human and animal, identity of.....	268	in urine, Ruhemann's method of esti-	299	in memoriam of.....	688
human and animal, relation of.....	268	imating the amount of.....	299	in memoriam of.....	688
human, inoculation of, upon cattle.....	819	Urine of nurslings differently fed, asmoic	124	in memoriam of.....	688
infectiousness of dirt under the nails	819	analysis of.....	124	in memoriam of.....	688
as regards.....	819	Uroblin, renal origin of.....	608	in memoriam of.....	688
in the Philadelphia infirmary.....	819	Urology, evolution of.....	608	in memoriam of.....	688
joint formation at the first costal carti-	516	Urotropine in cystis.....	65	in memoriam of.....	688
lage, and.....	516	Uterus bicornis, puerperal, extensive pyo-	473	in memoriam of.....	688
laryngeal, effect of climate on.....	703	metra in a.....	473	in memoriam of.....	688
larynx, of the tonsils and adenoids.....	871	carcinomatous, abdominal, extirpation	293	in memoriam of.....	688
etations.....	871	of the, by Wertheim's method.....	293	in memoriam of.....	688
medical treatment of.....	735	clinical significance of movable retro-	810	in memoriam of.....	688
meuleine acid in.....	65	flexion of the elastic tissue, during pregnancy	810	in memoriam of.....	688
the myocutaneous.....	84	instrumental perforation of the.....	210	in memoriam of.....	688
of the testicle, ninety-six operations	384	Uveitis, treatment of.....	696	in memoriam of.....	688
for the relief of.....	384	Uvula, primary epithelioma of.....	225	in memoriam of.....	688
of the testis, prostate, and seminal ves-	913	VACCINATION against anthrax, new	111	in memoriam of.....	688
icles.....	913	method of.....	111	in memoriam of.....	688
popular lectures on.....	1079	alleged blood poisoning from.....	245	in memoriam of.....	688
prevention of.....	159, 1079	and pharyngeal cancer, treatment of.....	747	in memoriam of.....	688
primary, of the spleen.....	873	and smallpox in Puerto Rico.....	747	in memoriam of.....	688
Diarrhoea, Diarrhoea.....	988	complications of.....	110	in memoriam of.....	688
pulmonary, dietetic treatment.....	988	death from, city sued for.....	424	in memoriam of.....	688
pulmonary, cacydolate of strychnine	330	in Rochester.....	114	in memoriam of.....	688
in pulmonary, modifications of Schenck's	330	logical status of, and the exclusion of	461	in memoriam of.....	688
method of treating.....	384	unvaccinated children from the pub-	461	in memoriam of.....	688
pulmonary, recovery from.....	953	question, the.....	20	in memoriam of.....	688
pulmonary, treatment of, by hygienic.....	953			in memoriam of.....	688
pure urea in the treatment of.....	953			in memoriam of.....	688
questions in.....	607			in memoriam of.....	688
rational basis for the dietetic treat-	607			in memoriam of.....	688
ment of.....	607			in memoriam of.....	688
results of operations on the.....	603			in memoriam of.....	688
so-called hypertrophic, of the intest-	553			in memoriam of.....	688
ines.....	553			in memoriam of.....	688
surgical, treatment of.....	562			in memoriam of.....	688
tent life in the treatment of.....	939			in memoriam of.....	688

	PAGE		PAGE		PAGE
X		Y		Z	
RAYS, cancer of the larynx cured by		YEAST, beer, in otology	872	treatment of.....	547
the	284	brewer's, action of, in variola.....	914	INSMEISTER, Dr. Otto, death of...	160
some of the therapeutic uses of the...	194	brewer's, in therapeutics.....	739	Zoologist, a, for the Public Health	
in the treatment of cancer and other		therapeutic action of.....	528	and Marine Hospital Service	424
malignant diseases.....	825	Yellow fever and smallpox at Colon.....	774	Zoster, observations regarding the malarial	
in the treatment of malignant growths	370	mosquitoes and	331	origin of.....	191
therapeutic application of.....	392	the bodies seen in, and in normal blood	874	herpes, prevalence of.....	781





R

11

I65

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